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Where's the Action? Understanding What Works and Why in Relationship Education

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Abstract

The field of Couples Relationship Education has come to a critical junction. We have generally demonstrated that our interventions work (at least in the short-run) but to what extent have we shown that the skills and processes we teach are in fact responsible for the success of the intervention? In this paper we review progress made in understanding mechanisms of change in relationship education, explore limitations of this body of research, explicate the barriers that interfere with progress in understanding mechanisms of change in intervention research, and present recommendations on how to proceed from here. While our goal in this paper is to focus more on issues in the field rather than to present a comprehensive review of the literature, we provide overarching research summaries to illustrate some of our points. We conclude with offering recommendations for the next generation of research in the Couples Relationship Education field.

We have known for decades (see Markman & Rhoades, 2010 for a review) that Couples Relationship Education (CRE) programs generally work in terms of enhancing the quality of marital relationships and in some cases preventing distress and dissolution. There is even stronger evidence that CRE programs are effective in teaching couples communication and problem-solving skills (Hawkins, Blanchard, Carroll & Fawcett, 2008), achieving effect sizes between .4 and .8 (Blanchard, Hawkins, Baldwin, & Fawcett, 2009). CRE is effective as both a universal prevention strategy where participants are generally functioning well as well as a selected prevention strategy where participants are at risk for relationship problems and at times somewhat distressed. Effect sizes are stronger for longer-term follow-ups for well-functioning couples, and for post-assessment and shorter term follow ups for more distressed couples (Blanchard, et. al., 2009). However, we know very little about *why* and *how* CRE works in general, and if the increased communication skills in particular are linked to successful outcome. Relationship education interventions guided by a cognitive-behavioral perspective are designed to teach participants the skills and principles associated with a healthy relationship and tools for managing life's challenges (Markman & Rhoades, 2010; Halford & Snyder current volume). It is assumed that learning such skills and principles and making use of new tools will lead to immediate enhancement of couple functioning and to preventing future relationship problems from occurring. These are reasonable assumptions, but in general they have not yet been put to the empirical test. Hence, until we possess sound data regarding the mechanisms of change operating in CRE,

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we cannot claim with confidence that the core assumptions of cognitive-behavioral relationship education and couples therapy are upheld.

More generally, this is a critical juncture in the field of psychological intervention. We have made some headway in demonstrating that psychological interventions work and indeed for many psychological problems, a psychosocial intervention is considered to be the first line treatment. As we look beyond demonstrating basic efficacy and toward broad dissemination efforts, we can see the need to determine how our interventions work to produce change. We must now demonstrate not only that our interventions work, but also that the skills and processes we teach and enact are in fact responsible for the success of the intervention—or figure out what is operating to produce change. In this paper we review progress made in understanding mechanisms of change in relationship education, explore limitations of this body of research, explicate the barriers that interfere with progress in understanding mechanisms of change in intervention research, and present recommendations on how to proceed from here. While the goal of this paper is to call attention to issues in the CRE field rather than to present a comprehensive review of the literature, we will provide overarching research summaries and illustrate some key points with recent data from two of our studies.

General Perspectives on Mechanisms of Change

At first blush, testing for the mechanisms of change in an intervention seems relatively straightforward. We get a positive intervention effect and want to see why the intervention worked—ideally we want to test that acquisition or utilization of the skills taught in the intervention (assuming a skills-based cognitive-behavioral intervention) is what led to the positive outcomes. Unfortunately, Kazdin (2009) recently concluded in regards to treatment that despite a “rather vast literature, there is little empirical research to provide an evidence-based explanation of precisely why treatment works and how the changes come about” (p. 419). This is despite a large literature that generally demonstrates that a variety of effective therapeutic and preventive interventions exist for children, adolescents, adults, couples, and families (Kazdin, 2009). One problem is that until recently there has not been clarity regarding the requirements needed to establish a variable as a mechanism, nor cohesive recommendations on how to do so. In a similar vein, there is a paucity of evidence in the field of couples therapy concerning why treatment works (Halford & Snyder, current volume), with Doss, Thum, Sevier, Atkins, and Christensen (2005) being a notable exception.

Kazdin (2009) recommends seven steps needed for establishing mediators and mechanisms of change. Kazdin argues that researchers should establish the following seven conditions before classifying a variable or construct as a mechanism of a successful treatment. First, we must show strong associations among the variables under consideration, often expressed statistically through mediation analyses. This likely means that we will likely need to improve the rigor of our outcome studies as the strongest effects are found in studies of randomized clinical trials and studies using direct observations of key skills. Second, we must ideally show that our mechanism construct is the best predictor of change among various plausible alternatives. Third, demonstrating consistency across studies strengthens conclusions regarding mechanisms. Fourth, direct experimental manipulation of the proposed mediator in some way (e.g., multiple dosage conditions or knockout designs) is needed. Fifth, we must demonstrate the timeline whereby change in the mechanism occurs prior to change in the outcome. Sixth, ideally we will be able to show a dose-response relationship, whereby greater exposure to the mediator (more sessions or more practice) is associated with greater change in outcome. Finally, as underscored by Coie et al., (1993) we must construct a cohesive and plausible explanation of how our particular mechanism works to lead to change on our outcome. Most research on the efficacy and effectiveness of

psychological intervention generally fails to address all or even most of these requirements and therefore has failed to establish strong evidence for mechanisms of change (Kazdin, 2009). The couples intervention literature (both treatment and prevention) also generally fails to meet such requirements. In our paper we will outline several facets of prevention and psychoeducation that make establishing some of these recommendations more difficult to achieve in CRE vs. couples therapy. For example, one key issue is that whereas in therapy positive outcomes (usually an increase in relationship satisfaction) are expected right after the intervention, in CRE (as in other prevention efforts) positive outcomes can take years to emerge.

However, in the absence of such explicit guidelines for how to establish mechanisms in CRE and because Kazdin's suggestions are generally reasonable, relevant, important, and feasible, we will use his framework to guide our review of CRE's progress toward identifying mechanisms. We will, additionally, conclude our paper with a list of our own recommendations for how CRE research should proceed in our pursuit of finding "the action" in light of our review.

Challenges to Identifying Mechanisms of Change in CRE

Several aspects of CRE, including the populations of interest, outcomes, and long-term nature of preventive effects add challenges to the already daunting task set forth by Kazdin (2009). First, prevention ideally targets happy couples, including couples at risk for problems, before they show significant relationship problems. Hence a prevention effect is often conceptualized as having happy couples staying happy over time. Therefore, in CRE prevention work we are interested in couples' trajectories and how they diverge from expectations or from control groups, as opposed to treatment work where outcomes are measured against clear benchmarks such as percentage of couples who stay together.

Second, because most CRE interventions are universal prevention efforts with well-functioning couples without current relationship problems, testing mechanisms of change that have been associated with couples therapy is not necessarily possible or appropriate with CRE. For example, three important mechanisms of change in couples therapy are reduction of conflict in traditional Cognitive Behavioral Marital Therapy (CBMT; e.g., Baucom & Epstein, 1990), acceptance of problems in Christensen and Jacobson's (2000) Integrated Couples Behavioral Therapy (IBCT), and emotion softening in Johnson and Greenberg's Emotion Focused Therapy (EFT; Greenberg, & Johnson, 1988). Is it possible to teach these skills to couples, when there are no problems to accept, no negative affect to regulate and soften? Even when it is possible to teach couples these skills (e.g., communication skills), researchers face challenges demonstrating that these skills are associated with positive outcomes in the future. Thus the issues regarding mechanisms of change in CRE are very different than those in couples therapy.

Third, prevention effects often occur later than treatment effects and by definition can emerge years or even decades after an intervention (e.g., Coie et al., 1993). This raises several more challenges such as knowing when and for what proportion of couples a negative outcome (such as divorce) would be expected to occur without intervention so that the analysis is properly timed to detect an effect. This means that large samples followed up over long periods of time are necessary to detect effects of events, such as divorce, that may take a relatively long time to occur. Similarly, given the potential long-term nature of the processes and outcomes, timing the measurement of skill acquisition is also nuanced—is immediately post-intervention skill acquisition sufficient or should continued use of skills also be measured closer to the outcome? There is no absolute answer here—in this case we suggest that theory should be the primary guide—though tracking use of program skills over time would provide much needed information about whether and how skills eventually

become integrated into a participant's repertoire and how usage relates to distal outcomes (e.g., Hahlweg & Richters, 2010).

Fourth, there is not yet general agreement on the terminology to be used when discussing acquisition of skills or knowledge, interim outcomes, mechanisms, long-term outcomes and the like. It seems that this is in part due to the fact that most of the research demonstrating the efficacy and effectiveness of couples intervention programs has relied on *pre-post designs*. These studies have generally demonstrated that the programs result in improvements on key skills taught in the programs and in some case studies, on indicators of improved relationship health such as satisfaction and dedication (Markman & Rhoades, 2010). However in such pre-post design studies, it is often impossible to tell whether skill acquisition is considered a mechanism or an outcome since they are all evaluated simultaneously and sometimes skills are referred to as outcomes. In the CRE field, for example, a main goal common to most programs is to teach a variety of skills and principles in the service of improving relationship health over time. It would be extremely helpful in building our evidence base for mechanisms of CRE if we used clear language to distinguish between skills and knowledge taught and learned in the program versus indicators of relationship health that should emerge following acquisition of the skills—hence, we suggest that skills and knowledge of principles be referred to as proximal outcomes and that indicators of relationship health such as satisfaction and stability be referred to as distal outcomes. In this way, for example, skill acquisition, a proximal outcome, can serve as both an “outcome” in an early program evaluation report and as a “mechanism” in a later report. This will enable clearer links back to the underlying theories of the mechanisms of CRE and a stronger ability to conduct tests of mechanisms.

Hence, an important consideration is the timing of the different effects. Generally, when one tests for a mediator (e.g., mechanism), change on the mediator variable precedes change on the outcome variable. So, theoretically, change on proximal communication skills, conflict resolution, and coping should happen prior to improvements on distal outcomes such as marital satisfaction or the prevention of declines in relationship functioning. Such analyses using differently timed assessments of mechanisms and outcomes require long-term studies with relatively frequent assessments of both the mediator variable(s) as well as the distal outcomes and such studies have been exceedingly rare in the CRE field (as well as the couples therapy field).

A fifth issue, which is also not unique to CRE, is that programs teach a variety of skills to both the couple as a unit and to the individuals within the couples. Isolating which of the candidate skills translates into which outcomes is essential, but is not often attempted. In a related vein, we are challenged to begin understanding when changes in one skill or proximal outcome promote changes on another skill. Such chain analyses are exceedingly rare in part because of the burden of frequent measurement, but would contribute greatly to our understanding of how we effect change in CRE. Studies that attempt to dissect the key components of CRE are increasingly rare, perhaps because many interventionists are interested in achieving change, rather than in discovering why change is occurring.

A sixth issue is that mediator variables may be associated with distal outcomes at one point in time such as post-intervention and not associated with them at other points in time. For example in one fascinating report on mechanisms of change in IBCT, Doss et al, (2005) found that communication skills were more highly associated with changes in the first half of therapy, whereas emotional acceptance was more highly associated with change in the second part of therapy. We might predict a similar pattern in CRE with young couples, such that communication skills would be more strongly associated with outcomes in the earlier stages of follow-up, where changes in positive connections and commitment more strongly

associated with longer-term outcomes. In any event, interventionists must continue to attend to the theories that underlie links between proximal mediator variables and distal outcomes and modify theories as appropriate in light of program evaluations. As noted by Coie et al., (1993), randomized clinical trials of intervention programs that attempt to change key theoretically postulated mediator variables are the best means for testing the theories underlying interventions.

Finally, couples come to prevention programs at varying level of risk, yet all participants typically receive the same intervention and most programs do not screen or select couples for programs based on risk. Thus most CRE programs follow a “universal” prevention approach such that all couples in a certain broad group are targets. Such categories are often defined according to relationship stage (e.g., planning marriage, transition to parenting) or according to membership in a broad social group (e.g., low income, Hispanic). However, universal approaches also include offering the program to any couple who wants to learn skills and enhance their relationship. In contrast, Halford and associates have suggested that low vs. high risk couples might benefit from different types of CRE and suggest that CRE programs should use a “selected” prevention strategy where participants attend based on risk for relationship problems. Alternatively, these authors recommend that at the very least we track outcomes for high vs. low risk couples (e.g., Halford, Markman & Stanley, 2008).

Thus, participants in CRE start at different levels of risk with some at very high risk for dissolution and negative outcomes and others with low levels of risk. Hence, the very outcomes of interest are likely to be different for these different groups. For the low risk group, we want to prevent deterioration over time as highlighted above, whereas those with higher risk are more likely to change on the proximal outcomes (skills), and are also at more likely to show longer-term differences on distal outcomes. Thus, depending on the risk level of the sample, the outcome of interest may be prevention of deterioration of marital happiness or may be prevention of serious domestic violence and divorce—each of which are of relevance primarily to the specific risk groups. So even when showing positive changes, high risk couples may not reach the high levels of functioning of the lower risk couples, even with the benefit of premarital intervention. Yet, their functioning is better than would be expected without intervention.

In summary, when considering mechanisms of change, we are searching for the active ingredient of an intervention. In comparison to prevention, identifying active ingredients in treatment is relatively straightforward—acquisition of a skill that directly precedes symptom change is considered to be strong evidence of an active ingredient. This is clearly more complicated in preventive intervention because prevention ideally targets healthy individuals and couples before they show significant dysfunction. Moreover as many CRE outcomes of interest (e.g., marital distress, divorce, severe intimate partner violence) often develop over time, only long-term studies with large samples will have the power to detect effects.

Mechanism Constructs that are the Focus of CRE Programs

In the next section, we review the key proposed mechanisms of change that underlie the major CRE programs. Most programs also focus on related topics that are ancillary to the key mechanisms of change but we do not have the space here to explore those in depth.

Communication—Most CRE programs focus on communication skills, though definition, type, and implementation differ. For example, The Prevention Relationship Education Program (PREP) focuses on paraphrasing partner statements to avoid common pitfalls of mindreading, blaming, etc. (Markman, Stanley & Blumberg, 2010), whereas Relationship Enhancement focuses on the importance of empathy and how to effectively communicate understanding to one’s partner (Accordino & Guerney, 2003). While both interventions

focus on communication, the subtle differences between paraphrasing and empathy are important when testing for mechanisms. Because communication problems are a generic risk factor for marital distress (Gottman, 1994; Karney & Bradbury, 1995; Markman, 1981), empirically grounded theory suggests that changing communication and conflict patterns should be a primary mechanism of intervention effectiveness. As a result, communication and conflict patterns have been strong foci of PREP, Relationship Enhancement, Couples Care and other CRE interventions (see Halford et al., 2008 for a review). As discussed in more detail later, most of the focus is on teaching skills to counteract negative communication patterns that are associated (both theoretically and empirically) with the development of marital distress. Hence, primary candidate mechanisms of CRE are reduction of negative communication patterns and improved ability to resolve conflicts effectively. However, this brings up a challenge that permeates much of CRE mechanism research. Happy, well-functioning couples may not need to practice some conflict resolution skills (e.g., time outs) if they do not have frequent arguments.

Self-regulation—Halford and associates, while continuing a focus on communication skills, have added to traditional CRE a focus on self-regulation in their Couple Care Program (Halford, in press). The self-regulation approach differs from the negative communication approach in its focus on each person learning to regulate his or her negative emotions, especially during interactions with their partner. Thus the focus is not just on the couple's communication, but also on each person learning self-regulation skills that are then expressed in more effective communication. Therefore, mechanisms of the Couple Care Program, for example, would include both self-regulation abilities and effective communication skills.

Dyadic coping—Bodenmann and associates (e.g., Bodenmann, Bradbury, & Pihet, 2009) have also expanded on traditional CRE by helping each individual within a couple learn effective ways to cope with stress and then helping the couple cope together. The program also includes information about how stress can affect relationships. In addition, the program teaches communication and problem solving skills and emphasizes the importance of fairness in relationships (Bodenmann, et al, 2009). Influenced in part by Bodenmann's work and integrating work from related fields (Wadsworth, 2010), more recent versions of PREP (e.g. *Family Expectations, Within our Reach*; see Markman & Rhoades, 2010 for a review of these programs) have a focus on coping with stress, especially financial stress. The proposed mechanisms of change here then are improved coping and reduced stress.

Positive connections—PREP and several other programs theorize that protecting and preserving positive connections will be associated with positive outcomes over time (Halford, in press; Markman, Rhoades, Stanley, Ragan, & Whitton, 2010). Examples of positive connections that are targets of intervention include fun, support, romance, sensuality and friendship (Markman, Stanley & Blumberg, 2010). For example, couples who increase going out on dates without arguing during the date would be showing that they learned both the skills associated with having fun as well as the principle of protecting the positive side of their relationship. This proposed mechanism poses particular challenges to the identification of positive gains in well-functioning couples. For happy couples, levels of positive connections are already high, and therefore showing increases may not be a metric for demonstrating proximal gain. This brings up two issues, including a ceiling effect for well functioning couples as well as the relevance of measuring use of a skill that a couple only needs to use if they are having problems (discussed under communication skills above). Is it appropriate in these cases to assess the extent to which the partners learn the principles associated with the skill use? In essence, have they learned what they should do when and if conflict does eventually occur? We hypothesize that knowledge of the principles will

translate into skill usage at some point, but only long-term studies (e.g., Hahlweg & Richter, 2010) with frequent assessment will be able to test for this.

Knowledge about relationships in general and healthy relationships in particular—Most programs provide educational information about relationships and dimensions that affect relationships. Research-based CRE programs (e.g., Couple Care, Dyadic Coping, PREP) teach couples about what a healthy relationship is and what it is not. Participants learn that a healthy relationship does not involve physical aggression, verbal aggression and infidelity. Couples are taught where the potential landmines are and how to avoid them. On the positive side, couples learn that a healthy relationship involves fun, friendship, romance, sensuality, forgiveness, commitment and teamwork. As with the issues just discussed, the implicit mechanism here is that knowledge is power and that learning about healthy relationships will serve as motivation to make positive changes in the relationship (Hahlweg & Richter, 2010).

Common factors—There are several other possible mechanisms of change that may be common to all interventions including group process, placebo effects and alliance with leader. Several studies have used a control group that does not receive skill training, hence allowing for tests of the importance of possible mechanisms of change (e.g., Halford, Sanders & Behrens, 2001). These studies have shown some positive effects for the control groups, which adds to the complexity of change mechanism identification by suggesting that potentially universal non-specific factors do play a role in intervention outcome. In addition to positive expectations for change, other common factors likely include group process (e.g., feeling that others are in the same boat and giving and receiving social support) and alliance with the leader and coaches. One study (Anker, Owen, Duncan & Sparks, 2010) recently found that PREP effects were enhanced when partners' alliance with the leader was strong. Finally, assessment control groups – placebo or not – sometimes show positive effects apparently stemming from completing measures about the couple relationship (e.g., Bradbury, 1994). However, the assumption is that acquisition of skills in the program will eventually cause the intervention group to pull ahead of the control group as the former begins to make use of and benefit from the skills which the latter cannot make use of.

Evidence for Theoretical Mechanisms of Change in Relationship Education

Given the importance of communication quality (broadly defined) as a proximal outcome (mechanism) for CRE, we focus here on some recent studies evaluating how changes in communication relate to outcomes to illustrate some of the complexities involved in mechanism of change research in CRE. We focus on communication because there is more research on communication as a mechanism of CRE than self-regulation or emotional support and because both support and regulation are highly related to communication. Thus we believe the issues we cover below will strongly relate to most of the major postulated mechanisms of change in the CRE field. Moreover, current controversies regarding communication as a mechanism of change reflect challenges that exist for the entire CRE field.

Basic theory and research have focused on the role of communication quality in predicting future relationship outcomes. For example, early on, Markman (1981) found that deficits in communication quality and conflict management were associated with erosion of marital satisfaction. Since then other studies have shown that indicators of negative communication (e.g. escalation, withdrawal, hurling “zingers”) precede the development of marital distress and divorce (e.g., Gottman, Coan, Carrere, & Swanson, 1998; Markman & Hahlweg, 1993; Markman, Rhoades, Stanley, Whitton, & Ragan, 2010). Therefore most CRE programs focus on helping couples learn communication and conflict management skills. These skills

generally focus on positive communication (e.g., listening, support) skills that are designed to counteract the negative communication patterns. For example, the PREP program teaches couples to use the speaker-listener technique, a form of active listening--when these skills are used, it is difficult to enter into the negative communication patterns (e.g., escalation) that fuel distress over time (Markman, Stanley & Blumberg, 2010). Thus lowering negative communication and increasing positive communication are primary goals of most CRE programs. In addition, attention has more recently focused on increasing positive communications beyond counteracting negative communication, including talking as friends, increasing fun, romance and sensuality, communicating support and enhancing other forms of intimacy (e.g., Bodenmann et. al, 2009; Halford, in press; Markman, Stanley & Blumberg, 2010) as well as relationship dynamics (e.g., forgiveness, sacrifice, commitment) that may be transformative (Fincham, Stanley, & Beach, 2007). Nevertheless most research on mechanisms of change to date has focused on communication quality and conflict management. Most studies have shown that programs are often more successful in decreasing negative communication (e.g., lower levels of escalation) than increasing positive communication. The greater power of negatives over the positives has been called the "negativity effect" and is discussed in more detail in Markman, Stanley and Blumberg (2010).

Fewer studies have focused on the question of the extent to which communication changes are associated with outcomes of interest. One exception was the work of Schilling, Baucom, Burnett, Allen and Ragland (2003), which evaluated a weekend version of PREP and revealed pre to post decreases in negative communication and increases in positive communication, consistent with previous research. Then the authors examined if these changes were associated with marital outcomes. Consistent with expectations, decreases in male negative and increases in male positive communication were associated with more positive marital quality over time. However, paradoxically, higher levels of female positive communication were associated with lower levels of marital quality over time. Changes in female negative communication were not associated with marital outcomes.

Stanley, Rhoades, Olmos-Gallo, and Markman (2007) attempted to replicate the Schilling et al. paradoxical finding and could not do so in two independent samples. Stanley and colleagues argued that one potential explanation for the Schilling findings was that they analyzed partner scores together in their analyses and that such dependencies influenced the outcomes. In fact Stanley et al.'s results showed a trend such that increases in female positive communication (but not male) was associated with more positive marital outcomes. Interestingly, to highlight some of the inconsistencies in research findings, in only one of the samples was decreases in male negative communication related to more positive marital outcomes.

Stanley et al. (2007) note that analyses of change are very complicated when it comes to couple level variables. As these authors point out, there is no clear consensus on how to handle such data and issues such as multicollinearity can affect findings including producing counterintuitive findings such as may be the case in Schilling et al. A critical question raised by these authors is "when do couples levels of analyses poorly represent what is actually happening with couples (p. 236)...what does it mean to examine changes in female positivity if the change in her partner's communication is controlled for (p. 237)?" Space precludes further discussion of these very important statistical issues (and of course there are other important issues as well when it comes to handling dyadic data over time) and readers are referred to Stanley et al. (2007) for a fuller discussion of some of these issues.

More recently, Bodenmann et al. (2009) also failed to replicate Schilling et al. (2003), finding instead that higher rates of positive communication for females (and males) were

associated with positive relationship outcomes. However, they found that increases in female negative communication were associated with lower rates of decline of marital satisfaction post-intervention. This paradoxical finding may also be due in part to dependency between partner scores in their analyses. As noted in Stanley et al. (2007), the complexities of interpreting the communication behavior of one partner while controlling for the effects of the other partner may produce statistical artifacts. Thus, we recommend that future papers report analyses with partners' data presented separately in addition to other analyses. However at the same time, we want to highlight that the statistical issues in establishing mechanisms of change are complicated and much work needs to be done that marries theory, longitudinal research designs with couples and statistical models that can test and refine theories.

Markman, Rhoades, Stanley et al. (2010) examined changes in positive and negative communication over time as it related to future divorce and marital quality in a sample of couples, all of whom went through some form of premarital intervention, including PREP. The measures of communication were assessed before, after and at yearly follow-ups, but not during the intervention. Measuring during the intervention, which to our knowledge has not yet been done, would yield a stronger test of mechanisms of change. This study went beyond examining pre-to-post changes to examine long-term outcomes with observed communication over time examined as a mechanism of change. The findings showed that couples who were happy 5 years after marriage declined more in negative communication than couples who were distressed and that distressed couples showed greater declines in positive communication. These findings provide support for the focus of couples' relationship education programs on teaching skills to counteract negatives and promote positives as key change mechanisms.

Regardless of how the story of Schilling et al.'s (2003) paradoxical effect resolves, a clinical take-away point is that it is essential that couples in CRE programs do not get the wrong message about communication in healthy relationships. Learning how to safely and respectfully express negative emotions is likely to be good for a relationship, whereas suppressing negatives and focusing only on positives to avoid conflict is likely to be harmful to a relationship in the end. So in a context with positive communication increases, those whose communication is unrealistically positive may be at risk and similarly those who show more increases in negatives may have learned some affect regulation skills that have helped them express negative emotions appropriately.

As Doss and colleagues (2005) have noted, "with few exceptions, the existing evidence fails to support the idea that hypothesized mechanisms of change in couple therapy are related to gains in satisfaction" (p. 625). These authors cite evidence that change resulting from couples therapy tends to occur across a broad array of outcomes (cognitive, behavioral, affective) and suggest that the skills presented in therapy (or CRE), which target a specific area of functioning, may well lead to broad-based changes, and that these other changes are the actual mechanisms of change. Thus, when changes on communication occur, it is not uncommon for changes on family processes such as closeness, cohesion, alliance, and a shared purpose (e.g., Heatherington, Friedlander, & Greenberg, 2005) to occur as well, and may in fact be the active ingredients of change rather than the communication skills *per se*.

CRE and Diverse Populations and Opportunities

Exciting and important new directions in CRE include offering programs to diverse populations and applying new theory relevant to mechanism constructs and outcomes for these populations (Markman & Rhoades, 2010). Such efforts provide additional opportunities to identify and test chains of mechanisms of CRE. One such effort underway is an RCT evaluating a version of PREP combined with Raviv and Wadsworth's (2010)

Families Coping with Economic Strain (FaCES) program, which focuses on coping with and parenting under the stress of poverty. The new program, geared toward two-parent families with low incomes is called FRAME (Wadsworth et al., 2010). In addition to expanding the base of support for CRE with diverse populations, one focus of this line of research has been to provide preliminary information on mechanisms of CRE program effects by linking pre-post intervention changes on proposed proximal relationship skill and family process mechanisms to distal core relationship and family outcomes. For example, we have examined changes in relationship functioning and changes in individual functioning as potential mechanisms of improved father involvement over time (Rienks, Wadsworth, Markman, Einhorn, & Moran, in press). We found that pre-post changes in parenting alliance were particularly strong in predicting pre-post changes in father involvement for intervention fathers. Hence, this supports the previous research and theory suggesting that fathers engage in fathering best when they perceive their relationship with their child's mother to be supportive and collaborative. As recommended by Kazdin (2009), we evaluated parenting alliance along with several other potential mechanisms (e.g., danger signs, negative communication) simultaneously and found that parenting alliance was by far the strongest predictor, lending additional support to its importance in our positive intervention effects on father involvement.

In addition, building on work by Bodenmann and colleagues (2009), Halford (in press), as well as Raviv and Wadsworth (2010), we found that pre-post changes on stress and coping variables were associated with pre-post reductions on symptoms of depression (Wadsworth et al., 2010). In addition to supporting the links between stress and coping skills and depression, these preliminary analyses suggest that skill acquisition in the coping realm translates into predicted intervention-related symptom reduction.

Finally, an exciting new direction in CRE, also building on evidence from the couples therapy arena (e.g., Gattis, Simpson, & Christensen, 2008) is examining the extent to which changes in inter-parental relationships and skill use are related to changes in child symptoms of psychopathology. In the FRAME intervention evaluation, Wadsworth and colleagues (Wadsworth, Moran, Rienks, Rindlaub, & Markman, 2010) have found that: (a) children whose parents received the intervention are showing significantly more reductions in internalizing and externalizing symptoms than children whose parents did not, and that (b) improvements in parenting, stress, and parental coping predict those child changes. Hence, we have, albeit very preliminary, evidence of possible mechanisms of the effects of FRAME on children. As theorized, positive changes for the parents in the coping, stress reduction, and parenting realms appear to translate into positive changes for their children.

Moderators of CRE Effects

A strong recommendation coming out of the intervention area is that research must start identifying moderators of effectiveness. As has become quite evident, not even the best interventions have or will have 100% effectiveness; in fact we are not even close. Hence, researchers are increasingly encouraged to conduct analyses to investigate not only why interventions are effective (mechanism) but also for whom they are effective (moderator). Important potential moderators include personal characteristics (e.g., race/ethnicity), couple risk dynamics (e.g., high versus low conflict couples), and external contexts (situational stressors).

Methods for evaluating moderators have typically taken two forms—interactions such as time X group X gender interactions or differently fitting models according to groups in multiple group models. Here we focus on the importance of examining theoretically based *moderators* of change. A very good example of a theoretically based moderator study is

provided by Halford and colleagues (Halford et al., 2001) who stratified couples into groups at high and low risk for relationship distress and randomized them to either the Self-Regulatory Prevention and Relationship Enhancement Program (Self-PREP) or a control condition. There were differential effects of Self-PREP on high-risk and low-risk couples. At 1-year follow-up high-risk intervention couples showed trends toward better communication than control couples. However, intervention and control low-risk couples did not differ on communication. High-risk intervention couples exhibited higher relationship satisfaction at 4 years than control couples, but the reverse was true in low-risk couples. Thus in some cases it may be the more distressed couples who benefit most. Is there a curvilinear relationship here, whereby too little or too much conflict may negate the benefits of relationship education, but a moderate amount of conflict leaves room for improvements to occur and possibly also serves as a motivator to make change? In this one study high-risk couples seemed to benefit from skills-based relationship education more than low-risk couples (Halford et al., 2001), whereas as shown below, in other studies low risk couples seem to benefit more. Thus studying risk as a moderator should be a major focus of future studies. Moreover, how risk is defined and measured is a critical issue for future research so that we are not comparing “apples and oranges.” For example, Halford et al., (2001) defined risk for a couple based on a male partner having an aggressive parent and/or the female partner having divorced parents. In contrast, Markman, Rhoades and Stanley (2010), defined high risk in one set of analyses based on high observed negativity in premarital interaction. In general, CRE programs that focus on high risk couples, however defined, would be seen as “selected” intervention programs.

Dissemination of CRE: Moderator Effects

As the CRE field expands to different populations, moderator analyses can be used to assess if programs adapted to diverse populations (and often delivered by diverse providers) have similar effects to traditional CRE. Thus in our recent efforts we have built on the work of Halford et al. (2001) and examined three moderators well supported by existing research and theory. These theory-based moderators are: economic context, depression and aggression.

In regards to economic context, the FRAME project affords us unique opportunities to examine couple differences related to financial strain, job loss, unemployment, and residential mobility because with a low-income sample (unlike most other studies), we have a high enough base rate to examine how these risk factors moderate intervention effects. We have found that poverty is a powerful moderator of program effectiveness in some areas. At this point, the effects appear to be strongest for child outcomes. In particular, we have found that several of our positive effects for children in the sample only occurred for those families above the federal poverty line. In the cases of child aggression and depression symptoms for example, significant time X group interactions were completely absent for the children living below the poverty line, whereas the very same effect was highly significant for the non-impooverished families (Wadsworth, Moran et al., 2010). The implications of this finding are many and important. First, this may reflect a hierarchy of needs, whereby couples may value relationship education, but until they have enough money to put food on the table every day, it is not something they can benefit from. Alternatively (and perhaps complementing the former), parents may be learning valuable skills and principles, but economic strain borne of living in poverty interferes with the ability to enact the skills—this is a robust finding in the parenting and stress literatures and may well be operating here (Wadsworth, 2010). These findings may also suggest that the extension of CRE programs to impoverished couples needs to take into account economic circumstances and other correlates of extreme poverty. This is an important area for future program development and research.

Another plausible moderator of program effectiveness is clinical levels of depression in one or both partners. Risk for depression is high in low-income populations, which is confirmed in our urban sample of families living at or below 200% of the poverty line. Using the most conservative cut-off on the CES-D indicating serious depression, 30% of the women and 15% of the men in our FRAME sample met or exceeded the cutoff. Research confirms that clinical levels of depression interfere with the ability to participate actively in an intervention, interfere with learning new material, and may contribute to attrition. Hence, we examined depression as a moderator of the FRAME intervention's efficacy. We found that improvements on coping self-efficacy and the learning of efficacious coping skills such as cognitive restructuring, acceptance, and distraction were either stronger or only evident when depressed individuals were removed from analyses. This confirms that relationship education, like other prevention programming, may not be appropriate for clinical populations, who need to seek treatment for clinical problems before they can benefit from learning new skills (Wadsworth, Rindlaub, & Markman, 2010).

Finally, we have found that aggression in the marital relationship also limits the effectiveness of the intervention. For example, intervention effects were found for improved relationship confidence, relationship satisfaction, parenting alliance, and escalation, but only for couples without physical aggression in the relationship. As with depression above, it may be best for such couples to seek services elsewhere to resolve aggression problems first before taking part in a relationship strengthening program (Moran, Wadsworth, & Markman, 2010).

In a study evaluating the effects of PREP delivered by clergy, we examined how a high risk variable can moderate the effects of the intervention on divorce up to 13 years after marriage (Markman, Rhoades, Stanley et al, 2010). We tested whether the relationship between intervention status and divorce was moderated by aggression history using a logistic regression to test for moderation (Markman, Rhoades & Stanley, 2010). We found a statistical trend for moderation such that those who had a history of aggression and received PREP were more likely to have divorced (34.1%) than those who had a history of aggression and did not receive PREP (11.8%). Among those with no history of aggression, there was not a significant difference in divorce for those who received PREP (17.9%) versus those who did not (25.0%).

We also tested whether objectively-coded negative communication moderated the effects of PREP on divorce. The results indicated that negative communication was a significant moderator of the impact of PREP on divorce: those who had lower-than-the-median negative communication scores were significantly less likely to have divorced if they received PREP (15.0%) than those who had not received PREP (36%). For those who had higher-than-the-median negative communication scores, they were significantly *more* likely to have divorced if they received PREP (30%) than those who had not received PREP (0%) (Markman, Rhoades, & Stanley, 2010).

Our preliminary interpretation of these findings is that higher risk couples (in this case high aggression and negative communication) learn in PREP that these behaviors are not part of a healthy relationship and this increases chances of break up if these patterns do not change over time. In contrast, couples in the treatment as usual group (naturally occurring premarital intervention), do not learn about the principles concerning a healthy relationship and hence if and when these patterns continue they are less salient than for PREP couples. Such findings, if replicated, suggest that another key mechanism of CRE is teaching couples about healthy relationships (and unhealthy relationships). Future research needs to directly measure knowledge gained about healthy relationships and how such knowledge affects outcomes overtime.

Moderated Mediation

As Heatherington et al. (2005) and Whisman and McClelland (2005) note, in the complex world of couples and family intervention there are outcomes, mediators and moderators of outcomes, mediators of moderators and moderators of mediators. A key question for researchers as they extend the reach of CRE is whether the mechanisms operate differently with different populations and subpopulations, which moves the field into the largely uncharted territory of moderated mediation. For example, increasing problem solving skills may predict increased relationship satisfaction for men but not women, for whom decreased conflict is the stronger predictor of relationship satisfaction--this would exemplify moderated mediation. Schilling et al.'s (2003) findings of different effects of the same mechanism for men vs. women is also an example of moderated mediation. That study's findings suggest that theoretical mechanisms could even predict outcomes in opposite directions (improvements for men and deterioration for women) depending on who the participant is. It is beyond the scope of this paper and well beyond the state of the current data to further explore the new frontiers of moderated mediation (and mediated moderation) but this is an exceedingly important direction for future efforts as we begin large-scale dissemination efforts. We need to know for whom our interventions do and do not work, and whether the interventions may even be harmful for certain segments of the population.

Issues, Recommendations and Conclusions

In the interest of guiding the next generation of relationship education research, we offer a listing of what we view as key issues facing CRE researchers and offer recommendations on steps necessary to address these issues.

Issue 1

In our CRE and prevention evaluation studies, should we re-specify the language to be used by researchers in terms of whether their study is evaluating a proposed mechanism or an outcome? We offer that referring to communication skill as an outcome in one study and as a mechanism in another does not lend clarity to the field. Perhaps we need to use patently different language than that in the therapy field due to the nature and timing of change in the prevention field (e.g., Coie et al., 1993).

Recommendation

We propose that the field may be better served by using language closer to the basic theoretical research, such as proximal vs. distal language. For example, in the FRAME study, we assess the proximal outcomes of positive communication and problem solving skills as well as the distal outcomes of depression, stability, and satisfaction. In initial reports on the study, we plan to refer to pre-post changes on skills as proximal outcomes. Later reports using additional time points can then test mediational models linking early changes on proximal outcomes to later changes on distal outcomes. That way we do not flip from referring to skill acquisition as an outcome in one article and as a mechanism in the next article.

Issue 2

Should we explore the possibility of using *knowledge* of a skill or principle in lieu of or in addition to *use* of the skill in prevention studies with healthy participants? For example, if a couple does not argue much, there are not many opportunities to practice timeouts. Perhaps in such circumstances possessing the knowledge of what to do if/when they have a major argument is the best proxy for skill acquisition that we can obtain.

Recommendation

We propose that research should be conducted that links knowledge of skills to skill usage to outcomes in chain analyses. Additionally, the field would be well served for us to conduct similar analyses examining the effects of learning about principles of a healthy relationship over time on a variety of proximal and distal outcomes.

Issue 3

How should we time assessments to best position ourselves to capture change? This is particularly challenging as ceiling effects will often limit the range of possible changes on both mechanisms and outcomes in many prevention samples.

Recommendation

At the very least, CRE evaluation research must include three assessment periods in order to demonstrate that change on a proposed mechanism occurs before change in outcome (e.g., pre-intervention, post-intervention, and follow-up). However, we propose that a more sensitive test of mediation could be gained by assessing skill acquisition before the intervention ends, so that we can understand immediate change as well as change over time. We also strongly suggest that longer term follow ups be conducted, with timing of assessments dictated by theories of change and objectives of the intervention. It has been long recognized that the goals of prevention are by definition long-term and that prevention effects may “sleep” for many years (Markman, Renick, Floyd & Stanley, 1993).

Issue 4

How can we ensure that our measures are sensitive to the relatively small effects for which we are sometimes searching in CRE and prevention work? As Pook and Tuschen-Caffier (2004), for example, have found, several factors appear to affect a scale’s ability to pick up on meaningful change.

Recommendation

Though far from being a definitive list, things to look for include: (a) assess current states rather than traits, (b) avoid generalizations such as “never” or “ever”, (c) use observer-rated and/or performance-based measures whenever possible as they seem to capture effects better than self-reports (Markman & Notarius, 1987), (d) whenever possible, employ a benchmarking strategy (e.g., Wade, Treat & Stuart, 1998) in which pre- and post-intervention means are compared to those found in similar investigations to ensure a similar magnitude of change, especially when there is no control group. Even with all of these questions answered, Coie’s et. al, (1993) sobering reminder that sometimes prevention effects can take more than a decade to appear, suggests there are some real limits to how and when we can demonstrate mechanisms.

Issue 5

Can we successfully deliver CRE to individuals? Getting both partners “in the room” is one of the biggest considerations in CRE service delivery, with up to 60% of couples not even attending one session together (Markman & Rhoades, 2010). Therefore having flexible options for service delivery is very important as noted for years by Halford (e.g., Halford et al., 2008). One option we have been testing in our FRAME program is offering CRE services to individuals and testing outcomes in a RCT by comparing services provided to couples, to fathers, and to mothers with a no-intervention control group. Results to date are promising in terms of having success in affecting positive change with only one partner in the room (Rienks et al, in press). In addition, a new program for low-income women (Within My Reach) that includes many of the skills and principles of CRE has had promising

findings (Rhoades & Stanley, 2009) and plans are underway to assess the impact of learning communication skills and learning about healthy relationships on exiting or never entering aggressive relationships.

In perhaps the best known work in the field, Halford and colleagues (Halford, in press) have been delivering the Couples Care program in Australia in a variety of flexible ways, including over the phone and Skype.

Recommendation

Future research needs to specify the mechanisms of change for individual focused interventions and assess if the “mechanism constructs” are the same as in couples intervention and whether or not they operate in the same manner (e.g., Markman, Rienks, & Wadsworth, 2011)

Issue 6

Can we take the next step and demonstrate a link from couples change in CRE to parenting and to child outcomes? While enhancing marital relationships and preventing marital distress is important for the dyads themselves, there are additional risks and benefits associated with marital health that transmit to children in the family. There is robust evidence that marital conflict is damaging to children’s mental health, but scant research examining whether improvements in marital relationships resulting from relationship education translate into better child functioning (Wadsworth et al., 2010). Even in therapy there are only a handful of studies showing that changes in marital quality impact children (e.g., Gattis et al., 2008). Making this link could go a long way in making an even stronger case for the importance of relationship education to the health and well-being of a substantial portion of the population. Too often we act as researchers in the couples field as if couples do not have children.

Recommendation

We need to increase efforts to not only view children as a demographic variable, but to actively assess child outcomes and mechanisms associated with couple –child links such as parenting.

Issue 7

How can we determine when individual-level data may be more informative than couple-level data? While many processes of interest clearly operate at the couple level, there are likely to be circumstances where analyses should be conducted separately by partner. Additionally, there are certainly times when examining discrepancies in partner reports are as informative or even more than the actual scores on the measure in question.

Recommendation

As Stanley et al. (2007) proposed we need to begin considering which level of data analysis is most appropriate to the question at hand. Given the fact that gender often moderates relations among psychological variables, this may in fact be more important than we currently believe.

Issue 8

Finally, as we improve our understanding of mechanisms of change of CRE and prepare for disseminating to diverse constituents, what are the next steps to determine the conditions under which various mechanisms operate and for whom the interventions work? It will be especially important to determine conditions under which CRE may lead to negative

outcomes, and, relatedly when an outcome such as divorce is not necessarily a negative outcome for a particular couple.

Recommendation

We must begin to specify the theories behind possible mechanisms, moderators and moderated-mediation effects and begin to systematically test for these in our research.

In sum, as with the general intervention field (e.g., Kazdin, 2009), CRE is at the very beginning stage of understanding how our interventions work. We do know that many CRE interventions do work to produce changes on both proximal and distal outcomes, with effect sizes generally in the moderate to large range (Blanchard, et. al, 2009; Hawkins, et. al. 2008). However, as yet, only a handful of studies have attempted to test for mechanisms, in part due to the preponderance of pre-post research designs, which are ill-suited to conducting such tests. The theories that underlie CRE are backed by strong basic research and clearly explicate proposed mechanisms of change. It is now incumbent on all of us to “step up to the plate” and begin designing our outcome research in a manner that will allow for rigorous tests of mechanisms of change. We hope that our list of key issues in CRE and our suggestions for how to move forward will help all of us accomplish these tasks. We are optimistic that this will occur and that some of the best times in our field are yet to come.

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