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Evaluating the Validity of the Client Evaluation of Motivational Interviewing Scale in a Brief Motivational Intervention for College Student Drinkers

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ABSTRACT

The Client Evaluation of Motivational Interviewing scale (CEMI) is a measure for assessing client perceptions of clinicians' use of motivational interviewing (MI). This study explored the factorial, convergent and predictive validity of the CEMI with a sample of 137 college students who completed a brief motivational intervention for alcohol harm reduction. A two factor structure was confirmed, supporting previous findings of relational and technical subscales. The CEMI technical subscale partially mediated an increase in readiness to change drinking, while the relational subscale did not. Higher scores on CEMI technical subscale predicted higher scores on the tasks, bond and goals subscales of the Working Alliance Inventory while higher scores on the CEMI relationship subscale predicted an increase in the goals subscale. Finally, the correlations between the CEMI subscales and observer-rated MI spirit score and MI adherent and non-adherent behavioral counts were in the expected directions but did not reach statistical significance. Further revision and evaluation of the CEMI is recommended. Clinical, training and research implications are provided.

1. Introduction

Motivational interviewing (MI) is a counseling approach that helps clients explore and strengthen their motivations for change (Miller & Rollnick, 2013), with sound evidence for its efficacy as a treatment for substance use disorders (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010), including within brief motivational interventions (BMI) for college student drinkers (Carey, Scott-Sheldon, Carey, & DeMartini, 2007; Cronce & Larimer, 2011). MI researchers have emphasized the need to better understand how to train clinicians in MI and evaluate the fidelity with which they deliver it (Madson, Loignon, & Lane, 2009; Schwalbe, Oh, & Zweben, 2014). This study evaluated the factorial, predictive and convergent validity of a revised version of the client evaluation of motivational interviewing (CEMI; Madson, Mohn, Schumacher, & Landry, 2015) in a sample of college student drinkers who participated in a brief motivational intervention (BMI).

The current gold standard in evaluation of MI fidelity is observational coding by trained raters, a resource intensive approach commonly used in MI research and for clinician training purposes (Madson & Campbell, 2006). Observational tools to assess MI fidelity such as the Motivational Interviewing Treatment Integrity code (MITI; Moyers, Martin, Hendrickson, & Miller, 2005), the Motivational Interviewing Skill Code (MISC; Miller, 2000) and the Independent Tape Rating Scale (Martino, Ball, Nich, Frankforter, & Carroll, 2008) have emerged as valuable measures. Fidelity assessment is used for developing clinician MI competency via feedback and coaching techniques (Schumacher, Madson, & Norquist, 2011) and evaluating the adequacy of MI as an intervention in clinical trials (Miller & Rollnick, 2014). Accurately assessing MI fidelity also has helped advance the understanding of how the proficient use of MI by clinicians relates to client change talk (i.e., client language in favor of change) and intervention outcomes (Magill, Apadoca, Barnett, & Monti, 2010; Moyers, Martin, Houck, Christopher, & Tonigan, 2009).

A potential complementary method to assess MI fidelity is to obtain clients' observations about clinicians' behaviors in MI sessions. Client observations of counseling sessions has been shown to be predictive of mental health counseling (Shaw & Murray, 2014) and substance use treatment outcomes (Bethea, Acosta, & Haller, 2008) and helpful in understanding the MI process (Angus & Kagan, 2009; Marcus, Westra, Angus, & Kertes, 2011). In fact, client perceptions of counseling often have been found to: 1) be better predictors of treatment outcomes than clinician observations (Bedi, Davis, & Williams, 2005; Shaw & Murray, 2014); 2) improve outcomes when routinely used to monitor treatment progress (Duncan, Miller, Wampold, & Hubble, 2010; Lambert, 2010); and 3) enhance skill development of clinicians (Reese et al., 2009; Soderlund, 2009). Thus, employing client measures to evaluate MI fidelity may provide a valuable and complementary evaluation to the established independent rater observational coding scales.

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The CEMI (Madson, Bullock, Speed, & Hodges, 2009; Madson et al., 2013, 2015) is a client-rated instrument that has shown initial promise in its capacity to assess client experiences of MI delivered by clinicians. The CEMI was previously evaluated with a diverse, inner city, homeless male substance using sample (Madson, Bullock et al., 2009; Madson, Loignon et al., 2009), a predominantly white suburban male sample receiving inpatient psychiatric services for dual disorders (Madson et al., 2013) and a southern mostly female African American sample participating in a healthy lifestyle intervention (Madson et al., 2015). Prior analyses of the CEMI have supported a two factor structure that is consistent with the hypothesized relational and technical components of MI (Miller & Rollnick, 2013; Miller & Rose, 2009). The first factor, labeled 'technical', reflects the use of MI strategies to encourage discussion that supports change (Schumacher & Madson, 2014). It includes clinician behaviors such as "help you talk about changing your behavior" and "help you feel confident in your ability to change your behavior". The second factor, labeled 'relational', reflects the client-centered, accepting and autonomy supporting approach aimed at creating safe, trusting, and engaging environment for client discussions about change (Moyers, 2014). Items comprising this factor are negatively worded and reversed scored, such as "make you talk about something you did not want to discuss" and "tell you what to do". Based on this earlier work, Madson et al. (2015) revised the CEMI to remove poorly performing items and improve wording. The revised CEMI requires additional development to confirm its two factor structure, establish its predictive validity, and evaluate how the CEMI relates to observational measures of MI fidelity.

The purpose of this study was to further contribute to the development and psychometric evaluation of the CEMI by evaluating its validity in a sample of college student drinkers who completed a BMI. This study had four aims. First, we sought to confirm the CEMI's two-factor structure established in prior work (Madson et al., 2013, 2015). Next, we sought to explore the predictive validity of the CEMI by exploring the degree to which the relational and technical subscales predicted components of the working alliance, in line with prior suggestions about the relationship of how MI-consistent and inconsistent behaviors respectively support or diminish working alliance and subsequent client outcomes (Apodaca & Longabaugh, 2009; Boardman, Catley, Grobe, Little, & Ahluwalia, 2006). We hypothesized that client perceptions of higher clinician MI fidelity would be related to higher working alliance. Third, because a clinician's proficient use of MI during a BMI session should result in increased client motivation for change, we sought to evaluate the degree to which client-rated clinician MI fidelity mediated changes in readiness to change from pre to post BMI. We hypothesized that client-rated CEMI relational and technical subscale scores would mediate increases in readiness to change after completing the BMI. Finally, we evaluated the degree to which the CEMI subscales were related to the Motivational Interviewing Treatment Integrity code (MITI; Moyers et al., 2005), a gold standard observational measure for assessing MI competency. We expected there to be a positive relationship between the MITI spirit global rating and the MI adherent behavioral count and the CEMI subscales. We also believed that there would be a negative relationship between the CEMI subscales and the MI non-adherent behavioral counts.

2. Materials and Methods

2.1. Participants

Participants were 137 undergraduate students of traditional age (X = 20.04, SD = 1.99) who were either self-referred (n = 90, 65.69%) or university mandated (n = 47, 34.31%) to receive an alcohol harm reduction intervention. All participants completed a university institutional review board approved informed consent for the study. Mandated students were referred by campus offices such as residence life and the dean of students office for violations of campus alcohol policies (e.g., minor in possession of alcohol). The majority of participants were female (n = 87, 64.40%) and identified as White non-Hispanic (n = 92, 67.10%) or African American (n = 37, 27.00%) with the remaining students identifying as Native American/Alaska Native (n = 4, 2.90%), Native Hawaiian/Pacific Islander (n = 2, 1.50%) or Hispanic/Latino (n = 2, 1.50%). There were 51 (38.90%) freshman, 15 (11.50%) sophomores, 35 (26.70%) juniors, and 30 (22.90%) seniors. Forty-eight (34.78%) indicated Greek Organization affiliation.

2.2. Brief Motivational Intervention

The BMI intervention followed the procedures outlined in the Brief Alcohol Screening and Intervention for College Students (BASICS; Dimeff, Baer, Kivlahan, & Marlatt, 1999) which is designated a tier 1 alcohol prevention program focused on students with slight, yet detectable, evidence of harmful alcohol use as evidenced by a score of 6 or higher on the Alcohol Use Disorders Identification Test (Devos-Comby & Lange, 2008) or engaging in binge drinking and/or experiencing alcohol related negative consequences (Nelson, Toomey, Lenk, Erickson, & Winters, 2010). The two-session BMI was delivered via an individual format and focused on reducing harm associated with alcohol use and increasing utilization of protective behavioral strategies when drinking alcohol. The program implemented in this study placed special emphasis on the use of MI given evidence that programs using MI outperformed those that did not (Carey et al., 2007). All BMI sessions were conducted in-person at a university graduate training clinic. The first session involved engaging and eliciting commitment to be involved in the BMI and assessment of alcohol consumption and related behaviors. The second session focused on personalized feedback and eliciting desire, ability, reasons, and need to change drinking behaviors. A specific focus of this session was on eliciting various protective behavioral strategies a student was willing and able to use when drinking. The second session concluded with the student developing and committing to a safe drinking plan.

2.3. BMI Clinicians and Training

All BMI sessions were provided by advanced graduate students in counseling psychology. The average age was 24.78 (SD = 1.86) and the majority were female (80%) and White non-Hispanic (95%). Prior experience with MI was limited to a previous class lecture as part of a counseling theories class. All BMI clinicians were trained by the first author, a member of the Motivational Interviewing Network of Trainers (MINT) and followed suggestions offered by Madson, Loignon et al. (2009). BMI clinicians completed 12 hours of training that included (a) pre-training MI and BMI manuals developed by the first author (b) didactic training, (c) experiential exercises and (d) feedback/coaching on the implementation of MI with a videotaped role play of the two BMI sessions using an undergraduate confederate. Supervision and feedback was provided bi-weekly throughout the academic year focusing on MI skill development and adherence to the BMI procedures.

2.4. Client Evaluation of Motivational Interviewing

Client perceptions of MI were assessed using the revised 12-item Client Evaluation of Motivational Interviewing Scale (CEMI; Madson et al., 2015). The CEMI is a self-administered tool given to the client following an MI-based counseling session and asks the client to rate the degree to which a clinician exhibited specific MI-related behaviors (Madson et al., 2013). Participants use a 4-point Likert-type scale (1 = not at all, to 4 = a great deal) to rate the degree to which the MI clinician demonstrated each behavior during their session (Madson, Bullock et al., 2009; Madson, Loignon et al., 2009). Behaviors rated include, "help you talk about changing your behavior," "make you talk about something you didn't want to discuss" and "act as a partner in your behavior change." Two subscales (relational and technical) are scored, with scores range from 4 to 16 on the relational factor and from 7 to 28 on the technical