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Development of a Brief Motivational Enhancement Intervention for Intimate Partner Violence in Alcohol Treatment Settings

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Abstract

The current studies were a manual development study and a small pilot study of a 90-minute motivational enhancement style intervention to address IPV in alcohol treatment-seeking men. Analyses of feedback provided during manual development suggest participants: (a) liked the intervention, (b) reported behavior change intentions, and (c) found the feedback compelling. Findings from the pilot study suggest the intervention may be superior to referral only in increasing short-term help-seeking and lead to marginally significant enhancements in motivation and self-reported intimacy. Help-seeking and motivation findings were associated with medium-large to large effect sizes. At 3- and 6-month follow-up, both groups showed improvements in self-reported alcohol outcomes, anger, and verbal and physical aggression. These findings support further research on this intervention.

Keywords

Intimate Partner Violence; Substance Abuse Treatment; Motivational Interviewing; Alcohol

Intimate partner violence (IPV) is commonly identified as a problem in the relationships of men seeking treatment for alcohol problems. Estimates from National Family Violence Surveys suggest that approximately 12% of married and cohabiting men in the U.S. perpetrate one or more acts of physical aggression against their female partners each year (Straus & Gelles, 1990). In comparison, the one year prevalence of male-to-female IPV perpetration in alcohol treatment samples is often 50% or higher (e.g., Chermack, Fuller, & Blow, 2000; Murphy & O'Farrell, 1994). These differences do not appear attributable to demographic differences among alcohol treatment seekers (O'Farrell & Murphy, 1995), and

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have also been observed with regard to verbal partner aggression (O'Farrell, Murphy, Neavins, & Van Hutton, 2000).

IPV is an important public health issue that can result in a variety of physical and psychological consequences for victims (Coker et al., 2002). Given the elevated prevalence of IPV, alcohol treatment settings may provide critical opportunities to intervene. Current efforts to provide interventions that specifically target IPV in alcohol treatment settings are limited in two major ways. First, although successful completion of a spouse-involved (O'Farrell et al., 2000; O'Farrell, Van Hutton, & Murphy, 1999) or individual (O'Farrell, Fals-Stewart, Murphy, & Murphy, 2003) alcohol treatment program is associated with reductions in verbal and physical aggression, post-treatment drinking relapse is associated with the recurrence of relationship aggression. Second, many alcohol treatment programs do not address important risk factors for IPV, such as anger, communication skills deficits, and relationship discord (e.g., Schumacher, Feldbau-Kohn, Slep, & Heyman, 2001). Given that substance use disorders have long been understood as chronic and relapsing conditions (Connors, Maisto, & Donovan, 1996), and given that traditional alcohol treatment may provide relatively little attention to established risk factors for IPV, alcohol treatment as usual may be necessary but insufficient to fully address IPV in alcohol treatment settings.

Screening and outside referral for IPV in alcohol treatment settings are practices that have been strongly encouraged (Fazzone, Holton, & Reed, 1997). However, there is limited evidence of widespread use or effectiveness of these practices. Providers within alcohol treatment settings identify a number of barriers to successful screening and referral (Bennett & Lawson, 1994), and when screening and referral do occur, client follow through on IPV treatment referrals is often quite limited (Schumacher, Fals-Stewart, & Leonard, 2003). The present study was designed to improve the effectiveness of screening and referral for IPV in alcohol treatment settings and improve IPV treatment outcomes by increasing motivation to change IPV and IPV-related behaviors.

Developing a Brief Intervention for Intimate Partner Violence in Alcohol Treatment Settings

First, we conducted a Stage 1A study to develop a brief intervention for IPV that could be administered within a substance abuse treatment setting. This was followed by a Stage 1B randomized controlled pilot study designed to provide a preliminary assessment of the efficacy of this intervention. The studies follow the outline of the Stage Model of Behavior Therapies Research as described by Onken, Blaine, and Battjes (1997; see also Rounsaville, Carroll, & Onken, 2001), which recommends a focus on therapy development and manual writing (Stage 1A) prior to implementation of the treatment in a small pilot trial (Stage 1B). Within the Stage Model, larger trials of the treatment (i.e., Stage 2 and Stage 3) are not implemented until successful outcomes are demonstrated at the preceding stage of research. An important goal of the developers and advocates of this Stage Model was to both describe and legitimize the formative research activities (e.g., Stage 1A and 1B) required prior to the implementation of large randomized, controlled psychotherapy trials. Stage 1A research activities allow researchers to "try out" novel interventions and use clinical observations and judgments to modify them prior to conducting controlled outcome research. These activities may result in interventions that are more innovative and more acceptable to both patients and providers. Stage 1B pilot studies provide a preliminary test of an intervention's efficacy. The emphasis of these studies is less on statistical significance than on generation of effect size estimates to assist researchers and funding agencies in determining whether additional research is warranted.

The treatment developed in the current study comprises an assessment followed approximately one week later by a 90-minute intervention session. This style of intervention, typically referred to as Motivational Enhancement Therapy (Miller & Rollnick, 2002), incorporates principles and skills of motivational interviewing (MI), an intervention designed to help individuals resolve ambivalence about difficult behavioral changes, as well as objective, normative feedback based on the assessment. Although developed independent of the transtheoretical model of change (Prochaska & DiClemente, 1983), MI is based on a similar understanding that not all individuals enter treatment ready to engage in behavior change. Using an approach that is collaborative, evocative, and respectful of client autonomy, a practitioner using MI helps a client explore and resolve ambivalence about and enhance readiness for behavior change. The guiding principles of MI include: expressing empathy for the client, helping the client develop a discrepancy between their current behavior and important life goals and values, avoiding direct confrontation of client utterances that do not support change ("rolling with resistance"), and supporting the client's self-efficacy. The basic skills of MI are open-ended questions, reflections, affirmations, and summaries, which are used to selectively elicit and reinforce "change talk" (statements are desire, ability, reasons, and need for change). After ambivalence has been resolved and motivation for change has been developed, the provider and client work collaboratively to develop a concrete plan for effecting desired behavior changes (Miller & Rollnick, 2002).

The 90-minute motivational enhancement style intervention was selected because: (a) it is brief, which increases the feasibility of incorporating it into existing substance abuse treatment programs; (b) it utilizes MI, a treatment approach with which substance abuse treatment providers may be at least familiar if not proficient; (c) MI-based brief assessment and feedback sessions have demonstrated effectiveness in increasing follow-through on treatment referrals, enhancing compliance, reducing problem behaviors in a number of domains ranging from substance abuse and gambling to risky sexual behavior, and increasing health behaviors such as diet, exercise, and medical compliance (e.g., Burke, Arkowitz, & Menchola, 2003; Connors, Walitzer, & Dermen, 2002; Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010); (d) there is evidence that feedback enhances the effect of MI relative to waitlist, written materials, and non-specific treatment-as-usual controls (Lundahl et al., 2010); and (e) there is some evidence that efficacy of treatment programs for IPV may be limited by a lack of readiness for change, an issue which the current intervention is designed to address (Daniels & Murphy, 1997; Eckhardt, Babcock, & Homack, 2004). Typical Duluth model and cognitive behavioral interventions for IPV are very confrontational and/or directive in nature, and do not contain elements to address readiness for change (Babcock, Green, & Robie, 2004; Stuart, Temple, & Moore, 2007).

Of particular interest in the Stage 1A manual development process was the type of feedback respondents would find most helpful and influential in their decisions to change with respect to IPV and behaviors that increase risk for IPV. In the Stage 1B pilot study, we hypothesized that men who received this 90 minute intervention would report increases in help-seeking behaviors and motivation to change IPV compared to men who received a no-treatment assessment and community resource-list-only control condition. Given that substance abuse treatment alone is associated with a two- to three-fold reduction in the prevalence of IPV (Murphy & Ting, 2010), we were uncertain whether the intervention would have a unique additional impact on IPV and related outcome variables (e.g., anger, intimacy, relationship satisfaction). However, we hypothesized that any observed differences between groups would favor the experimental treatment.

Study 1: Treatment Development

Study 1 Method

Participants—Participants in Study 1 were 13 men enrolled in either a 28-day residential or 10-week intensive outpatient substance abuse treatment program at a community mental health center. To be eligible for the study, a man had to be married (*n* = 4) or cohabiting (*n* = 9) with a female partner for at least one year, meet DSM-IV criteria for Alcohol Abuse (*n* = 1) or Alcohol Dependence (*n* =12) as assessed with the Computerized Diagnostic Interview Schedule (C-DIS; Robins, Cottler, Bucholz, & Compton, 1995), and report having perpetrated at least 1 act of IPV in the year before treatment on the Conflict Tactics Scales (CTS; Straus, 1979).

Participants ranged in age from 21 to 44, with a mean age of 32.5 years (*SD* = 7.7). Participants self identified as White/Caucasian (*n* = 7), Black/African American (*n* = 5), and other (*n* = 1). None of the participants indicated a Hispanic/Latino background. Twelve out of the 13 participants reported having at least a high school diploma or GED, and 6 participants reported at least some college or trade school. Seven of the 13 participants were currently employed, and an additional 4 participants reported they were currently looking for work. Six of the 13 participants scored in the below average range on a measure of relationship satisfaction. On the CTS, participants reported engaging in an average of 64.9 (*SD* = 43.0) acts of psychological aggression, 11.6 (*SD* = 15.7) acts of moderate physical assault, and 4.8 (*SD* = 9.1) acts of severe physical assault in the past year.

Measures—Participants completed the following measures during the initial assessment. During the intervention session, they were provided information about what each instrument was intended to measure as well as descriptive, normative, or interpretive feedback on their responses.

***Quality of Marriage Index* (QMI; Norton, 1983):** The QMI is a 6-item inventory that assesses marital satisfaction using broadly worded, global items (e.g., “We have a good marriage”). The respondent indicates degree of agreement with each statement on a 7-point scale. For the present study, the items were modified, so they were applicable to cohabiting couples (e.g., “We have a good relationship”). To enable us to give participants normative, interpretive information about their relationship satisfaction, QMI scores were converted to more readily interpretable Dyadic Adjustment Scale Scores using the formula developed by Heyman, Sayers, and Bellack (1994).

***Timeline Followback* (TLFB; Sobell & Sobell, 1992):** The TLFB is a reliable and valid interview procedure in which a subject is asked to retrospectively recall substance use behavior for a specified period of time using a calendar and recall cues such as holidays, regular patterns of use, and important personal events. In the current study, participants were asked to recall the number of alcoholic beverages consumed on each day in the previous 90 days. Participants were provided with a percentile score indicating how the number of drinks they consumed during an average drinking week and a heavy drinking week compared to levels of drinking reported by men in the general population (Miller, Zweben, DiClemente, & Rychtarik, 1992).

***Timeline Followback Interview – Spousal Violence* (TLFB-SV; Fals-Stewart, Birchler, & Kelley, 2003):** This reliable and valid measure of IPV modeled after the Timeline Followback Interview asks participants to identify days on the timeline calendar on which any of 8 physically aggressive acts from the CTS (Straus, 1979) were performed by themselves or their partner. In the current study, participants utilized the same 90-day

calendar used for the standard TLFB. Participants were provided with feedback about the number of occurrences of IPV perpetration reported on each of three types of drinking days during the 90-day period: 0 drinks consumed, 1-5 drinks consumed, and 6+ drinks consumed.

Conflict Tactics Scales **(CTS; Straus, 1979):** The CTS is a 36-item self-report inventory that assesses the frequency of reasoning (e.g., calmly discussing a problem), verbal aggression (e.g., insults or swearing), and physical aggression (e.g., grabbing or slapping) during disagreements or conflicts with an intimate partner within the past year. The CTS was administered during screening. Similar to the feedback provided on the TLFB, participants were provided with a percentile score indicating how the total number of acts of verbal and physical aggression they reported compared to the amounts reported by men in the general population (Straus & Gelles, 1990). The original CTS was administered rather than the revised CTS2 because of the availability of normative population data used to provide feedback in MI.

Pros and Cons of Partner Abuse Scale **(Musser, Semiatin, Taft, & Murphy, 2008):** The Pros and Cons of Partner Abuse scale is a measure of the perceived positive and negative consequences of abusive relationship behaviors (i.e., aggressive, controlling, or violent acts). Participants are asked to indicate the degree to which they agree with 26 statements using a 5-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). “Pro” items include statements such as “Angry words help me get what I want.” “Con” items include statements such as “Angry words hurt my partner’s feelings.” Up to three of the most strongly endorsed “pro” items and three of the most strongly endorsed “con” items were presented as feedback to participants, similar to its use in a MI for men referred to IPV treatment (Musser et al., 2008).

State Trait Anger Expression Inventory **(STAXI-2; Spielberger, 1999):** The STAXI-2 is a 57 item instrument comprising three subsections: State Anger, Trait Anger, and Anger Expression/Anger Control. In multiple studies, anger expression has been positively correlated with IPV and anger control has been negatively correlated with IPV (see Schumacher et al., 2001 for review). Participants were provided with their percentile scores on the Anger Expression-Out (AX-O), Anger Expression-In (AX-I), Anger Control-Out AC-O), and Anger Control-In (AC-I) subscales, as well as a description of what each subscale measured.

Post-Session Interview: Participant perceptions of the intervention were assessed with a semi-structured interview developed for this study. Participants were asked to report how much they enjoyed the opportunity to meet with the counselor during the session and how much they felt the counselor understood them on a 10-point scale (1 = *not at all*; 10 = *very much*). Participants were also asked what changes in their behavior, if any, they considered during the intervention, and using a 10-point scale (1 = *not at all likely*; 10 = *very likely*) how likely it was that they would make the change(s) they were considering. Finally, participants were asked about the feedback they received during the session: whether they found any of it surprising and whether they thought each piece of feedback impacted the likelihood they would make a behavior change. Participants responded to the latter question using a 10-point scale with 1 anchored at *decreased*, 5 anchored at *no effect*, and 10 anchored at *increased*.

Procedures—After completing an IRB approved, documented informed consent process, participants completed the study assessment battery. Following the assessment, participants were scheduled to meet with a doctoral level therapist (including the first author) with a

background in substance abuse treatment for a 90-minute session. These sessions relied on the general principles, skills, and format for MI (Miller & Rollnick, 2002), but incorporated objective feedback on the assessment in a format similar to that used in the Drinker Check-up (Miller & Sovereign, 1989) and the Project MATCH Motivational Enhancement Treatment (Miller et al., 1992). The general structure of the 90-minute sessions was as follows: a 20-30 minute opening phase, a 20-30 minute feedback phase, and a 30-50 minute closing phase culminating in a concrete plan to make a change in one or more behaviors (i.e., a *change plan*) if men showed readiness for such planning. As described in the Measures section, the feedback was provided on a written personal feedback report, which was reviewed with the participant during the session. During change-planning the therapist and participant could discuss change plans informally or collaboratively complete a change plan worksheet listing desired changes, reasons for change, steps planned for making changes, the ways others could be helpful, how the participant would know his plan was working, things that could interfere with the plan, and what the participant would do if the plan was not working (Miller et al., 1992). Following the 90 minute session, participants completed the post-session interview with another member of the research staff. At the completion of the study, all participants were compensated $150 and provided with a list of community resources for IPV treatment.

Study 1 Results

General Impact of the Session—During the post-session interview, most participants reported that they enjoyed the session and felt understood (enjoyed $M = 9.00$, $SD = 1.20$; understood $M = 8.92$, $SD = 1.16$). Each participant also reported that he had considered between 1 and 3 distinct types of changes during or after the intervention ($M = 1.85$; $SD = .80$). Examination of the qualitative responses indicated that the changes reported most by participants were related to IPV or risk factors for IPV. Twelve out of 13 participants reported they had considered making a change in their relationship during or after the intervention including both increasing positive relationship behaviors and conflict tactics, such as listening more and increasing communication, and decreasing negative relationship behaviors such as keeping conflict from escalating and decreasing anger ($n = 10$). The two remaining participants reported considering permanently ending their relationships. The participant who did not report considering a relationship change reported that he had not considered any new changes, but had considered some new methods to make changes to his relationship. Participants reported considering three other types of changes as well, including changes related to decreasing or quitting substance use ($n = 5$), increasing religious activity ($n = 4$), and increasing or improving involvement with children and family ($n = 2$). Examination of the mean self-reported likelihood of making the change revealed that participants perceived it was likely they would make the change(s) they were considering ($M = 8.82$; $SD = 1.47$). All participants gave a rating of 6 or higher to this item.

Impact of Specific Feedback—Prior to asking for specific reactions to any particular measure, participants were asked whether they found any of the feedback surprising. Three participants indicated that none of the feedback was surprising. Of the remaining 10, 9 reported that normative feedback on their verbal and physical aggression ($n = 4$), their drinking ($n = 1$), or both ($n = 4$) was surprising. Given the nature of the sample selected for the study, all participants were reporting more of both types of behaviors than the majority of men in the U.S. population and received feedback accordingly. Typically, participants expressed skepticism, surprise, or a feeling of shame/disappointment. The remaining participant reported being surprised by how well the pros and cons on the list seemed to fit him. In addition, 1 participant who reported being surprised by the feedback on aggression also reported being surprised by the feedback on anger.

For each instrument about which feedback was provided, participants' perceptions of how the feedback impacted the likelihood of behavior change were analyzed. A series of one sample t-tests comparing mean scores to 5 (no effect) revealed participants believed feedback on the following significantly increased the likelihood they might make a behavior change: relationship satisfaction, $t(12) = 6.4$, $p < .001$ ($M = 8.1$, $SD = 1.7$), verbal and physical aggression, $t(12) = 10.2$, $p < .001$ ($M = 9.1$, $SD = 1.4$), alcohol consumption, $t(12) = 4.6$, $p < .01$ ($M = 7.7$, $SD = 2.0$), anger, $t(12) = 8.6$, $p < .001$ ($M = 8.7$, $SD = 1.5$), and consequences of aggression, $t(12) = 11.7$, $p < .001$ ($M = 8.8$, $SD = 1.1$). A series of paired samples t-tests revealed no significant differences between the various types of feedback with regard to men's self-reports of the likelihood of behavior change based on the feedback.

Modifications to the Treatment

Despite the provision of a list of community resources for IPV treatment during the intervention session, several men expressed a lack of certainty about how to go about making the changes they desired and several asked the post-intervention interviewer or the therapist providing the intervention session whether s/he had additional information available. In response to these concerns and queries, the authors developed a packet of relationship skills handouts to provide at the completion of the intervention in Study 2 (Stage 1B). The handouts present commonly used cognitive behavioral strategies to improve communication, reduce conflict, and improve well-being in a self-help format. The handouts do not include materials related to substance use.

Given research findings indicating that premature change planning may reduce participant "change talk" and undermine treatment outcomes (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003), early in the study therapists rarely responded to change talk with formal (i.e., written) or informal change planning. After reviewing intervention tapes early in the study, it became clear that many participants were expressing strong change language by the end of the provision of feedback (i.e., verbally expressing a strong desire to change one or more behaviors). Thus, as the study progressed, therapists responded more quickly to strong change talk with a transition to change planning in the closing phase of the session. A change plan worksheet was incorporated into the packet of handouts assembled for Study 2.

Study 2: Preliminary Pilot Study

Study 2 Method

Participants—Male participants in Study 2 were 23 men who were married or cohabiting for a least one year, who reported at least one incident of IPV in the year before the study, who met criteria for alcohol dependence, and who gave consent for their female partners to be contacted and invited to participate. All participants were recruited from two 28-30 day residential substance abuse treatment programs. Figure 1 details the flow of participants into the study. A total of 31 men were initially screened as eligible for the study because they indicated a married or cohabiting relationship, had a score on the alcohol use disorders identification test of at least 10 (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993), reported past-year IPV, and completed the baseline assessment. Following our IRB approved safety protocol, a total of 5 men were withdrawn from the study after the first session because either they or their partner reported that their partner had sustained IPV related injuries requiring medical attention. Two were withdrawn because they did not meet criteria for an alcohol use disorder. A final participant was excluded from the analyses because it was discovered at follow-up that he and his ex-wife lived in close proximity to one another but contrary to baseline reports were not cohabiting at baseline, resulting in a final eligible sample of 23 men.

Eleven eligible male participants were randomized to the intervention condition and 12 were randomized to the control condition. All men identified their race/ethnicity as White/Caucasian, non-Hispanic (n = 16) or Black/African American, non-Hispanic (n = 7). A Pearson Chi-square comparison of group assignment by race revealed that White, non-Hispanic men were more likely to receive assignment to the treatment condition than African-American, non-Hispanic men (62.5% vs. 14.3%) X^2 (1, N = 23) = 4.54, p = .03. Examination of the other demographic characteristics of the groups revealed that 5 men in the control group and 3 men in the treatment group reported they were court ordered for substance abuse treatment, 7 men in the control group and 3 men in the treatment group had educational attainment less than a high school diploma or GED, 8 men in the control group and 4 men in the treatment group were cohabiting but not married, and the mean (*SD*) ages of participants in the control and intervention groups were 31.8 (10.2) and 32.3 (8.2), respectively. None of these other demographic differences were statistically significant.

Sixteen female partners of eligible male participants were enrolled in the study to provide collateral reports of IPV. The remaining 7 could not be reached or declined participation.

Measures—In addition to the measures described in Study 1, participants completed the following measures:

Revised Conflict Tactics Scales **(CTS2; Straus, Hamby, Boney-McCoy & Sugarman, 1996):** The CTS2 is an expanded version of the original CTS, with 78 self-report items assessing physical assault, psychological aggression, sexual coercion, injury, and adaptive negotiation strategies. The CTS2 was administerd to male and female participants at baseline, 3-month, and 6-month follow-up assessment sessions. Respondents were asked to indicate the number of times that both they and their partner had engaged in each of the conflict behaviors in the past year using a 7 point scale (never, once, twice, 3-5 times, 6-10 times, 10-20 times, and *20+ times*). To create equal assessment epochs for longitudinal outcome analyses, following this standard administration respondents were asked to use the same 7-point scale to indicate how often any act of physical or psychological aggression endorsed as having occurred in the past year had occurred in the past 3 months. Following Moffitt et al. (1997), two count variables reflecting the number of different types of physical and psychological aggression reported were computed. A participant could report as many as 12 types of physical aggression and 8 types of psychological aggression. Moffit et al. (1997) argued that this method of scoring the CTS: (a) improves the distributions of these variables, (b) prevents less serious, but more frequent forms of violence from being weighted to heavily, and (c) results in a more reliable measure of IPV that is highly correlated with frequency scores. As in Study 1, the original CTS (Straus, 1979) was administered during screening and used to provide normative IPV feedback during the intervention sessions.

Personal Assessment of Intimacy in Relationships **(PAIR; Schaefer & Olson, 1981):** The PAIR is a measure of *expected* versus *realized* degree of intimacy in romantic relationships in terms of five conceptually related domains: emotional intimacy, social intimacy, sexual intimacy, recreational intimacy, and intellectual intimacy. Only the 30 items pertaining to *realized* intimacy were used in this study because we were most interested in how men actually experienced their relationships rather than their expectations for these relationships.

Change Questionnaire Version 1.2 **(Miller, Moyers, & Amrhein, 2005):** This 12-item instrument is designed to assess motivation to change a particular behavior along several dimensions. Respondents are asked to rate on an 11 point scale, ranging from 0 (*definitely not*) to 10 (*definitely*) the degree to which they agree with each of 12 statements about the change under consideration. Sample items include: “I want to make this change” and “It is

important for me to make this change." For the current study, the therapist suggested the behavior identified as the primary change target during the intervention session as the basis for the participant's ratings. All participants agreed with this selection.

***University of Rhode Island Change Assessment* (URICA; DiClemente & Hughes, 1990):** This 32-item instrument designed to assess motivation for behavioral change includes subscales measuring 4 of the 5 stages of change outlined in the transtheoretical model of change: precontemplation, contemplation, action, and maintenance. Precontemplation items assess the degree to which individuals are not yet considering change (e.g., "As far as I'm concerned I don't have any problems that need changing"). Contemplation items assess the degree to which an individual is considering change, but not yet committed to change (e.g., "I think I might be ready for some self-improvement"). Action items assess the degree to which an individual is actively engaged in behavior change (e.g., "I am finally doing some work on my problem"), while maintenance items assess the degree to which an individual is trying to maintain behavioral changes that have already been achieved (e.g., "I'm struggling to prevent myself from having a relapse of my problem"). Respondents indicate the degree to which they agree with a statement on a 5 point scale (1 = *strongly disagree*; 5 = *strongly agree*). For the current study, the instructions were modified to be relevant to IPV, as follows:

> Each statement describes how people might feel about conflict in their romantic relationships. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. Each time the word "problem" is used, think of the amount of conflict in your current romantic relationship, particularly conflicts that escalate to the point of yelling, insults, pushing, slapping, etc.

The mean of each subscale was calculated and a Readiness to Change score was created by subtracting the mean of the precontemplation subscale from the sum of the means of the remaining three subscales. This measure was used rather than the modification of the URICA for men in domestic violence treatment developed by Levesque, Gelles, and Velicer (2000) as a pilot test of the measure during Study 1 revealed several men were uncertain how to respond because items on the URICA contain the word "violence" and they did not perceive themselves as "violent."

Help-seeking: Participants were asked whether they sought any help for relationship problems or IPV, the type of help sought (e.g., self-help materials, informal help from friends/family, help from addictions counselors, additional counseling), and the total frequency of treatment (number of times/ sessions or hours spent with self help materials).

Procedure—At their first appointment, male participants completed an IRB approved informed consent procedure followed by the baseline assessment. This initial appointment occurred at the recruitment facility sometime during or immediately following a participant's second week in treatment. Following the assessment, all eligible male participants were randomized via urn randomization (Stout, Wirtz, Carbonari & DelBoca, 1994) to either the treatment group or control group, using the following balancing variables: recruitment site, alcohol dependence severity, antisocial personality disorder symptoms, frequency of physical partner violence, and readiness to change IPV. Alcohol dependence severity, antisocial personality disorder symptoms, and frequency of violence were selected because they have been shown to predict IPV in previous research (e.g., Schumacher et al., 2001). Readiness to change was selected to ensure that participants whose highest URICA subscale score was precontemplation were balanced across groups.

This variable was included in the urn randomization process, but did not affect randomization as no participants were identified as precontemplative on the URICA.

Approximately one week later, participants in the treatment condition received the 90 minute intervention, a packet of self-help handouts (see Study 1 for description), and a list of community resources for IPV treatment, while participants in the control condition received a list of community resources for IPV treatment only. Immediately following the intervention, men in the treatment group completed the Change Questionnaire Version 1.2. One week after the treatment or control condition was administered (2 weeks after baseline), a brief phone assessment was conducted with all participants to assess motivation and help seeking. Participants also completed 3- and 6-month follow-up assessments. Male participants received $50 for each 3-4 hour assessment (baseline, 3-, and 6-month), for a total of $150 compensation for study participation.

Female partners were contacted and scheduled immediately following male participant enrollment to provide collateral reports of IPV on the CTS2. At their first appointment, female participants completed an IRB approved informed consent procedure followed by a baseline assessment. Three- and 6-month follow-up assessments were completed by phone. Female participants were compensated $10 for each 30-45 minute assessment, for a total of $30.

Analyses—Given the preliminary nature of this trial, effects associated with a *p*-value of < .05 were interpreted as significant and effects associated with a *p*-value of <.10 were interpreted as marginal, due to potential interests in these effects at this stage of the research.

Study 2 Results

Urn Randomization—Baseline *t*-test comparisons of the groups revealed that the urn randomization was successful. No group differences in readiness to change, alcohol dependence severity, IPV frequency, or antisocial personality disorder symptoms were evident. Chi-square analysis of group by recruitment site also revealed no significant differences.

Post-Session—On the post-session Change Questionnaire, a total of four distinct categories of change were identified: staying drug and alcohol free, reducing negative relationship behaviors (anger, conflict, verbal and physical aggression), increasing positive relationship behaviors, and ending the relationship. Ten participants identified staying drug and alcohol free as a desired change, 9 identified reducing negative relationship behaviors, 2 identified increasing positive relationship behaviors, and 1 identified leaving the relationship. The item mean across all items was 9.68 (*SD* = .37) indicating an overall high degree of motivation and self-efficacy for the reported change targets.

2 Week Follow-Up—As most participants were still in residential treatment at the 2 week follow-up or had only left recently, only readiness to change and help-seeking were assessed at this assessment. Examination of variables revealed significant positive skew in three variables. The distributions for amount of time spent in help seeking and number of 12-step groups attended were improved through a square root transformations. Pre-contemplation on the URICA at the baseline assessment was normalized using log transformation (pre-contemplation at 2-week follow-up was log transformed so the two measurements would have the same metric).

As illustrated in Table 1, results of t-test analyses revealed one significant predicted difference between the groups, and three marginally significant predicted differences between the groups at 2-week follow-up. Each of these differences was associated with a

medium-large to large effect size, according to Cohen's (1988) convention. The treatment group reported seeking significantly more types of help than did the control group (M = 4.0, SD = 1.9 vs. M = 2.6, SD = 1.1, respectively), $t(21) = 2.2$, $p = .04$, Cohen's $d = .90$. The treatment group also reported marginally significantly more occurrences of help-seeking behavior (M = 27.05, SD = 32.53 vs. M = 9.83, SD = 10.95, Cohen's $d = .73$), greater decreases in precontemplation ($M = -4.18$, SD = 2.89 vs. $M = -2.00$, SD = 4.02, Cohen's $d = .87$), and greater increases in action (M = 1.73, SD = 3.63 vs. $M = -1.17$, SD = 3.27, Cohen's $d = .84$) on the URICA.

Enrollment and Attrition Analyses—Analyses were conducted to identify differences between men whose female partners were and were not recruited into the study. *T*-test comparisons of male participant's reports of verbal and physical aggression, antisocial behavior, relationship satisfaction, intimacy, and pros and cons of domestic violence revealed that the male partners of women recruited into the study reported higher levels of psychological aggression by self (M = 70.87, SD =42.79 vs. M = 16.86, SD = 9.46), t (21) = 3.264, $p = .004$, and partner (M = 66.25, SD = 45.18 vs. M = 22.57, SD = 15.06), $t(21) = 2.470$, $p = .022$. There were also marginally significantly greater reports of physical aggression by self and fewer reports of positive consequences or "pros" of domestic violence (M = 41.94, SD = 8.94 vs. M = 50.17, SD = 7.81), $t(21) = 1.98$, $p = .061$. Chi square analyses revealed no significant differences in female partner enrollment on the basis of male partner treatment group assignment, race, high school graduation status, court-ordered status for substance abuse treatment, or marital status.

Attrition was a substantial problem in the current study. All male participants completed the assessment and intervention session (if applicable) and the 2-week follow-up assessment. Although a total of 78% of male participants (n = 18) were scheduled for at least one follow-up visit, only 52% of male participants (n = 12) actually completed the 3- and/or 6- month follow-up assessments. Of these, 7 completed both the 3- and 6-month follow-ups, 4 completed the 3-month follow-up and then were lost to follow-up, and 1 missed the 3-month follow-up but completed the 6-month follow-up. The analyses revealed no significant differences at baseline between those who completed follow-up and those who did not on any variables used to measure outcome. Retention was higher for female participants. Of the 16 originally recruited, 15 completed the 3-month follow-up and 13 completed both the 3- and 6-month follow-ups.

3- and 6-Month Outcomes—To examine the impact of the intervention on partner reports of men's physical and psychological aggression and men's self-reported intimacy, relationship satisfaction, anger, psychological aggression, physical aggression, and percent days abstinent from alcohol, a series of linear mixed models were conducted in SPSS 17.0. Restricted Maximum Likelihood estimation allowed inclusion of participants who were lost to follow-up in the analyses. In the models the following variables were specified as fixed effects: assessment time (baseline, 3-month, and 6-month), group assignment, and an interaction term for group assignment by assessment time. Given that dependent variables were measured repeatedly for each subject, in all models assessment time was specified as a repeated measure as well as a fixed effect. As it was assumed that assessments across time would be correlated, the initial covariance structure for the model was specified as unstructured. The final covariance structure for each model was selected by running a series of models for each dependent variable with various likely covariance structures specified. Given the small sample size, Hurvich and Tsai's Criterion (AICC) was used to select the model with the best-fitting covariance structure.

As indicated in Table 2, there was a significant group main effect ($p = .049$), a marginally significant time main effect ($p = .062$) and a marginally significant Group × Time interaction

effect (p = .065) for total intimacy as reported on the PAIR. Examination of estimated marginal means (see Table 3) revealed that this marginal significance level Group × Time interaction reflected increases in intimacy across time for the treatment group, but no change over time for the control group. With regard to self-reported anger on the STAXI, there was a significant main effect for time, but no main effect for group nor a significant group by time interaction. Examination of estimated marginal means revealed that the significant time effect reflected decreases in anger for both groups. The same pattern of findings emerged for men's self-reports of physical and psychological aggression and women's reports of men's psychological aggression on the CTS2. Self-reported relationship satisfaction on the QMI did not change significantly over time and did not differ by group nor did women's reports of men's physical aggression on the CTS2. With regard to men's self-reported percent days abstinent from alcohol on the TLFB, there was a significant main effect for time, $F(2, 10.19) = 41.36$, $p < .001$, a significant Group × Time interaction $F(2, 10.19) = 9.51$, $p = .005$, and a marginally significant level group effect $F(1, 11.81) = 4.02$, $p = .068$. Examination of estimated marginal means revealed that the control group started out with a higher percentage of days abstinent and then was estimated to have achieved maximum abstinence levels by 3 months, and maintained these levels at the 6 month follow-up. This is contrasted to the treatment group, which started out with a lower percentage of days abstinent, improved to almost maximum abstinence levels by 3 month follow-up, and then lost a small amount of this improvement at 6 month follow-up. Since the control group started the study with higher percent days abstinent (i.e., were drinking less at the beginning of the study), it is important to note that both groups increased percent days abstinent 32% from baseline to six-month follow-up.

Discussion

The qualitative findings of the Stage 1A manual development study (Study 1) provided evidence for the feasibility and acceptability of the assessment and 90-minute intervention developed to address IPV in alcohol treatment settings. Analyses of the responses participants gave during the post-session interviews reveal the treatment was generally well-liked and was effective in eliciting thoughts about changes relevant to the reduction of IPV. Participants also indicated that assessment feedback in all domains (relationship satisfaction, verbal and physical aggression in their relationship, risk factors for physical aggression) was useful and made it more likely they would make behavior changes.

The findings of the Stage 1B pilot study (Study 2) suggest the intervention shows promise for increasing motivation and help-seeking behaviors in the short-term. Men who received the intervention reported seeking more types of help for their relationships, and marginally significantly more time spent in help-seeking. Each of these findings was associated with a medium large to large effect size. These findings are consistent with work by Musser et al. (2008), who found that MI at the outset of a partner violence treatment program enhanced outside help-seeking behavior. In the present study, there were also marginally significant changes in readiness to change with large associated effect sizes, which were not found in the Musser et al. study. At 3- and 6- month follow-up, both groups evidenced similar reductions in IPV and anger, but no change in relationship satisfaction. Both groups evidenced approximately equal increases in percent days abstinent at follow-up, with the control group reporting percent days abstinent at both baseline and follow-up. There was some evidence that the intervention may have increased men's sense of intimacy with their partners. All treatment effects must be interpreted tentatively given the small sample and limited statistical power of this pilot study.

Although future research on this intervention is necessary, it currently shows promise as an intervention to bridge the gap between substance abuse treatment agencies and IPV treatment programs. The intervention is brief and thus has the potential to be incorporated

into the busy treatment schedule of many substance abuse treatment programs. Moreover, the intervention utilizes MI, an intervention with which substance abuse treatment providers are increasingly familiar. The finding that the intervention may enhance help-seeking is particularly promising given that commonly available IPV treatments are very directive and/or confrontational in nature (Babcock et al., 2004) and men who attend them often evidence low motivation to address IPV (Eckhardt et al., 2004). This treatment may both enhance follow-through on referrals for IPV treatment and increase participation in it (Musser et al., 2008).

Limitations—A primary advantage of Stage 1A treatment development studies is that new interventions can be qualitatively evaluated in a small sample prior to piloting more rigorously in a larger sample. However, small sample size is also a primary limitation of Study 1. With 13 participants, the study was not adequately powered to identify statistically significant differences among the types of feedback provided or to identify whether certain participant characteristics predict responses to various types of feedback or the intervention as a whole. Additionally, the impact of demand characteristics on participant responding to the debriefing interview cannot be ascertained. Although participants were encouraged to respond honestly during the debriefing interview so that the intervention could be improved, most participants appeared to like and enjoy interacting with the research therapists and debriefing interviewers, and may have responded positively under the impression that this would “help” the researchers with the study.

Small sample size was also a limitation in Study 2. In the mixed model analyses of treatment outcomes in Study 2, treatment facility was not entered as a Level-3 variable in the models because of the small sample size and power concerns. Studies on the inter-spousal reliability of measures of partner violence in community or marital clinic samples indicate that agreement between spouses on the occurrence of partner physical violence is generally low to moderate (Heyman & Schlee, 1997). Thus our inability to recruit all male participants’ female partners in Study 2 and to use combined male and female partner reports of IPV in our analyses is another limitation of the study. A final limitation of Study 2 was reliance on men’s self-reports of help-seeking. Future research should also collect objective reports of help-seeking.

Conclusions and Future Directions—The findings of these two studies provide preliminary support for the potential benefits of MI as an opportunistic intervention for IPV in substance abuse treatment settings, and suggest this intervention should be further studied in a larger clinical trial. In Study 1, participants reported enjoying the sessions, being impacted by the feedback, and considering changes in domains relevant to the reduction of IPV in their relationships, either directly or indirectly through modification of risk factors or enhancement of coping strategies. In Study 2, participants in the treatment condition reported greater help-seeking at the 2 week follow-up and a marginally significant difference in readiness to change. However, consistent with prior research (e.g., O’Farrell et al., 2003), Study 2 suggests that substance abuse treatment alone is sufficient to effect changes in IPV for many men. Thus future research should examine not only whether this treatment is more effective than a control condition, but also for whom.

The findings of these preliminary studies also suggest additional foci for future research. The finding that the treatment group achieved lower abstinence rates but similar IPV outcomes may suggest that this intervention may also bolster men’s resilience to recurrences of IPV in the face of alcohol and drug relapse. This is consistent with findings of Fals-Stewart and Clinton-Sherrod (2008) that behavioral couples therapy for alcohol problems, in contrast to individual therapy, appears to reduce violence specifically on days of alcohol relapse, and would be an important outcome measure in future research. The finding that

this treatment resulted in additional help-seeking suggests future research might also test this intervention as segue to a lengthier treatment for IPV. If findings from Stage 2 clinical trials demonstrate clear treatment effects, these studies can then be followed by Stage 3 effectiveness trials (Onken et al., 1997).

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Figure 1.
Flow of participants into Study 2. *One participant who failed to complete the 3-month follow-up completed the 6 month follow-up. **All participants were included in analyses, which used restricted maximum likelihood estimation to address missing data.

Table 1

Men's Reports of Help-Seeking and Changes in Motivation at 2-Week Follow-up in Study 2

Outcome	Treatment Mean (*SD*)	Control Mean (*SD*)	*t*(21)	d	p
Types of Change Considered	4.45 (.69)	4.75 (.45)	1.23	−.52	.23
Types of Help Sought	*4.00 (1.94)*	*2.58 (1.08)*	*2.2*	*.90*	*.04*
# of Times Help Sought	*27.05 (32.53)*	*9.83 (10.95)*	*1.8* [1]	.73	*.09*
# of 12-Step Meetings Attended	9.45 (6.41)	15.50 (13.41)	1.53[1]	−.64	.14
Pre-Post Change in Precontemplation	*− 4.18 (2.89)*	*− 2.00 (4.02)*	*1.91* [1]	*.87*	*.07*
Pre-Post Change in Contemplation	1.18 (3.16)	.17 (3.30)	.75	.31	.46
Pre-Post Change in Action	*1.73 (3.63)*	*− 1.17 (3.27)*	*2.01*	*.84*	*.06*
Pre-Post Change in Maintenance	−1.45 (4.80)	−1.67 (3.75)	.12	.05	.91
Pre-Post Change in Readiness Score	.81 (1.18)	−.10 (1.63)	1.50	.64	.15

Note. Analyses of changes in motivation were conducted using difference scores for brevity of presentation. An identical pattern of results was obtained with Repeated Measures Analysis of Variance. Significant and marginally significant level significant results are presented in italics.

[1] *t* value and effect size estimate (Cohen's d) are based on the comparison of square-root transformed scores for *# of Times Help Sought* and *# of 12-Step Meetings Attended* and log transformed scores for Pre-*Post Change in Precontemplation* due to non-normal distributions of the raw scores. Means and standard deviations of non-transformed scores are presented in the table for clarity. The mean (*SD*) of these transformed scores, respectively, for the treatment and control groups are 4.60 (2.75) and 2.98 (1.47) for *# of Times Help Sought*, 3.09 (1.00) and 3.85 (1.35) for *# of 12-Step Meetings Attended*, and .16 (.11) and .06 (.12) for *Pre-Post Change in Precontemplation.*

Table 2

Linear Mixed Model Analysis Outcomes for Men's Self-Reported Treatment Outcomes

Outcome	Fixed Effect	df	F	p value
Intimacy[1]	*Intercept*	*1, 13.07*	*821.90*	*.000*
	Time	*2, 16.04*	*3.33*	*.06*
	Group	*1, 13.07*	*4.70*	*.05*
	Group × Time	*1, 16.04*	*3.26*	*.07*
Anger[1]	*Intercept*	*1, 18.73*	*114.58*	*.000*
	Time	*2, 19.49*	*17.28*	*.000*
	Group	1, 18.73	0.11	.75
	Group × Time	2, 19.49	1.28	.30
Satisfaction[2]	*Intercept*	*1, 22.40*	*415.54*	*.000*
	Time	2, 15.05	1.56	.24
	Group	1, 22.40	0.18	.68
	Group × Time	2, 15.05	0.14	.87
Percent Days	*Intercept*	*1, 11.81*	*228.60*	*.000*
Abstinent[3]	*Time*	*2, 10.19*	*41.36*	*.000*
	Group	1, 11.81	4.02	.07
	Group × Time	2, 10.19	9.51	.005
Physical IPV	*Intercept*	*1, 22.05*	*12.62*	*.002*
MR[1]	*Time*	*2, 17.81*	*4.04*	*.036*
	Group	1, 22.05	.04	.839
	Group × Time	2, 17.81	.51	.611
Psychological	*Intercept*	*1, 21.68*	*14.64*	*.001*
IPV MR[2]	*Time*	*2, 14.32*	*16.54*	*.000*
	Group	1, 21.68	.50	.487
	Group × Time	2, 14.32	.52	.608
Physical IPV	Intercept	1, 13.77	18.86	.001
FR[3]	Time	2, 15.46	1.89	.184
	Group	1, 13.77	2.62	.128
	Group × Time	2, 15.46	.267	.769
Psychological	*Intercept*	*1, 14.79*	*49.87*	*.000*
IPV FR[4]	*Time*	*1, 25.46*	*4.31*	*.024*
	Group	1, 14.79	1.13	.306
	Group × Time	1, 25.46	1.78	.189

Note. Significant and marginally significant findings are in italics. MR = Male Self-Report; FR= Female Partner Report; IPV = intimate partner violence. Best-fitting covariance structure selected using Hurvich and Tsai's Criterion (AICC):

[1] heterogeneous first-order autoregressive;

[2] compound symmetry;

[3] unstructured;

[4] first-order autoregressive.

Table 3

Estimated Marginal Means and Standard Errors for Men's Self-Reported and Female Partner Reported Treatment Outcomes in Linear Mixed Model Analyses

		Baseline		3 Months		6 Months	
Outcome	**Group**	**Mean**	**SE**	**Mean**	**SE**	**Mean**	**SE**
Intimacy	Treatment	82.89	5.03	92.81	6.54	99.38	2.85
	Control	77.83	4.82	81.11	6.89	77.45	3.43
Anger	Treatment	80.46	8.24	74.11	14.19	33.66	6.82
	Control	78.50	7.89	54.90	15.33	43.78	8.53
Satisfaction	Treatment	36.55	2.50	38.97	3.00	37.79	3.13
	Control	35.00	2.60	38.55	3.13	35.18	3.62
Percent Days	Treatment	43	10.46	88	7.98	75	10.11
Abstinent	Control	68	10.01	100[1]	9.43	100	12.00
Physical IPV MR	Treatment	1.27	.69	.33	.25	.39	.36
	Control	1.92	.66	−.09	.27	.33	.46
Psychological	Treatment	3.55	.71	1.65	.81	1.49	.85
IPV MR	Control	3.42	.68	.73	.85	.46	.98
Physical IPV FR	Treatment	1.36	.86	.73	.65	.38	.55
	Control	3.00	.82	1.27	.78	1.14	.64
Psychological	Treatment	3.56	.65	2.00	.65	2.28	.67
IPV FR	Control	4.14	.73	3.65	.76	2.82	.78

Note.MR = Male Self-Report; FR= Female Partner Report; IPV = Intimate Partner Violence

[1]Estimated mean percent days abstinent exceeded 100% at 3-month follow-up for the control group but was reported as 100% to ease interpretation of the data since it is impossible to exceed 100% days abstinent.