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Predicting Competency in Motivational Interviewing through an Objective Empathy Task

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PREDICTING COMPETENCY IN MOTIVATIONAL INTERVIEWING THROUGH AN
OBJECTIVE EMPATHY TASK

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DEDICATION

I wholeheartedly dedicate this thesis to my beloved fiancé, Michael A. Barlow. Thank you for the strength you have given me to complete this project. To my parents, Eric and Theresa Clark, none of this would have been possible without you. Thank you for always believing in my dreams.

PREDICTING COMPETENCY IN MOTIVATIONAL INTERVIEWING THROUGH AN
OBJECTIVE EMPATHY TASK

by

KYLAH MONEEK CLARK, B.S.

THESIS

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ABSTRACT

In the process of disseminating motivational interviewing (MI) it is important to identify who benefits from initial workshops and which trainees would benefit from an extended training model that involves coaching and performance feedback, which has recently been advocated. Prior research attempting to determine who benefits from training has failed to show associations between baseline self-reported empathy and training outcomes. However, the use of an objective empathy task may address the shortcoming of prior research. The purpose of the present study was to predict competency in motivational interviewing skills following training using an objective empathy task. In addition, we investigated if self-report measures of empathy were more susceptible to social desirability than an objective empathy task. This study was a longitudinal design that is based on a pre-test objective empathy task and a post-test measure of MI skills/proficiency. Prior to a three-day training in motivational interviewing, participants completed a social desirability scale, self-reported empathy based on the empathy quotient and an objective empathy task based on the multifaceted empathy test. Following the training, participants interacted with a standardized patient which was audio recorded and subsequently scored on the motivational interviewing treatment integrity. Competency in motivational interviewing was based upon the average scores on the global measures of cultivating change talk, softening sustain talk, empathy, and partnership. It was anticipated that the empathy quotient would be more strongly correlated with social desirability than the multifaceted empathy test. In addition, we anticipated that the multifaceted empathy test would be a stronger predictor of competency than the empathy quotient.

Keywords: motivational interviewing, empathy, fidelity, MI training, predicting competency

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INTRODUCTION

MOTIVATIONAL INTERVIEWING

Motivational Interviewing (MI) is an approach to discussing one's ambivalence about change. More specifically, MI is a collaborative conversational style approach in which empathy is the basis of the underlying spirit to allow the intervention to be client centered. MI was developed with clients who had addictive behaviors. William Miller introduced MI in 1983 when working with problem drinkers and published the first book in 1991 (Miller & Rollnick, 2012). Since the 1980s, MI has been updated and utilized to encourage a wide variety of health promoting behaviors including but not limited to diets, domestic violence, eating disorders, families and relationships, gambling, fitness, mental health, offenders, and sexual behavior. Since its introduction, MI has shown to be effective in more than 80 randomized clinical trials (Hall et al., 2015). Moreover, studies have shown that in comparison to other treatments such as cognitive behavioral therapy (CBT), MI is just as effective yet requires a fewer number of sessions (Lundahl et al., 2010). In addition, the effects of motivational interviewing have been shown to be consistent over time (Burke et al., 2003). Due to MI being used within numerous professions and behaviors it is valuable to know the best practices for effectively implementing MI into practice.

Motivational interviewing is an evidenced-based practice (EBP), defined as “the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA Presidential Task Force on Evidence-Based Practice, 2006, p. 273; Fraser, 2018). There have been barriers to implementing evidence-based treatments such as MI into practice. Such barriers include inconsistent training and supervision, trainee resistance and complications adjusting to MI (Amodeo et al., 2011). Qualitative findings indicated that lack of resources, goodness of fit with the therapist, inflexibility of organizational guidelines, the adaptability of MI, and continued skill development were identified as barriers to implementing MI (Wood et al., 2011). Addressing these barriers has been an ongoing impediment

due to the complexity of skills necessary to practice MI, monitoring fidelity to MI protocol and providers attitudes towards attending training in MI (Hall et al., 2015; Wood et al., 2011). One way to address these barriers is to focus on the therapeutic alliance that is central to MI.

In some cases, MI can be considered a basis for implementing other interventions because of its collaborative, empathetic, respectful counseling style (Miller & Moyers, 2006). Furthermore, MI can be used to establish a partnership and mutual understanding prior to implementing treatments such as cognitive behavioral therapy. In addition MI can help to encourage clients to enter into treatment. More specifically, MI can be used to increase intrinsic motivation for individuals to begin treatments such as alcohol anonymous or batterer programs. One unique feature of MI is that it recognizes ambivalence as a normal part of behavior change. As a result, MI is a conversational style that helps to facilitate resolution of ambivalence. Due to the collaborative aspect of MI, the therapist acts as a guide for the client who is maneuvering their way through change. This is done through the underlying spirit of MI, which is the foundational perspective one should take when practicing MI (Miller & Rollnick, 2012). The spirit of MI includes partnership, acceptance, compassion, and evocation. Partnership emphasizes that the client is the expert of their experiences and should verbally contribute to more of the conversation than the therapist. Acceptance is based on Carl Rogers's findings of the dynamics of behavior change. He also proposes absolute worth which recognizes individuality and respect. Similarly, autonomy for the client to make their own decisions and affirming their efforts. It is important to note that acceptance is not to be confused with approval or agreement with the client's behaviors and/or beliefs. Compassion or having the best interests of the client in mind was added to the third and most recent edition of the MI book. The inclusion of compassion is to emphasize that MI is for the benefit of the client and not for the therapist's self-interest. More specifically, MI is not to be used to manipulate clients or achieve goals based solely on the interest of the provider. Lastly, evocation is the idea that the client has everything needed within them to change and the therapist is simply there to yield the clients motivation to the forefront and strengthen positive reasons for change. Although helpful, it is not necessary for therapists beginning training in MI to have fully

mastered all of these skills' that are representative of empathy. However, therapists who possess such skills are likely to learn MI at a quicker rate and may in turn, require less training. Alternatively, those with less mastery of the fundamental skills may require more training or different kinds of training. The lack of attention to therapeutic alliance skills prior to training has induced a barrier in the implementation of MI within clinical practice.

MI and other evidence-based approaches to therapy are identified as a best practice within the substance abuse field to effectively impact client change. To master this evidence based approach, research has shown that it is not effective to simply distribute manuals on MI with the expectation that self-study will allow therapists to reach competency. In contrast, it has been shown that the best ways to learn MI is through training by experts (Olmstead et al., 2011). Therefore, it is essential to identify the best ways to train therapists in MI, assess their competency levels, and identify which therapists are most likely to benefit from training.

TRAINING IN MI

Several strategies have been used to train therapists in the use of MI and include webinars (distance learning), workshops, and competency-based training (Martino et al., 2011). Competence based trainings are training models that systematically aim for trainees to demonstrate the MI skills they have learned. Within different training approaches, trainees will perceive how effective MI training is differently and may be opposed to attending. Also, trainees may have different levels of therapeutic relational abilities prior to training. Regardless of the type of training, perceived effectiveness and variable therapeutic skill must to be considered. Studies have shown that trainee resistance is as important as the trainee's initial level of therapeutic skill (Wood et al., 2011). Because of these differences it is important to discern trainees' abilities prior to receiving training in MI, in order to provide more tailored training that better serve their individual needs.

Oftentimes a trainees interest of learning MI is sparked by individual therapists or supervisors within an organization. When interest arises therapists and supervisors typically utilize self-study materials for review or attend a one-day workshop training (Miller et al., 2004). In a review of the MI training literature, Madson and colleagues (2009) found that on average, trainings in MI last 9-16 hours. Such trainings introduce the theory of MI to trainees and utilize both didactic presentations and exercises. These trainings usually consist of a MI workshop that involves no follow up contact with trainees, no in-vivo coaching, and no personalized feedback on their MI skills which are key components of effective training in MI. As MI grows in popularity, many professions are increasingly interested in utilizing motivational interviewing within their treatment facilities. Therefore, it is important to identify the best practices for learning MI.

Prior studies have revealed that a 2-day workshop training is insufficient to maintain long term gains in MI skills. In a study that investigated different training methods for MI, the control group (n=23), who only received a copy of the MI manual and take-home videos, showed no increase in their MI skills ($p = .129$). Such findings suggest that MI cannot be self-taught and participation in at least one workshop is necessary for significant improvements in skill. (Miller et al., 2004 – 8). More specifically, individuals engaging in self-study materials will have little to no gains in skill. The alternative is to attend workshop training, which can be expensive. For example, in 2006, a training for 17 individuals cost approximately \$28,000 (Olmstead et al., 2011). Despite the cost, training led by experts seems to be the most effective way to train therapists in MI. Therefore, it is essential to cost effective implementation of MI for organizations to know who is most likely to benefit from expensive and time consuming training. Of additional importance, the skills that are learned from workshops will decline over time if there is no coaching and/or feedback after the training (Schwalbe et al., 2014). This suggests that it is necessary for trainees to have follow up workshops, personalized feedback, and/or coaching after initial training, in order to retain MI behaviors (Miller et al., 2004 – 11). All in all, these results suggest that MI cannot be learned by just anyone, however, it is unclear which therapists are best fit to learn MI

(Miller & Moyers, 2017). Therefore, careful consideration needs to be given to who is trained and how they are trained.

The literature on training is limited as it relates to trainee characteristics and how they may impact the ability to reach competency in MI skills (Moyers & Miller, 2013). The majority of the literature addresses the impact of the length of training models, stages of learning, etc., on the development of MI skills. (Madson et al., 2009; Schwalbe et al, 2014). Most of these studies measure various MI skills at pre and post training. More specifically, studies investigate the differences in participant's percentage of MI-nonadherent behaviors, which indicates a decrease in behaviors that are inconsistent with MI (Moyers et al., 2007). In addition to nonadherent behaviors, studies also evaluate participants self-report perception of MI skills and percentage of open questions, which are indicative of positive increases in MI skill (Cook et al, 2017; Madson et al, 2009; Hartzler, 2007; Schoener et al., 2006;). Lastly, studies investigate responses to the Helpful Response Questionnaire (HRQ) which assesses a trainee's empathy through their responses to open ended client scenarios (Walter et al., 2005; Baer, 2004; Miller & Mount, 2001). However, empathic responses to open ended client scenarios do not predict fidelity or competency (Martino, 2010; Miller et al., 2004). There have been a few further attempts to establish characteristics that are predictive of training outcomes. For example, a study investigated baseline characteristics ability to predict competency. Characteristics included self-esteem, aggression, achievement, and nurturance and no significant effects were found (Miller et al., 2004). A second study found that professional experience and education level were not predictive of participants MI spirit, ability to reflect complexly, or a decrease in MI-nonadherent behaviors, as measured by the MITI (Carpenter et al., 2012). However, they did find that vocabulary performance as measured by the Shipley Institute of Living Scale (SILS) was predictive of MI spirit and MI-nonadherent behaviors following a 2-day training in MI ($p < .02$; Carpenter et al., 2012). Nevertheless, these findings emphasize that more broadly research has been unsuccessful at identifying which trainee characteristics are predictive of competency.

Evidence-based training in empirically supported interventions such as MI are time consuming and expensive (Carroll, 2016). Current issues related to dissemination of evidence-based practices include access to resources, availability of trainers, and several other factors (Kazdin, 2004). Research has shown that awareness of how to best disseminate evidence-based approaches are essential to creating a clear bridge between research and clinical practice (Beidas & Kendall, 2010). This is essential because organizations cannot afford to send their entire staff through training. Furthermore, the availability of trainers who are members of the motivational interviewing network of trainers (MINT) to facilitate training within communities are limited. With the aforementioned factors in mind, it is important to identify who benefits most from 2-day workshop training in MI. In order to determine which trainees have benefited the most from training, it is essential to measure adherence to MI protocols.

FIDELITY OF MI

Fidelity is defined as the ways in which the delivery of behavioral interventions is reliable and valid (Jelsma, 2015). Fidelity measures quantify how well providers adhere to the protocols and underlying premises of MI through the assessment of various therapeutic skills. Fidelity measures are critical in clinical trials in which there needs to be a way to discriminate between MI and interventions being compared to MI. In community practice fidelity to an evidence-based approach must be maintained to achieve the client outcomes observed in clinical trials. Thus, in both clinical trials and widespread implementation, it is essential to maintain fidelity to the intervention in order for the findings from clinical trials to permeate community practice. The most comprehensive way to establish fidelity is by coding audio samples submitted by therapists. There are several systems that have been created that require coding recordings, these include the motivational interviewing skill code (MISC, Moyers, 2003), the motivational interviewing treatment integrity (MITI, Moyers et al., 2005), the behavior change counseling index (BECCI; Lane et al., 2005), the motivational interviewing supervision and training scale (Madson et al.,

2005), the video assessment of simulated encounters-revised (VASE-R; Rosengren et al., 2008) and more. Some of these, such as the MISC, require researchers to listen to audios three full times, a time consuming process which is predominately employed in research to examine mechanisms of change. In contrast to researchers, practitioners and their supervisees may find this approach unnecessarily burdensome because of the time needed to code audio sessions. Yet researchers found that only 1/3 of an audio session, with an average time of 28 minutes, is needed to generate similar scores if they were to code an entire session (Caperton et al., 2018). This is informative to practitioners and their supervisors who view fidelity as less critical and requiring too much time for the practice of MI. Monitoring fidelity in community practice continues to be a significant barrier to the implementation of MI.

The first coding system for MI that was established is the MISC which was created to analyze provider's proficiency in MI before and after training (Miller et al., 2004 - 2). As mentioned previously, this coding system requires listening to any single audio three times. The first observation entails global score ratings of the therapist and the client. On a 7-point Likert scale the therapist is measured on three global ratings acceptance, empathy and MI spirit. Also, on a 7-point Likert scale, the client is rated on self-exploration. The second examination includes the rate of occurrence of certain behavior for both the therapist (15 behaviors) and client (5 behaviors). The third and final listen includes the amount of talking done by both therapist and client, which is captured by a ratio (Moyers et al., 2003). Such coding can be cumbersome and exhausting. Because the MISC accounts for both client and therapist behavior it is most commonly used for process research and not fidelity in practice.

Due to the MISC being time consuming there was a need for a more concise way to measure therapist fidelity. As a result, the MITI coding system was developed to simplify the task of coding for the purposes of implementation in community practice. As a result, it is now the most commonly used method for testing fidelity in MI, which was created based off of the MISC (Jelsma, 2015). The main differences between the MISC and the MITI is that the MITI is less complex and lengthy. This is because the MITI focuses entirely upon what the therapist says

throughout the session. In addition, the MITI simplifies many of the categories of therapist behaviors tracked in the MISC because outside of research they have no added value. Using this method of monitoring fidelity also allows the provider to receive personalized feedback on their MI skills. Miller and colleagues (2006) have advised that learning MI without receiving feedback is ineffective and therapists will have little improvement. Overall, the MITI is simpler and more cost efficient than the MISC and can be most useful for assessing novice level competence in MI skills (Moyers et al., 2005).

During its creation, the MITI, had inter-rater reliability ranging from .5184 to .9681 using the intraclass correlation coefficient (ICC) and 70% were considered excellent ratings (Moyers, 2005). Reliability was tested on 50 audiotaped submissions of 20-minute MI sessions. In addition, researchers utilized 20 pairs of audio tapes (40 tapes), one that was recorded prior to training and the second being recorded directly following training in MI to test for differences in MI skills. Using paired sample *t*-tests, the MITI coding system was able to detect an increase in empathy spirit and complex reflections (Moyers, 2005). In a study conducted by Pierson and colleagues (2007), the researchers tested inter-item correlations, which showed that the global scores of empathy and spirit were positively correlated with MI-adherent behaviors and negatively correlated with MI-nonadherent behaviors. These correlations show that the MITI is capable of capturing and assessing the integrity of MI. The MITI continues to be revised and improved in order to stay up to date with current research in MI. The most current up to date version is the MITI 4.2.1, which was revised in June of 2015 (Moyers et al., 2015).

In its most recent revised version, the MITI 4 coding system consists of 2 parts, global scores and behavior counts of therapist utterances (Moyers et al., 2016). The global scores (4 total) capture the overall representation of relational (partnership & empathy) and technical (softening sustain talk & cultivating change talk) skills. The relational and technical parts of an MI intervention work together to exhibit empathy and cultivate change talk, respectively (Miller and Rose, 2009). The behavioral counts (10 total) are used to represent specific verbal behaviors/utterances of the therapist consisting of MI adherent behaviors: emphasizing autonomy,

affirmations, and seeking collaboration, as well as MI non-adherent behaviors persuades and confronts. Using ICC rates, the inter-rater reliability for the MITI 4 range from good to excellent, as coded by undergraduate coders (Moyers et al., 2016). In addition, the scope of the current study is to assess competence and the behaviors of the client are unnecessary to analyze. It is crucial to measure fidelity with a psychometrically sound instrument such as the MITI 4 because research has shown that self-report measures of MI competency has resulted in no significant correlations (Miller & Mount, 2001). For the sake of this study, the MITI is sufficient to establish competency level among participants in order to establish whether or not trainees are adhering to the principles of MI, including empathy.

EMPATHY

Researchers suggest that providing psychotherapy treatments without emphasizing the relationship between client and therapist is incomplete (Norcross & Lambert, 2014). In other words, psychotherapy is not effective without a strong therapeutic alliance. A review of the literature on empirically supported treatments aimed to determine the key characteristics that are central to effective therapeutic relationships (Norcross & Hill, 2004). A few of these aspects include therapeutic alliance, empathy, goal consensus and collaboration, positive regard, and repair of alliance ruptures are most effective in psychotherapy. Each of the latter characteristics are also central to the practice of MI. Of the characteristics mentioned, the most important and salient is empathy which was found to be linked to client outcome (Norcross & Hill, 2004). These findings emphasize that empathy is central to all therapeutic relationships and is predictive of ability to reach competency in not only MI but other therapy interventions as well.

A necessary but not sufficient feature of MI is reflective listening or the ability to accurately predict underlying reasons of what the client is saying. Reflective listening closely aligns with “accurate empathy” as described by Carl Rogers in his client-centered counseling theory (Rogers, 1949). If MI is being done well, accurate empathy will naturally be present during the totality of

the session. It is important to note that empathy is not the same thing as sympathy. Empathy is the ability to accurately take on the perspective of someone's feelings rather than actually feeling the same as them. Evidence has shown that therapists higher in empathy typically have higher retention rates and, ultimately, better client outcomes. A study conducted by Pollak and collaborators (2007) found that when physicians were evaluated as being more empathic, female patients were more likely to tend to their weight loss goals than those who were not treated with empathy. More specifically, the more physicians utilized techniques consistent with MI the more likely their patients were to try and lose weight (Pollak et al., 2007). Similar studies have shown that therapists who are high in empathy have better client outcomes in regard to substance abuse (Moyers & Miller, 2013). In terms of graduate students, researchers found that practicing empathy will help students to reach competence in treatments that are client centered (Ratka, 2018). Overall, a client centered therapeutic alliance is important in all evidence-based strategies and therapeutic approaches (Bohart, 2000). More specifically, empathy is a common factor of effective psychotherapies and is often more predictive of client outcome than the specific factors associated with the treatment itself (Wampold, 2015; Lambert & Bergin, 1994).

Research on measuring empathy suggests that there are multiple types of empathy rather than a singular definition and/or measure. The two main types of empathy include cognitive empathy and affective empathy. Cognitive empathy is defined as being able to understand the feelings of another person and taking on their perspective. In contrast, affective empathy focuses on the emotional response of the therapist (Cohen & Wheelwright, 2004). As opposed to a single construct, Davis (1980), developed a model that treated empathy as a collection of constructs using a multidimensional approach. Utilizing the multidimensional approach when measuring empathy ensures the analyzation of the full scope of participants empathy and not just a singular portion. These constructs include perspective taking, defined as the ability to take on the perspective of other people, fantasy, which measures the tendency to identify with fictional characters, empathic concern includes feelings of concern for others in distress and personal distress measures uneasiness when exposed to other people's situations that are negative (Davis,

1980). It is important to consider both aspects of empathy as they are related and one rarely exist without the other (Cohen & Wheelwright, 2004). Thus, in this study both the self-report and objective measures of empathy have questions that incorporate into these two aspects of empathy.

Although it is relatively unknown how common it is for therapists to possess accurate empathy, Miller and Moyers (2017) argued that empathic skill has by far been the best predictor of therapists eagerness to learn MI. Such that empathy is a better predictor than education, theoretical orientation, and personality style (Miller & Moyers, 2017). Still, the majority of researchers use self-report measures to assess empathy (Ilgunaite et al., 2017). Self report measures are commonly used because they are easier and quicker to administer. However, people are likely not able to identify their inability to be empathetic (Ilguanite et al., 2017). In addition, self-report measures are susceptible to social desirability and research has shown that social desirability bias largely affects test validity (King & Bruner, 2000). During self-report, participants have more opportunities to “fake good” and attempt to present themselves in a socially favorable light. In contrast, an objective empathy task is less likely to be subject to social desirability and will better predict trainee’s ability to reach competency.

SUMMARY

MI is an evidence-based approach to discussing patients’ ambivalence about change. The literature has shown that simply attending training in motivational interviewing is not sufficient in obtaining competency and/or proficiency in this therapeutical approach. Trainees need personalized feedback on their skills and coaching from an expert in MI (Miller et al., 2006) which is both time consuming and costly. In order to capture the underlying spirit and additional MI skills that reflect the protocols of MI, the MITI coding system was developed to monitor fidelity. Establishing fidelity is essential as the lack of monitoring is a common barrier to the effective dissemination of MI. Identifying which trainee characteristics assist in distinguishing those who will reach competency and those who may not may lead to more cost effective and efficient training

strategies. However, the literature has fallen short in determining which characteristics are predictive of who eventually obtains competence. Thus, we propose that empathy will be a significant predictor in reaching competency in MI.

The purpose of this study is to utilize empathy as a predictor of competency in MI skills following training. It is hypothesized that responses to self-report measures of empathy will be more influenced by social desirability than responses to the objective empathy task. The second hypothesis is that participants who score higher in empathy prior to training will be more likely to reach competency in MI as evidenced by average global scores on the MITI after the training.

METHODS

PARTICIPANTS

Forty-seven participants were recruited from The University of Texas at El Paso (UTEP) Master of Social Work program. Participants included students currently pursuing their master's degree in social work and undergraduate students currently enrolled in graduate level social work courses. Social work students were recruited through summer courses in collaboration with faculty. None of the participants were vulnerable to coercion. All participants provided written informed consent to participate in the research. This study has been approved by the Institutional Review Board at UTEP.

MEASURES

The *Multifaceted Empathy Test-English Version (MET; Foell et al., 2018)* was originally developed in Berlin. The task presented participants with 40 emotionally inducing stimuli (20 positive/20 negative) in which they first were asked to describe the emotion of the person in the photograph (cognitive empathy). Participant then chose one target word amongst an additional three distractor words for each image. For each correct answer participants received one point and summation was utilized for a total score with a maximum score of 40. Next, they were asked how much they empathize with the person in the picture (emotional empathy) and responses were captured on a 9 point Likert type scale (1=not at all; 9=very strongly). Participants scores of emotional empathy were averaged. These questions include both affective and cognitive empathy and approaches the measures multidimensionally. This measurement was validated using the Interpersonal Reactivity Index (IRI; Davis 1980) and the triarchic psychopathy measure. The cognitive empathy of the MET found a reliability of $\alpha = .49$ using Cronbach's alpha. In addition, for positive and negative emotional empathy scale, reliability was found to be .93 and .94, respectively (Foell et al., 2018).

The *Empathy Quotient (EQ; Cohen & Wheelwright, 2004)* was originally developed to measure differences in empathy with those who have high functioning autism or Asperger syndrome. This self-report measure consists of 40 cognitive/affective empathy questions and 20 distractor/control questions (60 total). Participants read each statement and responded on a 4-point Likert type scale ranging from '1' strongly disagree to '2' strongly agree. Of the 40 empathy questions respondents can receive up to 2 points for each item. Sum scores are calculated with higher scores indicating higher levels of empathy. The EQ was found to be negatively correlated with the Autism Spectrum Quotient ($r = -.56$), which was argued as a defense for its validity (Cohen & Wheelwright, 2004).

The *Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960)* measured social desirability bias (SDB). The MCSDS measured one dimension of SDB, impression management. Impression management is the conscious biasing of responses to create a favorable self-image (Booth-Kewley et al., 1992). More specifically, the individual is purposely and aware of making deceptive responses (Paulhus, 1985). This SDB measure consists of 33 true-false items. Participants receive one point for each response that matches the key. Higher scores indicate respondents who may be more concerned about social approval than those with lower scores. Internal consistency was found to be .88 and was positively correlated with the validity scales of the Minnesota Multiphasic Personality Inventory (MMPI) and negatively correlated with the clinical scales (Crowne & Marlowe, 1960).

The *Edward Social Desirability Scale (ESDS; Edwards, 1957)* measured the second dimension of social desirability, self-deception enhancement. This form of social desirability assesses the tendency to claim socially desirable characteristics and deny socially undesirable characteristics (Booth-Kewley et al., 1992). More specifically, the individual actually believes their false accusations to be true (Paulhus, 1985). The ESDS is a 37-item true false questionnaire and has a reliability ranging from .73 - .80 (Crino et al., 1983). One point is added for each response that matches the key with higher score indicating more socially desirable responses.

Motivational Interviewing Treatment Integrity (MITI) coding system is the most commonly used method for testing fidelity in MI. This coding system consists of 2 parts, global scores and behavior counts. The global scores capture the overall representation of relational (Partnership & Empathy) and technical (Softening sustain talk & cultivating change talk) skills on a 5-point Likert type scale. The behavioral counts are used to represent specific verbal behaviors of the provider consisting of MI adherent behaviors: Emphasizing Autonomy, Affirmations, and Seeking Collaboration, as well as MI non-adherent behaviors: Persuades and Confronts. The focus will be on the average global scores per participant which was the determinant of competency achievement.

PROCEDURE

The three assessments (MET, EQ, and MCSDS) were administered by the principal investigator on a computer located in private rooms. The participants then participated in a 3-day workshop in MI provided by two members of the MINT. The training model totaled to 18 hours (6 hours each day) including 50% lecture time and 50% interaction time. Following the workshop, all participants provided MI to a standardized patient. The standardized patient was provided background information to be able to engage with the social work students as if he were a typical client with alcohol use problems. The scenario for the standardized patient was a college aged male Latino student who was referred to the school counseling center by his professor. The patient had been attending class smelling of alcohol and falling asleep during his morning class. In this way, all social work students were exposed to the same stimulus, (i.e., client scenario). The intervention lasted no longer than 30 minutes and was audio recorded. Interactions between the social work students and standardized patient was coded according to an objective measure of competency in MI, MITI 4.2.1. Following the interview, participants completed a final series of assessments (MET, EQ, and ESDS). Empathy was measured at two time points to assess potential changes in empathy that may be due to the training.

STATISTICAL ANALYSES

The present study analyzed the relationship between scores on an empathy task and average global scores of MI skill. In addition, the relationship between social desirability, self-report empathy and the empathy task. The study was a longitudinal design that was based on a pre-test empathy task and a post-test measure of MI skills. The statistical analysis of the data was computed using SPSS statistical software. Specifically, linear regression utilized scores of empathies to predict average global scores (competency) while controlling for demographic variables (e.g., gender, ethnicity, work experience & prior exposure to MI). It was expected that the objective empathy task (MET) will be more predictive of competency than the self-report measure (EQ). A second linear regression used social desirability (MCSDS & ESDS) as a predictor of empathy while controlling for demographic variables. It is expected that the self-report measure (EQ) will be more susceptible to social desirability than the objective empathy task (MET). Finally, repeated measures ANOVA were conducted to evaluate differences in levels of empathy between pre and post training.

RESULTS

Of the 47 participants in the study, 35 were female, 10 were male, and 1 gender fluid (options: male, female, gender fluid, transgender, and other). Majority of the participants (80%) identified as Hispanic or Latino. There were twenty-five 1st year MSW students, eighteen 2nd year, one third year, and two bachelor social work students. Eighty-four percent indicated having no prior exposure to MI prior to the training. Four of the participants had attended an MI training and two have taken a full semester course in MI. Many of the participants worked in nonclinical practice (52.3%), 15.9% worked in clinical practice both full time and part-time, and 31.8% indicated 'other' as their work experience.

On the Empathy Quotient (EQ) the minimum score was 28 and the maximum score was 71 with a mean score of 50.71 (SD=10.37). The average MET cognitive empathy score was 25.26 (SD=3.7) and emotional empathy was 7.05 (SD=1.44). MET positive cognitive empathy had a mean score of 13.06 (SD=2.20) and MET negative cognitive empathy had a mean score of 12.20 (SD=2.58). Additionally, MCSDS scores had an average score of 19.38 (SD=5.99) and ESDS had an average score of 26.5 (SD=4.94). See table 1 for full list of descriptive statistics. The average relational technical score was 3.44 (SD=.67) and the average technical global score was 3.02 (SD=.86). Of the participants only 13 reached competency which was less than 39% of the sample.

Linear regression was used to predict empathy scores using the Marlowe-Crowne Social Desirability Scale (MCSDS). The MCSDS significantly predicted scores on the empathy quotient (EQ) while controlling for gender, race, work experience, and prior exposure to MI. A significant regression equation was found ($F(5,25) = 1.115, p < .05$), with an R^2 of .182. In contrast, the MCSDS did not significantly predict cognitive empathy scores on the multifaceted empathy test (MET; $p = .104$), including control variables ($F(5,26) = 1.959, p = .119$). Also, the MCSDS did not significantly predict emotional empathy scores on the MET ($F(5,26) = 2.393, p = .065$). See table 1.1.

Subsequently, linear regression was used to describe the relationship between empathy scores and the Edwards Social Desirability Scale (ESDS). There was no relationship detected between the ESDS and empathy scores on the EQ while controlling for gender, race, work experience, and prior exposure to MI ($F(5,25) = .898, p = .498$). Similarly, the EQ had no significant relationship with the emotional empathy task of the MET ($F(5,25) = .533, p = .749$). In contrast, the ESDS did have a significant relationship with cognitive empathy scores of the MET ($F(5,25) = 5.766, p < .05$). See table 1.2.

Pearson correlations were utilized to evaluate the relationship between social desirability and empathy. The MCSDS positively correlated with the EQ ($r(47) = .33, p = .02$). The MCSDS did not significantly correlate with either cognitive ($r(47) = .303, p = .303$) or emotional empathy ($r(47) = .460, p = .460$) of the MET. The ESDS negatively correlated with cognitive empathy ($r(34) = -.426, p = .01$) and did not significantly correlate with EQ ($r(34) = .216, p = .216$) or emotional empathy ($r(34) = .094, p = .598$). See table 1.3. Of particular interest, gender and prior exposure to MI were positively correlated with cognitive empathy [$r(46) = .329, p = .03$ and ($r(45) = .386, p = .0090$], respectively. The MCSDS and ESDS did not statistically correlate with one another ($r(34) = .308, p = .076$).

Repeated measures ANOVA was used to compare empathy scores prior to training and empathy score following the training in MI. The difference between the EQ mean scores and cognitive empathy mean scores were not statistically significant [$(F(1,33) = .018, p > .05$ and ($F(1,34) = 2.243, p > .05$)], respectively. The difference in emotional empathy mean scores between pre and post training was statistically significant ($F(1,34) = 13.180, p < .01$). See table 1.4.

A pair of linear regressions were conducted to predict average global scores while controlling for gender, race, work experience, and prior exposure to MI. The first model analyzed if self-reported, cognitive, and emotional empathy scores predicted average relational global scores. The analysis showed that self-reported empathy did not significantly predict average relational global scores ($t = .009, p > .05$). The cognitive empathy task did not significantly predict average relational global scores ($t = 176, p > .05$). Emotional empathy did not significantly predict relational

average global scores ($t=-.480, p>.05$). However, the model indicated that gender was a significant predictor of average relational global scores ($t= -2.788, p =.015$). See table 1.5. The second model analyzed if self-report, cognitive, and emotional empathy scores predicted average technical global scores. The results showed that there were no significant predictors of average technical global scores ($F(7,22) = .924, p>.05$).

Given that the findings were not supportive of the hypothesis, exploratory analyses were conducted. Pearson correlations were conducted to evaluate the relationship between the empathy measures and competency scores. Results showed that no significant relationships exist between self-report empathy (EQ) and average global scores or cognitive/emotional empathy task and average global scores. See table 1.6.

A stepwise linear regression was utilized to further evaluate the predictability of average global scores. The first model included the empathy variables and demographics to predict relational competency scores. Moreover, the EQ, cognitive MET, emotional MET were included in the first step and the aforementioned variables and demographics were added in the second step. Results showed the final model only included the empathy measures and gender in which gender was the only significant predictor of relational average global scores. See table 1.7. The second model aimed to predict technical competency scores. Similarly, the empathy variables were added in the first step and demographics were added in addition to empathy in the second step. The final model resulted in only the empathy measures and all demographic variables were excluded. None of the empathy measures were predictive of technical average global scores. See Table 1.7.

Furthermore, a series of linear regressions were utilized to investigate the differences in positive and negative stimuli of the MET. The model included race, gender, work experience, and prior exposure to MI as control variables, as well as positive cognitive, negative cognitive, and overall cognitive empathy to predict relational average global scores. Of the variables included, gender was the only significant predictor of relational global scores ($t= -2.672, p =.014$) see table 1.8. The second model included the same variables as the first model in order to predict technical

average global scores. The findings showed there were no significant predictors of technical global scores ($F(6,23) = .958, p > .05$).

Additional investigations regressed positive and negative cognitive empathy onto the social desirability scales. Findings showed that neither the MCSDS nor ESDS were able to predict positive cognitive empathy. However, ESDS did significantly predict negative cognitive empathy ($F(2,31) = 6.942, p < .05$).

DISCUSSION

The present study attempted to predict participants' competency in MI, as indicated by average global scores from the MITI, following evidence based training strategies. The present study hypothesized that a self-report measure of empathy would be more susceptible to social desirability than the multifaceted empathy task. The second hypothesis was the empathy task would be a predictor of competency in MI following training.

The results found that social desirability was predictive of the Empathy Quotient (EQ) self-report empathy but not predictive of the objective empathy test (MET). Interestingly, the Edwards social desirability scale was negatively associated with cognitive empathy scores of the MET. The present study results also showed that females and those with previous exposure to MI were more likely to have higher scores of cognitive empathy. There were no differences found between self-reported empathy or cognitive empathy between pre and post-training. However, there was a positive increase in emotional empathy following the training. Lastly, neither self-reported empathy nor empathy tasks were able to significantly predict post-training average global scores on the motivational interviewing treatment integrity (MITI). However, gender and prior exposure was found to be significant predictors of average relational global scores.

Social desirability was predictive of self-report empathy. Such findings suggest that self-report measures of empathy are susceptible to social desirability and may not be the best measures of accurate empathy. More specifically, the objective empathy task is more likely to capture individuals' empathy levels without being subject to socially desirable responses. However, the Edwards Social Desirability Scale (ESDS) was associated with cognitive empathy. This finding suggests that as social desirability increases the ability to accurately interpret other's emotions declines. Which may suggest that these participants are exhaustively trying too hard to answer assessment items in a way they believe will be perceived as the "best" responses. Females were found to be more empathetic than males when accurately choosing the correct emotion in the empathy task. This finding implies that females are more empathic than males.

The more prior exposure to MI an individual has prior to training the more empathetic they are likely to be. This is consistent with the earlier finding that empathy significantly increased following training. This suggests that as therapists become more involved in the practice of motivational interviewing their empathy levels will increase which was an unexpected finding. Interestingly, this may also suggest that certain aspects of empathy are responsive to training. However, the emotional empathy task that significantly improved simply prompted respondents to indicate how much they empathize with the stimuli in the pictures shown. The increase in emotional empathy may be an effect of the training, indicating that participants perceived empathy increased. Alternatively, it may suggest that trainers understood the value of increased empathy and how central empathy is to the overall effectiveness of the therapy. Thus, the observed increase may simply be a byproduct of social desirability and knowledge of what is socially desirable in this context. In contrast, cognitive empathy, which requires being able to recognize and name others' emotions remained the same. This suggests that more complex tasks identifying the emotions of others remains relatively stable following training. This also suggests that social desirability is predominately influencing self ratings of empathy.

Overall, the main hypothesis was unsupported, and empathy was not predictive of competency scores. This could be due to not having a large enough number of participants who did reach competency (<39%). Further given the complexity of measuring empathy it is possible that the measurements of empathy used in the present study were not adequate to capture the relationship if it exists. Conversely, empathy may not be a substantial indicator of participants' ability to reach competency and other characteristics should be looked at. These characteristics include attitudes towards MI and the therapeutic alliance. Looking further into the model, gender was a significant predictor of average relational global scores. Which suggests that males were more likely to receive higher relational global score ratings than females following training. Such findings could have been due to males being more likely to allow clients to control the conversation or because all of the standardized patients were males and participants identified them as equals. Further exploration may look at the interaction between gender and empathy.

Although Edwards social desirability scale was able to predict cognitive empathy scores, previous studies reported contradicted evidence. More specifically, previous findings showed that higher socially desirability scores were associated with increased perspective taking, one dimension of empathy (Curwen, 2003). The more an individual is to claim characteristics that are untrue the more likely they are to accurately take the perspective of other feelings (cognitive empathy). Next, there were no differences in self report or cognitive empathy after training compared to before. This is consistent with previous findings that empathy is a relatively stable characteristic over one's lifetime. Previous studies assessing medical students' empathy found either no or extremely small significant differences in empathy across 3 and 6 years (Mangione et al., 2002; Quince et al., 2011). Although a training did not influence empathy scores gender did predict cognitive empathy scores favoring females. Such findings are consistent with findings of women reporting higher empathy levels than men (Rueckert & Naybar, 2008; Toussaint & Webb, 2005). Moreover, Rueckert and Naybar observed that females had significantly higher activation of the right hemisphere during empathy tasks which is indicative of neural support for differences in empathy based on gender. Finally, prior exposure was found to be associated with higher empathy levels. Empathy is an essential component to the practice of MI (Miller & Rollnick, 2012) and more importantly a focal point of training in MI (Greeno et al., 2016). Therefore, it is logical that more exposure to MI will positively increase one's empathy levels over time.

IMPLICATIONS AND SIGNIFICANCE

The current study is significant as it serves as a critical evaluation of potential predictors of MI training outcomes. Training can be expensive and for some organizations unfeasible. Moreover, if such organizations can afford to send select individuals to receive training, the identification of predictive factors can aid this process. It cannot be said with complete confidence, but the findings of the present study show that there is a non statistically significant relationship between empathy and competency scores. What can be indicated is that the current measurement

of empathy may be in question or different characteristics need to be evaluated. One possibility is the measurement of empathy via the examination of neural activation as mentioned previously.

Despite the findings of the current study, the question asked is of essential value. The current results suggest that empathy is not statistically related to competency scores achieved following training in MI. Such findings indicate that the assessment of empathy is in need of further development. Self-report of empathy has already been shown to be subject to social desirability. However, the empathy task also had no relationship with competency scores. This objective empathy may need further exploration. Such exploration may include establishing more reliable assessments of cognitive empathy or an objective measure of emotional empathy. However, improved measures of empathy may be more strenuous and time-consuming which will possibly require additional raters to code empathy and measurements that are not self reported. Secondly, findings may suggest that empathy is a modest candidate of interest as a predictive factor and other characteristics require focus. To identify individuals who are more likely to benefit from training in MI is a critical matter to address because of MI's growth in popularity, the substantial cost of training, and the proportion of resources required to provide training.

CRITICISMS OF MULTIFACETED EMPATHY TEST

While the Multifaceted Empathy Test (MET) is less likely to be susceptible to social desirability than self-report measures of empathy, the MET is not without shortcomings. The MET was created with the conception that empathy is a multidimensional construct to include both cognitive and emotional empathy (Foell et al., 2018). However, the results must be analyzed separately and there is no overall empathy score that can be assessed. Such separation may hinder the ability to capture a comprehensive picture of empathy and only allows for separate analyses. Additionally, the emotional empathy task in itself imitates a self-report measure. Participants are directly asked how much they empathize with the stimuli which prompts a subjective response. This can possibly be alleviated by asking respondents how much they understand the emotions

displayed in the images, if they can place themselves in their shoes or if they can easily feel the same emotions as the person in the picture. Also, although the task was counterbalanced to include equal stimuli of men and women, many of the images are of White individuals and few ethnic minorities. A more diverse set of pictorial stimuli that included different races/ethnicities and a spectrum of skin tones may be more representative of community populations and yield increased accuracy of cognitive empathy. Such inclusion is supported by the cultural advantage model (Anderson & Keltner, 2002) which emphasizes that individuals are better able to accurately assess the emotional expressions of members of the same race (O'toole et al., 1996).

LIMITATIONS

The present study was not without limitations. The three-day training in MI may not have been sufficient to allow for participants to reach competency as there was no personalized feedback during training. Additionally, the use of master level social work students could have restricted the variation of empathy given that students have preexisting similar/high levels of empathy. Also, the standardized patient scenario was about a patient who was experiencing consequences from alcohol consumption. The subject of alcohol could have been unfamiliar and therefore more uncomfortable for the participants to lead a session in. In addition the MI session that was audio recorded represented participants first time engaging in a full session of MI and may have contributed to overall low performance. The 3-day training allowed for 10-20-minute exercises and did not include full practice sessions for participants. Lastly, the lack of assessment of MI skill at baseline hinders the ability to attribute average global score achievements to the training.

FUTURE DIRECTIONS

Future investigations should include a larger sample size to be able to sufficiently determine the relationship between empathy and competency scores. Given the importance of the current question, future studies will look at additional ways to assess empathy objectively. This

may include modifications to the current empathy task or including neural assessments of empathy that may further explain potential differences amongst groups of trainees. Also, of interest would be the evaluation of clients' perception of empathy prior to training in MI. Additionally, measurements of trainees' competency in MI prior to training in MI should be captured to compare baseline results to competency after training. Following, participants would be assessed by an objective measurement of empathy and randomly assigned to one of two conditions 1) a three-day training in MI or 2) a 4-day training with personalized feedback at the halfway point to allow for and assess differences in likeliness to reach competency. Furthermore, a further exploration of possible predictive factors of training outcomes. Such factors would include a reliable measure of attitudes towards MI and an assessment of therapists overall therapeutic alliance. Lastly, future studies will investigate other professions who may use MI such as criminal justice, medical providers, and sport coaches.

REFERENCES

- APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist, 61*, 271–285.
- Amodeo, M., Lundgren, L., Cohen, A., Rose, D., Chassler, D., Beltrame, C., & D’ippolito, M. (2011). Barriers to implementing evidence-based practices in addiction treatment programs: Comparing staff reports on motivational interviewing, adolescent community reinforcement approach, assertive community treatment, and cognitive-behavioral therapy. *Evaluation and program planning, 34*(4), 382-389.
- Anderson C, Keltner D. Open Peer Commentary: The role of empathy in the formation and maintenance of social bonds. *Behavioral & Brain Sciences. 2002;25*(1):21–22.
- Arkowitz, H., Westra, H. A., Miller, W. R., & Rollnick, S. (2008). *Motivational interviewing in the treatment of psychological problems*. New York: Guilford Press.
- Baron-Cohen, S., & Wheelwright, S. (2004). The Empathy Quotient: An Investigation of Adults with Asperger Syndrome or High Functioning Autism, and Normal Sex Differences. *Journal of Autism and Developmental Disorders, 34*(2), 163–175..
- Beidas, R. S., & Kendall, P. C. (2010). Training Therapists in Evidence-Based Practice: A Critical Review of Studies from a Systems-Contextual Perspective. *CLINICAL PSYCHOLOGY-SCIENCE AND PRACTICE, 17*(1), 1–30.
- Bohart, A. C. (2000). *The Client Is the Most Important Common Factor: Clients’ Self-Healing Capacities and Psychotherapy. 23*.
- Booth-Kewley, S., Edwards, J. E., & Rosenfeld, P. (1992). Impression management, social desirability, and computer administration of attitude questionnaires: Does the computer make a difference?. *Journal of Applied Psychology, 77*(4), 562.
- Carpenter, K. M., Cheng, W. Y., Smith, J. L., Brooks, A. C., Amrhein, P. C., Wain, R. M., & Nunes, E. V. (2012). “Old dogs” and new skills: How clinician characteristics relate to motivational interviewing skills before, during, and after training. *Journal of Consulting and Clinical Psychology, 80*(4), 560–573.
- Carroll, K. M. (2016). Training in vain? *Addiction, (7)*, 1153..
- Clark, A. J. (2016). Empathy and Alfred Adler: An Integral Perspective. *Journal of Individual Psychology, 72*(4), 237–253.
- Cook, P. F., Manzouri, S., Aagaard, L., O’Connell, L., Corwin, M., & Gance-Cleveland, B. (2017). Results From 10 Years of Interprofessional Training on Motivational Interviewing. *Evaluation & the Health Professions, 40*(2), 159–179.

- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354.
- Curwen, T. (2003). The importance of offense characteristics, victimization history, hostility, and social desirability in assessing empathy of male adolescent sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 15*(4), 347-364.
- Davis, M. (1980) A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology, 10*, 85.
- Edwards, A. L. (1957). The social desirability variable in personality assessment and research.
- Foell, J., Brislin, S. J., Drislane, L. E., Dziobek, I., & Patrick, C. J. (2018). Creation and Validation of an English-Language Version of the Multifaceted Empathy Test (MET). *Journal of Psychopathology and Behavioral Assessment, 40*(3), 431–439.
- Fraser, J. S. (2018). The evolution from empirically supported therapies to evidence-based practices. In *Unifying effective psychotherapies: Tracing the process of change*. (pp. 9–26).
- Greeno, E. J., Ting, L., Pecukonis, E., Hodorowicz, M., & Wade, K. (2017). The role of empathy in training social work students in motivational interviewing. *Social Work Education, 36*(7), 794-808.
- Hall, K., Staiger, P. K., Simpson, A., Best, D., & Lubman, D. I. (2016). After 30 years of dissemination, have we achieved sustained practice change in motivational interviewing? *Addiction, 111*(7), 1144–1150.
- Hartzler, B., Baer, J. S., Dunn, C., Rosengren, D. B., & Wells, E. (2007). What is Seen Through the Looking Glass: The Impact of Training on Practitioner Self-Rating of Motivational Interviewing Skills. *Behavioural and Cognitive Psychotherapy, 35*(4), 431–445.
- Ilgunaite, G., Giromini, L., & Di Girolamo, M. (2017). Measuring empathy: A literature review of available tools. *BPA - Applied Psychology Bulletin (Bollettino Di Psicologia Applicata), 65*(280), 2–28.
- Kazdin, A. (2004). Evidence-based treatments: challenges and priorities for practice and research. *Child and Adolescent Psychiatric Clinics of North America, 13*(4), 923–940.
- King, M. F., & Bruner, G. C. (2000). *Social desirability bias: A neglected aspect of validity testing*. 26.
- Lambert, M. J., & Bergin, A. E. (1994). The effectiveness of psychotherapy. *Handbook of psychotherapy and behavior change, 4*, 143-189.

- Levant, R. F., & Hasan, N. T. (2008). Evidence-Based Practice in Psychology. *Professional Psychology: Research & Practice*, 39(6), 658–662.
- Madson, M. B., Loignon, A. C., & Lane, C. (2009). Training in motivational interviewing: A systematic review. *Journal of Substance Abuse Treatment*, 36(1), 101–109.
- Mangione, S., Kane, G. C., Caruso, J. W., Gonnella, J. S., Nasca, T. J., & Hojat, M. (2002). Assessment of empathy in different years of internal medicine training. *Medical teacher*, 24(4), 370-373.
- Martino, S., Canning-Ball, M., Carroll, K. M., & Rounsaville, B. J. (2011). A criterion-based stepwise approach for training counselors in motivational interviewing. *Journal of Substance Abuse Treatment*, 40(4), 357–365.
- Miller, W. R., & Mount, K. A. (2001). A small study of training in motivational interviewing: does one workshop change clinician and client behavior? *Behavioural and Cognitive Psychotherapy*, 29(04).
- Miller, W. R., & Moyers, T. B. (2017). Motivational interviewing and the clinical science of Carl Rogers. *Journal of Consulting and Clinical Psychology*, 85(8), 757–766.
- Miller, W. R., Moyers, T. B., Ernst, D., Amrhein, P. (2008). *Motivational Interviewing Skill Code (MISC) 2.1*. 2, 50.
- Miller, W. R., & Rollnick, S. (2012). *Motivational Interviewing: Helping People Change*.
- Miller, W. R., & Rose, G. S. (2009). Toward a Theory of Motivational Interviewing. *American Psychologist*, 64(6), 527–537.
- Miller, W. R., Sorensen, J. L., Selzer, J. A., & Brigham, G. S. (2006). Disseminating evidence-based practices in substance abuse treatment: A review with suggestions. *Journal of Substance Abuse Treatment*, 31(1), 25–39.
- Miller, W. R., Yahne, C. E., Moyers, T. B., Martinez, J., & Pirritano, M. (2004). A Randomized Trial of Methods to Help Clinicians Learn Motivational Interviewing. *Journal of Consulting and Clinical Psychology*, 72(6), 1050–1062.
- Moyers, T. B., & Miller, W. R. (2013). Is low therapist empathy toxic? *Psychology of Addictive Behaviors*, 27(3), 878–884.
- Moyers, T., Martin, T., Catley, D., Harris, K. J., & Ahluwalia, J. S. (2003). Assessing the Integrity of Motivational Interviewing Interventions: Reliability of the Motivational Interviewing Skills Code. *Behavioural and Cognitive Psychotherapy*, 31(2), 177–184.

- Moyers, T. B., Martin, T., Manuel, J. K., Hendrickson, S. M. L., & Miller, W. R. (2005). Assessing competence in the use of motivational interviewing. *Journal of Substance Abuse Treatment, 28*(1), 19–26.
- Moyers, T. B., Martin, T., Christopher, P. J., Houck, J. M., Tonigan, J. S., & Amrhein, P. C. (2007). Client language as a mediator of motivational interviewing efficacy: Where is the evidence?. *Alcoholism: clinical and experimental research, 31*, 40s-47s.
- Moyers, T. B., Rowella, L. N., Manuel, J. K., Ernst, D., & Houck, J. M. (2016). The Motivational Interviewing Treatment Integrity Code (MITI 4): Rationale, preliminary reliability and validity. *Journal of Substance Abuse Treatment, 65*, 36–42.
- Moyers, T.B., Manuel, J.K., & Ernst, D. (2014). Motivational Interviewing Treatment Integrity Coding Manual 4.1. Unpublished manual.
- Norcross, J. C., & Hill, C. E. (2002). Empirically supported therapy relationships. *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*, 3-16.
- Norcross, J. C., & Lambert, M. J. (2014). Relationship science and practice in psychotherapy: Closing commentary. *Psychotherapy, 51*(3), 398–403.
- O'Toole AJ, Peterson J, Deffenbacher KA. An 'other-race effect' for categorizing faces by sex. *Perception. 1996;25*(6):669–676.
- Pierson, H. M., Hayes, S. C., Gifford, E. V., Roget, N., Padilla, M., Bissett, R., Fisher, G. (2007). An examination of the Motivational Interviewing Treatment Integrity code. *Journal of Substance Abuse Treatment, 32*(1), 11–17.
- Pollak, K. I., Ostbye, T., Alexander, S. C., Gradison, M., Bastian, L. A., Namenek Brouwer, R. J., & Lyna, P. (2007). Empathy goes a long way in weight loss discussions. *Journal of Family Practice, 56*(12), 1031–1036.
- Quince, T. A., Parker, R. A., Wood, D. F., & Benson, J. A. (2011). Stability of empathy among undergraduate medical students: a longitudinal study at one UK medical school. *BMC medical education, 11*(1), 90.
- Ratka, A. (2018). Empathy and the Development of Affective Skills. *American Journal of Pharmaceutical Education, 82*(10), 1140–1143.
- Rogers, C. R. (1949). The attitude and orientation of the counselor in client-centered therapy. *Journal of Consulting Psychology, 13*(2), 82–94.
- Rueckert, L., & Naybar, N. (2008). Gender differences in empathy: The role of the right hemisphere. *Brain and cognition, 67*(2), 162-167.

- Schoener, E. P., Madeja, C. L., Henderson, M. J., Ondersma, S. J., & Janisse, J. J. (2006). Effects of motivational interviewing training on mental health therapist behavior. *Drug and alcohol dependence, 82*(3), 269-275.
- Schwalbe, C. S., Oh, H. Y., & Zweben, A. (2014). Sustaining motivational interviewing: a meta-analysis of training studies: Sustaining motivational interviewing. *Addiction, 109*(8), 1287–1294.
- Toussaint, L., & Webb, J. R. (2005). Gender differences in the relationship between empathy and forgiveness. *The Journal of social psychology, 145*(6), 673-685.
- Walters, S. T., Matson, S. A., Baer, J. S., & Ziedonis, D. M. (2005). Effectiveness of workshop training for psychosocial addiction treatments: A systematic review. *Journal of Substance Abuse Treatment, 29*(4), 283–293.
- Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*(3), 270–277.
- Wood, A. R., Ager, R. D., & Wood, R. J. (2011). Motivational Interviewing: A Qualitative Examination of Factors Impacting Adoption and Implementation in a Community-Wide Setting. *Journal of Social Work Practice in the Addictions, 11*(4), 336–351.

APPENDIX

Table 1 – Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MCSDS	47	7.00	33.00	19.383	5.899
MET Cognitive	35	18	33	25.26	3.713
MET Positive Cognitive	35	8.00	16.00	13.057	2.195
MET Negative Cognitive	35	6.00	18.00	12.200	2.576
MET Emotional	35	2.950	9.00	7.048	1.436
Empathy Quotient	34	28.00	71.00	50.706	10.368
ESDS	34	17.00	35.00	26.500	4.944

Table 1.1 Linear Regression table – Marlowe-Crown Social Desirability and Empathy

<i>Variable</i>	Empathy Quotient			Cognitive Empathy			Emotional Empathy		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	-.901	4.731	-.038	-.148	1.529	-.301	-1.066	.585	-.320
Race/Ethnicity	.605	.951	.119	.367	.304	.207	.094	.116	.134
Work Experience	-.552	2.042	-.052	-.939	.665	-.255	-.206	.254	-.142
Prior Exposure	3.959	5.056	.155	.602	1.640	.067	1.794	.627	.506**
MCSDS	.880	.411	.414*	-.219	.130	-.301	.056	.050	.197

Note:

*p < .05.

**p < .01.

Table 1.2 Linear Regression Edwards Social Desirability and Empathy

<i>Variable</i>	Empathy Quotient			Cognitive Empathy			Emotional Empathy		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	5.518	4.543	.233	.428	1.206	.054	-.443	.792	-.119
Race/Ethnicity	.931	.873	.198	.105	.232	.062	-.061	.152	-.077
Work Experience	.941	1.853	.096	-1.110	.492	.316*	-.013	.323	-.008
Prior Exposure	-2.205	4.756	-.093	3.034	1.262	.358*	1.257	.830	.315
ESDS	.645	.400	.306	-.327	.106	-.432**	.032	.070	.089

Note:

* $p < .05$.

** $p < .01$.

Table 1.3 Correlation Table – Empathy and Social Desirability

Variable	1	2	3	4	5	6	7	8	9
1. MCSDS	----								
2. Empathy Quotient	.333*	---							
3. Cognitive Empathy	-.154	-.110	---						
4. Emotional empathy	.110	-.202	.177	---					
5. ESDS	.308	.218	-.426*	.094	---				
6. Gender	-.002	.143	.329*	.035	-.294	---			
7. Race	-.071	.259	.056	.011	-.019	.012	---		
8. Work Experience	.095	.168	-.256	.023	.111	-.040	.085	---	
9. Prior exposure to MI	-.039	.052	.386**	.238	-.052	.320*	.165	-.126	---

Notes

*p < .05.

**p < .01.

Table 1.4 Repeated Measures ANOVA – Empathy

Variable	MS	df	F	n	p
Empathy Quotient	.529	1	.018	34	.895
Cognitive Empathy	11.20	1	2.243	35	.143
Emotional Empathy	7.329	1	13.180	35	.001**

Notes

**p < .01.

Table 1.5 Linear Regression – Average global scores

Variable	<i>Relational</i>			Technical		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	-1.018	.384	-.537*	-.503	.313	-.338
Race/Ethnicity	.018	.076	.044	.072	.062	.230
Work Experience	-.049	.174	-.058	-.032	.142	-.048
Prior Exposure	.799	.461	.393	.565	.375	.354
EQ	.000	.019	.002	.005	.015	.075
Cognitive Empathy	.010	.056	.043	.000	.46	-.001
Emotional Empathy	-.052	.108	-.102	-.053	.088	-.133

Note:

*p < .05.

**p < .01.

Table 1.6 Correlation Table – Empathy and Average Global Scores

Variables	1	2	3	4	5
1. Empathy Quotient	---				
2. Cognitive empathy	-.110	---			
3. Emotional Empathy	-.202	.177	---		
4. Relational Global scores	-.001	.059	.042	---	
5. Technical Global score	.156	.032	-.051	.746**	---

**p < .01.

Table 1.7 Stepwise Regression – Empathy and Average Global Scores

Variable	<i>Relational</i>			Technical		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	-.842	.368	-.444*			
EQ	.007	.018	.083	.010	.015	.150
Cognitive Empathy	.054	.046	.235	.019	.036	.104
Emotional Empathy	.008	.102	.017	-.009	.086	-.023

Note:

*p < .05.

Table 1.8 multiple linear regression – positive/negative cognitive empathy

Variable	Relational			Technical		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender	-1.096	.410	-.578**	-.484	.340	-.325
Race/Ethnicity	.022	.072	.056	.082	.059	.259
Work Experience	-.050	.170	-.060	-.031	.141	-.047
Prior exposure to MI	.761	.430	.374	.511	.356	.320
Positive Cognitive	-.038	.097	-.084	-.018	.080	-.051
Negative Cognitive	.042	.076	.128	.005	.063	.019

Note:

* $p < .05$.

** $p < .01$.

VITA

Kylah Clark received her Bachelor of Science degree in Psychology from Kennesaw State University in 2017. Kylah began her graduate career as an expert coder/coach of MI. She provided supervision in brief interventions to new learners and provided personalized feedback on MI skill. She has received trainings in MI, trauma informed care, and MI coding training. In addition, Kylah currently serves as a program evaluator for several funded departments at UTEP. She assists in the composition of written reports to include evaluation development, methods, and findings. Kylah also serves as the graduate student representative for the psychology program. Where she advocates for positive changes for the graduate students across the university. Kylah volunteer's for various community projects through her membership with the Junior League of El Paso. She will receive a master's degree in Clinical Psychology in May 2020.

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