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The relationship between in-session commitment language and daily self-reported commitment to reduce or abstain from drinking☆

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ABSTRACT

Background: Motivational interviewing is hypothesized to operate by enhancing a client's internal motivation to change. Past research operationalizes this process by measuring in-session statements for change (i.e., change talk), yet relationships between change talk and other measures of motivation have yet to be substantiated. This study tested whether in-session change talk predicted subsequent reports of commitment to abstain or moderate drinking assessed via ecological momentary assessment (EMA), and explored each of their contributions to drinking outcomes.

Method: Secondary data analysis was performed on data from 48 study participants who received therapy within a randomized controlled trial testing mechanisms of actions of MI. Multilevel models were used to test whether in-session commitment statements (strength, frequency, and slope of strength) made in two therapy sessions predicted subsequent daily reports of commitment to abstain or not drink heavily and drinking (21 days of data) in the weeks following each respective session.

Results: A weak, negative relationship between in-session commitment and average daily commitment to abstain emerged. No relationship between in-session statements and average daily commitment to not drink heavily emerged. Only EMA commitment predicted drinking outcome. Post hoc analyses demonstrate a moderating impact of EMA commitment to abstain on in-session commitment strength: low pre-treatment commitment to abstain and increasing commitment strength across a session yielded the greatest drink reduction.

Conclusion: In-session change talk and EMA commitment may represent distinct aspects of motivation, yet their interaction appears important to treatment prognoses. Commitment to abstain may be important for treatment selection and successful drink reduction.

1. Introduction

Motivational Interviewing (MI) is one of the most widely disseminated and utilized evidence based practices within treatment for alcohol use disorder (AUD; Miller & Rose, 2009). While MI is demonstrated to work as effectively as other bona fide psychosocial interventions, it often achieves successful behavior change outcomes in fewer sessions. In addition, it is especially useful in facilitating treatment initiation and engagement and as a compliment to other treatments, making it a particularly valuable tool in the AUD treatment toolkit.

Despite this achievement, like other established treatments for AUD, MI is only modestly effective. Efforts to better understand and improve MI have focused on identifying its active ingredients and mechanisms of action, with a focus on increasing motivation as MI's unique effect. Miller and Rose (2009) proposed a theory of MI's active ingredients: a relational component, which included a Rogerian, client-centered approach (e.g., empathy, unconditional positive regard, non-judgmental stance), and a technical component, specifically the selective evocation and reinforcement of change talk. Miller and Rose hypothesized that it was these two active ingredients that increased motivation (operationalized by increased change talk) and subsequently better

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treatment outcomes, in this case, reduced drinking.

1.1. Motivation operationalized

The construct of motivation is deceivingly complex, and as a result, multiple and distinct measures of motivation have proliferated within the AUD literature. Motivation is often defined as a readiness for, desire, reason, need, intention or commitment to change (DiClemente, Schlundt, & Gemmell, 2004), which has inherent cross over with other important constructs related to behavior change, such as self-efficacy (Beauchamp, 2016). Historically, two of the most common ways motivation is measured is via readiness to change, often using traditional, global self-report questionnaires (Apodaca & Longabaugh, 2009), and in-session client speech (e.g., change talk, number of utterances regarding commitment to change) (e.g., Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Moyers et al., 2007; Vader, Walters, Prabhu, Houck, & Field, 2010). Although both attempt to measure motivation, there is limited evidence of an association between readiness to change and client change talk (Hallgren & Moyers, 2011) or commitment to abstinence (Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003). Due to the fact that readiness to change has not demonstrated consistent predictive validity of drinking outcomes (Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003; Capone & Wood, 2009; Carbonari & DiClemente, 2000; DiClemente, Schlundt, & Gemmell, 2004; Kaysen, Lee, LaBrie, & Tollison, 2009; Litt, Kadden, Cooney, & Kabela, 2003; Matwin & Chang, 2011; Project MATCH Research Group, 1997, 1998; Williams, Horton, Samet, & Saitz, 2007), other measures of motivation need to be used in the context of mechanisms of behavior change to validate the proposed causal chain of MI.

Measures of motivation that consistently demonstrate predictive validity of drinking outcomes (both daily and in aggregate) are daily measures (single item questions) of commitment to reduce and to abstain from drinking implemented through ecological momentary assessment (EMA), even when used in aggregate forms within analyses (Kuerbis, Armeli, Muench, & Morgenstern, 2013, 2014; Morgenstern et al., 2016). EMA is “repeated collection of real-time data on subjects' behavior and experience in their natural environment” (Shiffman, Stone, & Hufford, 2008), and it has been used increasingly to examine the dynamic change processes within and outside of addiction treatment (Morgenstern, Kuerbis, & Muench, 2014; Wray, Merrill, & Monti, 2014). Given that multiple theories of behavior change in the context of addiction, such as self-regulation theory (Brown, 1998), self-determination theory (Deci & Ryan, 1985), and the Transtheoretical Model (Prochaska & Diclemente, 1984; Prochaska, DiClemente, & Norcross, 1992), view motivation as dynamic and context specific, EMA can offer unique advantages over cross-sectional measures of motivation. Context, such as location, day of week, and time of day, can facilitate or inhibit one's motivation to change behavior. Thus, an EMA measure of motivation may have increased validity, eliminating retrospective biases, and providing a more useful tool at understanding how motivation changes over time. Furthermore, using separate items for commitment to moderate drinking and commitment to abstinence enhances understanding about daily, goal-specific commitment for a particular day (e.g., goal of abstinence on Monday, goal of reduced drinking on Thursday)—reflecting distinct patterns of how individuals choose to moderate drinking.

1.2. The current study

Given how little is known about how within psychotherapy session statements of commitment relate to reported commitment in a real world context, this study aimed to test whether in-session change talk predicted daily reports of commitment to reduce or abstain from drinking in a pilot randomized controlled trial examining the mechanisms of action of MI (Morgenstern et al., 2012). It was hypothesized that in-session client statements of commitment (strength, frequency, and slope of strength across a session) from the first two sessions of therapy would predict daily EMA reports of commitment to reduce or abstain from drinking in the weeks that followed each respective session. As a secondary hypothesis, we predicted that both in-session change talk and daily reports of commitment would predict reduced daily drinking in the concurrent weeks of daily commitment reports. Given the proximity of daily commitment to daily drinking, we hypothesized that daily commitment would emerge as the stronger predictor of drinking.

2. Method

Problem drinkers (n = 89) with a goal of moderated drinking were recruited to participate in a pilot randomized controlled trial (Morgenstern et al., 2012). The purpose of the original study was to test MI's hypothesized mechanisms of action, specifically its relational and technical elements, as outlined by Miller and Rose (2009), by disaggregating MI into its component parts. Detailed procedures are reported elsewhere (Morgenstern et al., 2012). Below is a brief overview of the study procedures pertinent to the current analysis.

2.1. Participants

Advertising, both online and in local media, were used to recruit heavy drinkers seeking to reduce but not stop drinking. Potential participants who contacted the study were initially screened on the phone and then, if eligible, were scheduled for an in-person screen assessment.

2.1.1. Study eligibility

Participants were eligible for the study if they: (1) were between ages 18 and 65; (2) drank an average ≥ 15 or 24 standard drinks per week for women and men, respectively, over the prior eight weeks; and (3) endorsed a current AUD. Exclusion criteria were: (1) having a substance use disorder or being a regular (greater than weekly) drug user (for any substance other than alcohol, marijuana, nicotine); (2) having a history of or being at risk for serious psychiatric disorder, suicide or violence; (3) history or current serious symptoms of physical withdrawal from alcohol; (4) a legal requirement to attend substance abuse treatment; (5) social instability (e.g., homeless); (6) a goal of abstinence at baseline; or (7) an expressed desire to pursue additional substance abuse treatment concurrent to the study period.

2.2. Procedures

Participants completed informed consent and the in-person screen assessment, and those who were eligible were 1) trained on the daily diary assessment (described further below) and 2) returned one week later to be urn randomized to one of three conditions: MI (containing both the relational and technical elements), Spirit-only MI (SOMI, containing only the relational elements of MI), and a non-therapy condition (NTC, previously referred to as self-change). Participants in the therapy conditions received four psychotherapy sessions, at baseline, and weeks 2, 4, and 8. All participants were reassessed at weeks 4 and 8. For the current study, only participants from the two therapy conditions and the first three consecutive weeks of IVR data (the pre-baseline week, the week after session 1, and the week after session 2) were used.

2.2.1. Daily diary: daily interactive voice recording (IVR) survey

Beginning the day of the screen assessment, participants were asked to respond once daily to a survey implemented via interactive voice recording (IVR; TELESAGE, 2005). Participants were instructed to call into the IVR, via a toll-free number, from 4:00 pm – 10:00 pm each day for a total of eight weeks, including the week prior to randomization. An automated call was made to remind participants to complete the survey if they had not called by 8:00 pm. The survey required between