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HOW DO TRAINERS IN EMPIRICALLY SUPPORTED TREATMENTS DECIDE WHAT TO TRAIN?: AN INVESTIGATION OF THE TRAINER'S ROLE IN THE SCIENCE-TO-SERVICE PATHWAY

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ABSTRACT

BACKGROUND: Despite significant progress in identifying empirically supported elements of psychotherapy treatments over the last 20 years, the integration of these findings into clinical practice remains low. Practitioner training has been identified as a core component of successful translation of scientific findings into practice. Yet, little research has been conducted on the role of the *trainer* in the dissemination of empirically supported treatments (ESTs). This exploratory study investigated the practices and attitudes of trainers of an EST, Motivational Interviewing (MI), to identify potential factors related to successful and/or unsuccessful dissemination efforts. **METHOD**: A measure of Motivational Interviewing components (MIC) and a measure of Trainer Attitudes towards Motivational Interviewing (TAM) training were developed and administered to 111 members of the Motivational Interviewing Network of Trainers. The MIC asked trainers to select training content for a hypothetical training scenario, from a list of items that included both empirically supported components and those that had no

empirical support, based on a review of the MI literature. Factor Analyses were conducted on the two measures, and associations between the two measures were examined. **RESULTS**: A two-factor solution of Unsupported and Supported training components emerged from the MIC. A three-factor solution emerged from the TAM, including a factor of Pro-Technical attitudes, a factor of Pro-Relational attitudes, and a third factor indicating disinterest in training either. A correlational analysis showed that trainers who expressed disinterest in training on both the technical and relational components of Motivational Interviewing (MI) had a less favorable balance of supported vs. unsupported training components in a hypothetical training (r = -.228, p = 016), although the reliability of these measures was low. **DISCUSSION:** Based on this sample, there appears to be considerable uniformity in the training practices and attitudes of MI trainers. Trainers consistently include empirically supported MI components in their trainings, likely contributing to the positive findings for MI's effectiveness. However, some trainers also appear to include components for which no empirical support exists, or which appear inconsistent with MI's focus on active change. This study had serious limitations, including the use of new and unreliable measures and a small sample size.

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Introduction

Background

Despite significant progress in identifying empirically supported elements of psychotherapy treatments over the last 20 years, the integration of these findings into clinical practice remains low (Stewart & Chambless, 2007; Tolin, McKay, Forman, Klonsky, & Thombs, 2015). Given the increased expectations for the use of science-based methods in clinical practice by such organizations as the American Psychological Association (2006) and the New Freedom Commission on Mental Health (2003), a literature has developed that examines the pathway from "science to service". This literature has investigated dissemination and implementation factors at various levels, and identified practitioner training as a core component in the successful translation of scientific findings into practice (Fixsen, Blase, Naoom, & Wallace, 2009). Empirical data are accumulating on how practitioners get trained, including: which methods of training are most successful at teaching new skills (Chu, 2008; Scudder & Herschell, 2015), which follow-up activities lead to skill consolidation (Herschell, Kolko, Baumann & Davis, 2010), and how to interest practitioners in training in empirically supported treatments (ESTs) (Stewart & Chambless, 2010).

Despite this research focus on training however, little attention has been paid to how variables at the *trainer* level influence the dissemination of ESTs. One notable exception is a recently developed measure to examine how characteristics of the trainer such as charisma and credibility may be related to training success (Boyd, Lewis, Scott, Krendl & Lyon, 2017). Yet, no measure, nor study, could be found that assesses how trainers' attitudes about their methods influence their decisions about their training

practices. Studies that do look at training practices ignore the potential influence of trainers' attitudes, perhaps assuming that they are wholly supportive and knowledgeable of the EST they are training. The present study aims to address this gap in the dissemination and implementation literature by investigating the relationship between trainers' attitudes and their training practices. Trainers' attitudes may be an unexplored barrier for the successful dissemination of empirically supported treatment elements.

Barriers to EST Implementation

A body of research has demonstrated how therapist characteristics including education, years in practice, and theoretical orientation are related to attitudes about ESTs, which are in turn related to both adoption of and willingness to seek training in ESTs. For example, in their study of how attitudes of psychologists in private practice influence their willingness to obtain training in ESTs, Stewart, Chambless, and Baron (2012) found that respondents with more years in clinical practice were less willing to obtain EST training. The same was true for those with who identified their theoretical orientation as psychodynamic. Although agreement with theoretical objections to EST training was, on average, not a significant predictor of willingness to obtain EST training, those who endorsed more objections were also less likely to report willingness to attend training, with a large effect size. Because trainers are often therapists themselves, it is reasonable to expect that these differences may similarly influence their training practices. Therefore, we should expect, for example, that trainers who express attitudes that favor the therapeutic relationship over the technical aspects of treatment will be more likely to focus their trainings on relationship factors.

Training Components

All treatments are composed of elements that vary in their empirical support. Successful outcome studies for a treatment lead the way for process researchers to conduct dismantling studies to discover which ingredients of a treatment are necessary and/or sufficient. Some methods are more amenable to empirical study than others and may contain a substantial number of empirically supported elements (Exposure Therapy, Cognitive Behavior Therapy, and Motivational Interviewing are good examples), yet no method is comprised of *only* empirically supported elements.

Distinctions have been made between *specific* or technical factors of treatment and *nonspecific* or common factors. Specific factors (alternatively called therapeutic actions, specific ingredients, technical factors) include the method-specific elements of a treatment that are hypothesized to target and modify distinct features of an individual's functioning, such as the exposure procedures found in exposure therapies (Wampold & Imel, 2015). Nonspecific factors are those elements that are found across treatments, and have been theorized to include such aspects of therapy as client expectations, a coherent rationale for the treatment, and most notably the therapeutic relationship (Grencavage & Norcross, 1990).

A substantial literature has developed looking at the contribution of the therapeutic relationship to therapy outcomes. These relational factors of therapy, originally articulated by Carl Rogers (1961), have been described as conditions of the client-therapist relationship such as empathy, congruence, and positive regard, which are hypothesized to contribute to an atmosphere of safety and acceptance, from which clients are likely to pursue positive change. These factors have been linked with positive outcomes across a variety of psychotherapy treatments and problem areas (Lambert &

Barley, 2001; Norcross 2010; Moyers & Miller, 2012). Vigorous debate continues over the relative importance of specific and non-specific factors in therapy, and their relative importance in therapist training. Given the field's ambivalence, it is reasonable to expect that differences exist in the relative focus on specific or non-specific factors in the training of therapeutic methods. Yet, no research could be found that investigated the relative inclusion of specific and non-specific factors in trainings provided by trainers-for-hire.

Motivational Interviewing

The American Psychological Association's Society of Clinical Psychology Division 12 (2018) and the National Registry of Evidence-Based Programs and Practices (2018) list Motivational Interviewing (MI) as an empirically supported treatment. Because MI is theorized to work as the result of both technical (specific) and relational (nonspecific) factors (Miller & Rose, 2009), and both are explicitly included in its formulation, it is an ideal treatment for investigating how differences in views about specific and nonspecific factors are reflected to training practices. Additionally, some elements of MI have substantial research support while others have none.

Motivational Interviewing Network of Trainers. The Motivational Interviewing Network of Trainers (MINT) is an international organization of motivational interviewing trainers from diverse backgrounds and practice settings. Its mission is to "promote good practice in the use, research, and training of Motivational Interviewing", while explicitly not limiting or controlling training practices (www.motivationalinterviewing.org).

To gain admission to the MINT, applicants must demonstrate proficiency in the practice (not training) of the method in a practice sample. Performance is coded and scored using the Motivational Interviewing Treatment Integrity behavioral coding system, a tool for evaluating proficiency in MI for both clinical trials and clinician coaching (MITI 4.2). Accepted applicants are invited to participate in a 3-day Training of New Trainers (TNT) workshop, for a fee. Completion of the TNT results in membership in the MINT.

Current Study

The primary aim of this study was to investigate how the attitudes of trainers of an EST influence their training decisions. If empirically supported treatments are not finding their way from "science to service", it is possible that this is partly because trainers are not teaching therapists the components of the treatments that are accounting for their positive outcomes in clinical trials. Although it is unknown which components of MI account for the most variance in positive outcomes, many MI components have substantial empirical support, but other popular components have none. It is also known that MI is not consistently effective across treatment sites or trials (MATCH, 2009). Knowing which MI components trainers tend to focus on, and the attitudes that account for their selection of those components, may shed light on possible explanations for null findings of MI's benefits in clinical trials. It may also suggest that trainers' attitudes towards treatment elements could be influencing training practices across other ESTs.

Methods

Participants

Participants in this study were 111 members of the MINT, who were recruited through an advertisement for the study posted on the MINT website (www.motivationalinterviewing.org). The only criteria for inclusion in the study was MINT membership. There were no exclusion criteria.

Instruments

All variables were measured using a 3-section questionnaire developed for this study. A pilot version of the questionnaire was given to a small group of MI practitioners and trainers familiar to the authors of the study to refine individual items for inclusion in the final version.

Trainer Characteristics. Section One of the questionnaire collected information on participants' demographic characteristics, including: education, practice setting, years in practice, years in the MINT, theoretical orientation, and training experience.

Training components. To measure trainers' training decisions, Section Two used a 15 item Motivational Interviewing Components measure (MIC) that asked participants to indicate whether they would include various components of Motivational Interviewing in a hypothetical training. Participants read a scenario in which they were hired to provide MI training for an outpatient alcohol treatment center seeking to implement a new EST. As a way of engaging them in the survey, they were then asked to describe the training they would provide in any way they wished. Trainers' open text responses were not evaluated as part of this study. Trainers were then presented with a list of 15 common Motivational Interviewing skills and components and asked to indicate whether they would include each one in their training. Some of the items were considered by an expert panel's familiarity with the MI literature to have empirical support while others were not.

The items that were considered to have empirical support included items: (5) Softening sustain talk, (6) Selectively reinforcing change talk, (7) Offering complex reflections that go beyond the client's stated content, (8) Identifying a specific target goal, (12) Detecting sustain talk (13) Detecting change talk, (16) Avoiding confrontation, and (17) Flexibly using open-ended questions, affirmations, reflections. A recent meta-analysis examining the technical hypothesis of MI concluded that the ratio of the client's language in favor of change (change talk) to the language in favor of the status quo (sustain talk) was positively related to reductions in risky behavior (Magill et al, 2018). As a composite variable, the ratio of change to sustain talk can be improved by either increases in change talk or reductions in sustain talk. It is therefore important for clinicians to be able to detect and skillfully work with both kinds of language during the session, reflected in items 5,6,8, 12, and 13. The same meta-analysis found that MI-consistent skills, including complex reflections, were positively related to increases in the change-to-sustain-talk ratio, providing empirical support for the importance of this skill in MI practice, reflected in items 7 and 17.

The Training Components items popular within the MI community, but lacking empirical support, included: (3) Using a Decisional Balance to move clients away from ambivalence, (4) The Stages of Change model of behavior change, (9) Having a genuine internal experience of MI Spirit, (10) Generating an appropriate ratio of questions to reflections, (14) Communicating a sense of compassion for the client, and (15) Always maintaining an attitude of equipoise. None of these items has been shown empirically to contribute to positive outcomes in MI. Some data suggest that use of a Decisional Balance (item 3) is actually counterproductive in MI, in that it decreases commitment to

change in ambivalent clients (Miller & Rose, 2013). Those same data discourage the choice of always maintaining equipoise in regards to a client's change (item 15). The Transtheoretical Model (or, Stages of Change model, item 4) is compatible with MI, although it is superfluous in either the conceptualization or delivery of it (Miller & Rollnick, 2013). Because MI was developed to help people change unwanted behaviors through the resolution of ambivalence, it places considerable emphasis on the both the identification of a target goal and the therapist's directional strategies in guiding the client towards change. Therefore, to always maintain an attitude of equipoise is contraindicated on both empirical and theoretical grounds in the practice MI. No empirical studies could be found on the relationship between the internal experiences of MI practitioners (items 9 and 14) and client outcomes. Some research shows that Developing Discrepancy (item 11) is an active mechanism of change in MI (Riegel, Dickson, Garcia, Creber & Streur, 2017; Apodaca & Longabaugh, 2009), while other studies find it unrelated to client outcomes (Murphy, Dennhardt, Skidmore, Martens & McDevitt-Murphy, 2010).

Trainer attitudes. To investigate attitudes about MI training, Section Three presented a Trainer Attitudes on Motivational Interviewing measure (TAM). The measure comprised a series of 21 statements either in support of or against the technical and relational components of MI. Some of the questions asked about the value of the component in practice (e.g. "A good working relationship is more important than technical aspects of MI" or, "The technical factors of MI help me to maintain direction in the session"). Other questions asked about the inclusion of the component in training (e.g. "Forming good relationships is an innate talent that is not influenced by training" and

"The technical elements of MI are too complicated to teach"). Respondents were asked to indicate their agreement with these statements using a 5-point Likert-scale.

Procedure

An invitation to participate in the study was posted to the Motivational Interviewing Network of Trainers listserv. Members were invited to complete a 20-minute survey about their training practices in exchange for a $10 Amazon gift certificate and provided with a link to the questionnaire. Those who clicked the link were taken to an electronic survey hosted by Opinio, the survey software program provided by the University of Mexico, where this study was conducted. They were asked to read and agree to a consent form with an electronic signature. Upon agreement, users initiated the survey.

Data Analytic Plan

To describe patterns in trainers' training decisions and attitudes, descriptive statistics were calculated for their responses to the MIC and the TAM, using SPSS version 25. Differences were examined based on all demographic characteristics.

An exploratory factor analysis was run, using MPlus, to investigate whether there was any underlying structure to the responses on the MIC measure. Oblique rotation was used because there were theoretical reasons to expect correlations among the possible factors. For example, one who scored high on a factor representing empirically supported training components could be expected to score low on a factor representing training components without empirical support. Items 13 (Detecting change talk), 14 (Communicating a sense of compassion), 16 (Avoiding confrontation), and 17 (Using open-ended questions) did not result in any variability in responses, so they were

removed from the analysis. To determine the number of factors to retain, a parallel analysis was conducted. Parallel analysis is cited in the literature as a better guideline for factor retention compared to the traditionally reported fit indices, because it takes into account the number of factors that would be found by chance alone (Ruscio & Roche, 2011; Hayton, Allen, & Scarpello, 2004).

A second exploratory factor analysis was conducted in MPlus using trainers' responses to the TAM. Due to the exploratory nature of this study, oblique rotation was used to allow for possible correlations among the factors. A parallel analysis was conducted to determine the number of factors to retain.

Given the small sample size and the exploratory nature of this study, there was no factor loading threshold established for the inclusion of an item in any factor in either EFA. The makeup of the factors was determined by the items that loaded most strongly on each factor. Bivariate relationships among trainers' characteristics, responses on the MIC and TAM, and their Training Balance score were also examined, using SPSS.

Results

Sample Characteristics

Of the 284 people who followed the link to the survey, 283 provided electronic agreement to the consent form. Of those, 172 did not initiate the first task and left the survey. The final sample was 111, which constitutes about 7% of the Motivational Interviewing Network of Trainers membership.

Respondents had a mean age of 49.00 (SD = 11.28). Years of MINT membership ranged from 1 to 22 with an average of 7.86 years (SD = 5.94). Most respondents had a master's degree (57%), some had a PhD (25%), and 10% had a bachelor's degree. In

terms of work setting, 23% reported working primarily in academia, 19% in private practice, 14% in community health, 10% in hospitals, and the rest in various settings such as probation and schools. Although Motivational Interviewing is most commonly associated with a humanistic theoretical perspective, only 30% chose humanistic as their theoretical orientation, while 38% chose cognitive and 19% chose eclectic. The remainder chose family systems (5%), psychodynamic (2%), or other (7%). No previous data are available on these characteristics of MINT members, so the representativeness of this sample cannot be determined.

Training Activity

The number of trainings conducted in the previous twelve months ranged from 0-100 with an average of 12.54 (SD = 17.91), a mode of 10, and a median of 6.50. Trainers expected to conduct about the same number of trainings in the upcoming year (M = 12.43, SD = 17.54). The most common length of MI training was 1-2 days (52%), followed by greater than two days (28%), four hours to one day (14%), and 2-4 hours (5%).

Which Training Components Do MI Trainers Select?

The first aim of this study was to describe the variability in the MI components trainers would select for a hypothetical, but common, training scenario. Trainers' responses to the MIC are presented in Table 1. Of the fifteen training components offered, the average number selected was twelve and the mode was thirteen, showing broad agreement among the sample on which items to include. Several training items were more contentious, however. Almost 40% of trainers chose to include use of a decisional balance in their training, while 60% did not. About 47% chose to include the

Table 1

Motivational Interviewing Training Components Selected

Training component	% yes	% no
Detecting Change Talk	99	1
Selectively reinforcing change talk	97	3
Having a genuine internal experience of MI Spirit	96	4
Offering complex reflections that go beyond the client's stated content	96	5
Communicating a sense of compassion for the client	96	5
Flexibly using Open-ended questions, Affirmations, Reflections, and Summaries	94	6
Avoiding confrontation	92	8
Identifying a specific target goal	92	8
Detecting sustain talk	87	14
Softening Sustain Talk	85	15
Generating an appropriate ratio of questions to reflections	81	19
Developing discrepancy between the client's values and actions	78	23
Always maintaining an attitude of equipoise	49	51
The Stages of Change model of behavior change	47	53
Using a Decisional Balance to move clients away from ambivalence	39	61

n = 111

Stages of Change model of behavior change, while 53% did not. Similarly, 49% chose to teach trainees to always maintain equipoise, while 51% did not. Eighty-two percent of participants included at least one training element that was considered empirically unsupported. Twenty-three percent included two such elements, and 19% included three. Cronbach's alpha for this measure was .504 suggesting low reliability (George & Mallery, 2003).

What Are Trainers' Attitudes About Including the Technical And Relational Components of MI in Their Training?

The second aim was to investigate differences in attitudes about training among those who train an empirically supported treatment. Although the strength of agreement varied, there was broad consensus on attitudes towards the technical and relational factors

of Motivational Interview, as well as training practices. Overall, trainers endorsed positive attitudes towards both the technical and relational components of MI and did not endorse any barriers to training in either one. When responses were collapsed into agree/disagree/neither categories, only one item showed a notable difference of opinion: 24% of trainers agreed that trainees should possess basic relational skills prior to MI training, 35% did not. On eight of the items, at least 10% of trainers did not agree or disagree, suggesting that these items were either confusing to trainers, or that the trainer truly had no opinion. Cronbach's alpha for this measure was .402 suggesting unacceptably low reliability of the measure (George & Mallery, 2003). Full results for the attitude items are presented in Table 2.

Exploratory Factor Analyses

Is there an underlying structure to the training components that trainers selected? A parallel analysis suggested a two-factor solution for the MIC. The correlation of the two factors was -0.102 and non-significant, so that trainers' scores on factor one were unrelated to their scores on factor two. Item 11 (Developing discrepancy between the client's values and actions) cross-loaded on the two factors (.349 and .383) and was removed. The factor loadings for the two-factor solution are presented in Table 3. The items that loaded on factor 1 included: (3) Using a Decisional Balance to move clients away from ambivalence, (4) The Stages of Change model of behavior change, and (15) Always maintaining an attitude of equipoise. For reasons described earlier, these training components may each be considered empirically unsupported. Therefore, factor 1 was named, Unsupported.

Table 2

Attitudes About Motivational Interviewing (MI) Components

Question	SD+D	SD	D	N	A	SA	SA+A
	%	%	%	%	%	%	%
The technical elements of MI have research support for efficacy.	4	4	0	6	51	39	90
There is not enough time to teach the technical elements of MI in a typical training.	77	29	48	8	13	3	15
I have had personal success using the technical factors of MI with my clients.	4	2	2	5	37	54	91
The technical factors of MI are the elements that distinguish MI from good person-centered counseling.	11	3	8	16	35	38	73
The technical factors of MI provide me ongoing real-time feedback on whether MI is working.	8	1	7	19	47	26	73
The technical factors of MI help me to maintain direction in the session.	6	3	4	10	51	33	84
The technical elements of MI are too complicated to teach.	96	55	41	5	0	0	0
Technical elements are a passing fad in MI.	87	51	37	10	3	0	3
The technical elements of MI are too difficult for trainees to learn.	93	43	50	6	1	0	1
My clinical experience has not found the technical elements of MI to be useful.	88	55	33	6	2	4	5
Trainees do not want to learn the more technical aspects of MI.	83	41	42	14	3	0	3
There is research support for the value of relational factors of MI in client outcomes.	1	0	1	5	42	51	94
My trainees appreciate learning the relational elements.	0	0	0	3	63	34	97
The relational elements of MI resonate with my trainees views of good therapy.	0	0	0	5	54	41	96
The relationship elements form the moral core of MI.	0	0	0	15	44	41	85
Without the relational elements the technical components can be used to pursue a goal that is not in the client's self-interest.	8	4	5	12	41	40	80
Trainees should already possess basic relational skills prior to MI training.	35	9	26	41	23	2	24
The relational skills of MI are not unique to MI.	5	0	5	8	60	27	87
Forming good relationships is an innate talent that is not influenced by training.	78	23	55	16	5	0	5
The relational skills of MI are too touchy-feely for the people that I usually train.	84	34	50	14	2	0	2
Focusing on the relational factors takes away from the value of the training to my trainees.	90	53	37	9	0	1	1

n = 111 Note. SD+D = Strongly Disagree plus Disagree, SD = Strongly Disagree, D = Disagree, N = Neither Agree Nor Disagree, A = Agree, SD = Strongly Agree, SD+A = Strongly Agree plus Agree

Table 3

Exploratory Factor Analysis on Motivational Interviewing (MI) Training Components

		Factor Loadings	
	Training Component	1 (Unsupported)	2 (Supported)
3	Using a Decisional Balance to move clients away from ambivalence	**1.260**	-0.114
4	The Stages of Change model of behavior change	**0.47**	-0.086
5	Softening Sustain Talk	-0.034	**0.746**
6	Selectively reinforcing change talk	0.016	**0.94**
7	Offering complex reflections that go beyond the client's stated content	-0.227	**0.936**
8	Identifying a specific target goal	-0.174	**0.691**
9	Having a genuine internal experience of MI Spirit	-0.086	**0.743**
10	Generating an appropriate ratio of questions to reflections	0.014	**0.369**
12	Detecting sustain talk	0.097	**0.41**
15	Always maintaining an attitude of equipoise	**0.368**	-0.041

Note. Bold items are the strongest factor loading for that item

Six of the seven items that loaded on factor 2 have empirical support for contributing to MI's effectiveness. The one item in factor 2 that did not was item (9) "Having a genuine internal experience of MI Spirit". Because the main point of difference between items in factor 1 and factor 2 appeared to be the degree of empirical support for the items, factor 2 was named, Supported.

Is there an underlying structure to the *attitudes* MI trainers endorse about training the technical and relational components*?*

The parallel analysis suggested that it would be unlikely to find three factors in the TAM by chance, and so the three-factor solution was examined and is presented in Table 4. Factors one and two were significantly correlated at -0.279. Factors one and three were correlated at -0.365, although this was not significant. Factors two and three were not correlated. The results of the EFA on TAM are presented in Table 4. Ten items loaded on factor 1, six items loaded on factor 2, and five items loaded on factor 3.

Table 4

Exploratory Factor Analysis on Trainer Attitudes About Motivational Interviewing (MI)

		Factor Loadings		
	Attitude	1 (NotThese)	2 (Pro-Technical)	3 (Pro-Relational)
18	The technical elements of MI have research support for efficacy.	-0.141	**0.160**	0.111
19	There is not enough time to teach the technical elements of MI in a typical training.	**0.570**	-0.016	0.196
20	I have had personal success using the technical factors of MI with my clients.	-0.299	**0.308**	0.226
21	The technical factors of MI are the elements that distinguish MI from good person-centered counseling.	-0.242	**0.612**	0.010
22	The technical factors of MI provide me ongoing real-time feedback on whether MI is working.	0.017	**0.937**	-0.051
23	The technical factors of MI help me to maintain direction in the session.	-0.070	**0.794**	0.027
24	The technical elements of MI are too complicated to teach.	**0.984**	0.007	0.056
25	Technical elements are a passing fad in MI.	**0.551**	-0.398	0.120
26	The technical elements MI are too difficult for trainees to learn.	**0.728**	-0.017	-0.135
27	My clinical experience has not found the technical elements of MI to be useful.	**0.418**	-0.304	-0.046
28	Trainees do not want to learn the more technical aspects of MI.	**0.579**	-0.156	0.009
29	There is research support for the value of relational factors of MI in client outcomes.	-0.006	-0.160	**0.658**
30	My trainees appreciate learning the relational elements.	-0.083	-0.015	**0.761**
31	The relational elements of MI resonate with my trainees views of good therapy.	-0.095	0.020	**0.712**
32	The relationship elements form the moral core of MI.	0.051	0.122	**0.559**
33	Without the relational elements the technical components can be used to pursue a goal that is not in the client's self-interest.	0.043	0.155	**0.494**
34	Trainees should already possess basic relational skills prior to MI training.	**0.364**	-0.046	0.001
35	The relational skills of MI are not unique to MI.	-0.148	**0.386**	0.317
36	Forming good relationships is an innate talent that is not influenced by training.	**0.375**	0.129	0.026
37	The relational skills of MI are too touchy-feely for the people that I usually train.	**0.527**	0.248	-0.203
38	Focusing on the relational factors takes away from the value of the training to my trainees.	**0.633**	0.286	-0.249

Note. Bold items are the strongest factor loading for that item

Factor 1, "Not These". The theme of six of the ten items in factor one was an unfavorable attitude towards the importance of the technical factors of MI as well as endorsement of reasons to not train them. This included agreement on such items as (25), "The technical elements are a passing fad in MI" (factor loading = 0.984) and (26) "The technical elements of MI are too difficult for trainees to learn" (factor loading = 0.728). Four items in this factor reflected unfavorable attitudes towards the training of the relational factors of MI. These included items such as, (37) "The relational skills of MI are too touchy-feely for the people that I usually train" (factor loading = .527), (38) "Focusing on the relational factors takes away from the value of the training to my trainees" (factor loading = .633), (34) "Trainees should already possess basic relational skills prior to MI training" (.364), and (36) "Forming good relationships is an innate talent that is not influenced by training" (.375). Taken together, these items suggest a skeptical attitude towards including either the technical or relational factors in the hypothetical training described. Therefore, the factor was named, "Not These." Trainers' scores for this factor ranged from 10 to 30 with a mean score of 18.649 (SD = 4.408).

Factor 2, "Pro-Technical". Agreement responses on five of the six items that loaded on factor two reflected a favorable attitude towards the utility of the technical elements of MI or their inclusion in training. They included agreement on items such as, "The technical factors of MI are the elements that distinguish MI from good person-centered counseling" (.612), "The technical factors of MI provide me ongoing real-time feedback on whether MI is working" (.937), and "The technical factors of MI help me to maintain direction in the session" (.794). The negative factor loading (-0.398) for the item "Technical elements are a passing fad in MI", meant that a "disagree" response on that

item was correlated with the other items in this factor. As mentioned above, there are strong empirical reasons to endorse these attitudes. It has been argued that without the technical components of MI, the remaining relational components are not enough to distinguish MI from good person-centered counseling (Moyers, 2014). Additionally, meta-analytic data are now emerging in support of the importance of client language during the session and the clinician's focus on it (Magill et al, 2018.). Because all of the items expressed favorable attitudes towards the technical elements, the factor is named "Pro-Technical." Scores for this factor ranged from 13 to 30 with a mean of 24.667 (SD = 3.378).

Factor 3, "Pro-Relational". The five items that loaded on factor three included, "There is research support for the value of relational factors of MI in client outcomes" (.658), "My trainees appreciate learning the relational elements" (.761), "The relational elements of MI resonate with my trainees' views of good therapy" (.712), "The relationship elements form the moral core of MI"(.559), and, "Without the relational elements the technical components can be used to pursue a goal that is not in the client's self-interest" (.494). Agreement with these attitudes reflects a belief in the importance of including the relational elements in MI training. The mean score for the Pro-Relational factor was 21.460 (SD = 2.255) with a range of 15 to 25.

Theoretically, much has been written about the importance of the relational elements, including empathy and collaboration, in successful MI. It is theorized that these interpersonal elements of the client-clinician interaction are both curative in themselves and facilitative of the technical elements that contribute to client outcomes (Miller & Rose, 2009; Moyers, 2014). Indeed, there is some empirical support for these hypotheses.

A systemic review by Copeland, McNamara, Kelson, & Simpson (2015), concluded that although more high quality studies of the mechanisms of change in MI are needed, that MI spirit showed statistical promise. Another study that coded therapist behaviors using the Motivational Interviewing Treatment Integrity (MITI) scale version 2, concluded MI spirit was predictive of smoking cessation outcomes, after controlling for practitioner effects (McCambridge, Day, Thomas & Strang, 2011).

The recent work by Magill et al (2018), however, provides the most comprehensive analysis to date on the contribution of the relational factors. Their meta-analysis did not find support for the hypothesis that the relational elements of MI lead directly to client outcomes, although they did find some support for the hypothesis that the relational elements provide a facilitative context for the technical elements to work. Overall, they conclude that more field research is needed on the relational hypothesis.

Training Balance Score

To establish a measure for each participant that reflected the empirical balance of her or his training, a composite score was created from each individual's scores on the Supported and Unsupported training components factors. Because there were more Supported than Unsupported components, the raw scores were converted to z-scores. The standardized Unsupported score was then subtracted from the standardized Supported score, resulting in a score for which higher numbers reflected a more empirically supported training curriculum. This formula rewarded the inclusion of supported elements and punished the inclusion of unsupported elements, and assigned equal absolute value to each training item. The Training Balance score ranged from -5.63 to 1.89 (SD = 1.44) and the modal score was .95, obtained by 27.9% of trainers.

Correlational Analyses

Are there trainer characteristics that are related to their attitudes about including the technical or relational components in training? A bivariate correlation analysis was conducted using all of the trainer characteristic variables and trainers' scores on the three attitude factors. The only trainer characteristic that was significantly correlated with the Not These attitude was the number of years of MINT membership (r = -.188, p = .048). This suggested that newer MINT members had stronger attitudes *against* the inclusion of technical and relational factors in this hypothetical training. This relationship may be partly explained by the correlation between years of MINT membership and having a PhD (r = .291, p = .002), indicating that those who had been in the MINT longer were more highly educated. It is possible that trainers with a PhD may be more likely to be knowledgeable of, and place greater value on, the empirically supported components on MI.

Having a PsyD was negatively and significantly correlated with the Pro-Technical factor (r = -.269, p = .004). Having a PhD was negatively and significantly correlated with Pro-Relational attitudes (r = -.220, p = .020), as was having a psychodynamic theoretical orientation, (r = -.239, p = .012).

Correlations also were examined between the Not These attitudes score and each individual training component. The only item that correlated was "Always Maintaining an Attitude of Equipoise" (r = .201, p =.034).

Are there trainer characteristics or attitudes that are related to the *balance* of supported vs. unsupported components they include in their training? A bivariate correlation analysis was performed to examine the relationship between trainers'

attitudes, characteristics, and their training decisions. No trainer characteristics were significantly correlated with the Training Balance score. Unsurprisingly, the Not These factor was significantly and negatively correlated with Training Balance (r = -.2189, p = .047). This means that trainers with higher Not These attitudes had a less favorable balance of supported vs. unsupported training components in this hypothetical training. Both the Pro-Technical and Pro-Relational attitudes were positively correlated with the Training Balance score, but neither of these met .05 significance.

Are trainers' attitudes about training the technical and relational components of MI related to how much they include specific vs. common factors in their training? A variable was created from the total number of a trainer's chosen components that were considered specific to Motivational Interviewing (e.g., detecting sustain talk, reinforcing change talk). Another variable was created from the total number of a trainer's chosen components that were considered common to other methods (e.g., offering complex reflections, avoiding confrontation, identifying a specific target goal). A bivariate correlation analysis used these two variables and trainers' scores on the three attitude factors. Higher scores on the Pro-Relational factor were positively and significantly correlated with more inclusion of the common factors (r = .195, p = .040). No other correlations were found.

Discussion

The main purpose of this study was to investigate the role of trainers in the dissemination of empirically supported treatments. To do so, this study analyzed the variation among MI trainers concerning the content they deemed worth including in their training, as well as the attitudes that might be associated with those decisions. A main

finding was that there was considerable uniformity in the MI elements that trainers chose to train. Relatedly, there was widespread agreement in this sample on the reasons for including both the technical and relational components of motivational interviewing in training. Proponents of the EST movement should find it encouraging that trainers consistently included the MI elements with the greatest empirical support in their hypothetical trainings. One possible reason for this is that formal organizations such as the Motivational Interviewing Network of Trainers play an influential role in the translation of science to service by disseminating the latest research findings quickly to trainers in the field. Indeed, the homepage for the MINT website (www.motivationalinterviewing.org) provides a section dedicated to the latest MI research, which included 90 research articles from 2019 alone at the time of this writing. Additionally, the MINT provides discussion forums where trainers can exchange ideas on training content, methods, and other resources. Although there are formalized training centers for practitioners to learn how to deliver treatments such as Dialectical Behavior Therapy (see www.behavioraltech.org) and Cognitive Behavior Therapy (see www.beckinstitute.org), no other formal networks of trainers could be found for any treatment method other than MI.

Despite trainers' general agreement about the MI components to include, some items proved highly controversial. Interestingly, about half of trainers included the use of a decisional balance to resolve ambivalence. Although the decisional balance has been mistakenly equated with Motivational Interviewing in the field (Miller & Rollnick, 2009), there are no data supporting its use for resolving ambivalence. On the contrary, some data suggest that the use of a decisional balance can increase ambivalence, and on

those grounds it has been discouraged in the practice of MI (Miller & Rose, 2015). It is possible that the use of the decisional balance in the practice of MI is unwittingly stifling motivation to change, perhaps contributing to null findings in clinical trials.

It is unclear what MI trainers are endorsing when they choose to teach trainees to always maintain an attitude of equipoise. This concept was discussed in the 3rd edition of the Motivational Interviewing book by Miller and Rollnick (2013), to describe the clinical decision therapists sometimes make to *not* attempt to influence certain client decisions in any particular direction (the decision to have a child, for example). To *always* maintain such a position, however, is antithetical to a therapeutic relationship, in which the therapist is expected to help alleviate a client's presenting complaint (Wampold & Imel, 2014). It is also irreconcilable with the technical aspects of MI, that ask therapists to encourage change talk and minimize sustain talk. Some in the MI community have suggested that it is possible to use MI to aid clients in resolving ambivalence while simultaneously having no preference as to which direction the ambivalence is resolved, and that this constitutes therapist equipoise (Zukoff & Dew, 2012). However, this does not address the contradiction in using equipoise in MI. Assuming that a therapist chooses to encourage the resolution of ambivalence in whichever direction the client is already leaning, the therapist is *still* choosing a direction in which to influence the client, which is not equipoise. That almost half of trainers included this item may reflect a deeper ambivalence within the MI community about the appropriate role of direction for an MI therapist. It is particularly interesting that the equipoise training component was the only one that was correlated with any of the factors to emerge from the TAM, and that the factor it was correlated with was Not These.

Relatedly, it was the only attitude factor that was correlated with the training balance score. Although this study cannot draw any causal conclusions, it is reasonable to speculate that a trainer's opinion about equipoise and the directional role of an MI therapist is highly influential in the balance of supported/unsupported content she or he chooses to train.

The training balance score was created to serve as a proxy for the degree of empirical support for the trainer's choices. Despite the agreement of MI trainers on including many of the training components, differences in this score were observed. This study cannot determine whether any particular collection of training components is necessarily *better* than any other on the basis of either trainee or client outcomes. It is possible that some trainers include unsupported elements in their training to facilitate the training of more supported components. For example, a trainer may find that providing an explanation of the decisional balance helps trainees to better understand the skills of detecting change and sustain talk. In this case, the inclusion of an unsupported component may actually enhance training and improve dissemination of MI.

The fact that all of the training components were weighted equally in the training balance score may be obscuring important differences that they contribute to outcomes. It may be that some supported MI components are more integral to the efficacy of this method than others. For example, the empirical literature suggests that attending to change and sustain talk are very likely drivers of MI's effectiveness and therefore ought to be prominent in MI training. Similarly, some unsupported components may be more detrimental to training than others. For example, the inclusion of "having a genuine internal experience of MI spirit" may do nothing to undermine supported components,

while the inclusion of "always maintain an attitude of equipoise" does. These are questions about the outcome of training programs and their relationship to client outcomes, that are not addressed in this study. Because each component gets equal weight, the training balance score merely provides an indication of the relative inclusion of supported vs. unsupported components. Yet, this score was significantly correlated with trainers' attitudes.

The attitude factor that was associated with the training balance score was Not These. The perspectives captured by this factor endorse reasons for not including either the technical or relational components in training. Yet, when looking at the relationship between this factor and each of the training components individually, only item (15) "Always maintaining an attitude of equipoise", was significantly correlated. This suggests that despite having reasons for not including the technical and relational components, trainers with these attitudes include them in their trainings anyway. It is possible that despite their personal misgivings, these trainers conform to the wishes of those who hire them and expect a training that includes the popular MI components. Additional research is needed to determine their reasons for including these items and the content that they would include in their ideal training scenario.

Strengths

The primary strength of this study was its novelty. We know of no other research on the training decisions and practices of Motivational Interviewing trainers, despite the importance of trainers in the science-to-service pathway (Fixsen, Blase, Naoom, & Wallace, 2009). These data suggest that differences in trainers' attitudes may be related to the empirical support of their training practices, which may provide a fruitful avenue

for EST proponents to further explore. Another strength of this study was the sample used to draw conclusions about training practices. The modal number of trainings that respondents conducted per year was 12, and the modal length of the training was 1-2 days. Although the representativeness of this sample is unknown, it is clear that the attitudes and practices examined in this study are those of trainers who allocate a considerable amount of time to disseminating MI.

Limitations

There were several notable limitations to this study. First, the measures used to assess trainers' practices and attitudes were created for this project and lack psychometric support, despite having strong face validity. Although the MIC offered popular MI components that are widely considered central to the method, the list was not exhaustive. The unexpected identification of a training attitude factor that reflected disinterest in either the relational or technical components of MI suggests that there are elements that were not represented in the list, but that are meaningful to MI trainers. This limits the ability of the study to draw conclusions on the components that trainers deem most important.

Additionally, the MIC is an assessment of hypothetical, and not actual, training practices. It is possible that what trainers report they would do is quite different from what they actually do in the real world. The conclusions of this study are also limited to trainers' decisions for a hypothetical 2-day training. For example, it is likely that trainers' selections of components would change with the length of the training (although it is noteworthy that the majority of respondents reported that their trainings typically last 1-2 days).

The TAM was also flawed in that it conflated opinions about the *value* of various MI components with reasons for/against *training* them. This made interpretation of the responses complicated. The use of established measures of attitudes about psychotherapy and training would have improved both the interpretation and empirical standing of the findings of this study.

Additionally, the power of this analysis to detect meaningful differences among trainers may have been limited by the small sample size. Although there are no strict rules for determining the adequate sample size for exploratory factor analysis, a general rule of thumb is to have a 10:1 ratio of subjects to items (Costello & Osborne, 2005). Neither of the EFAs in this study met this threshold, although the training items analysis came close.

Lastly, also unknown is how representative this sample is of MI trainers, and how much MI training is conducted by non-MINT members. This limits the generalizability of these findings for trainers of Motivational Interviewing at large.

Conclusions

This study provides preliminary evidence that EST trainers' attitudes are related to differences in the content they choose to train. This suggests that such attitudes may play an important role in the "science to service" pathway, with the potential to both facilitate and hinder the dissemination of ESTs. The consistency with which MI trainers elect to include the most empirically supported components of their method in a hypothetical training is promising for the EST movement. This may be partly attributable to their membership in a formal trainer's network. Additional research is needed to understand how trainers' attitudes influence learning outcomes in those they train.

Appendix A:

Study Materials

SECTION 1.

1. What is your age? ___

2. What is your gender?
Male
Female
Not represented here
Prefer not to say

3. What is your highest degree attained?
Associate's
Bachelor's
Master's
PhD
PsyD
MD
Other

4. What is your primary employment setting? (Please pick ONE)
Private Practice
Academic
Hospital
Clinic/Community Mental Health Center
Other, please be specific

5. What theoretical orientation do you most adhere to in your practice? (Please pick ONE.
Humanistic/Experiential
Cognitive/Behavioral
Family Systems
Psychodynamic
Eclectic (Please use only if there is no dominant orientation)
Other _____

4. How long have you been a member of MINT? ___

5. How many MI trainings did you conduct within the last 12 months? _____

6. How many MI trainings do you anticipate providing in the upcoming 12 months? _____

7. How long is the typical MI training you provide?

1-2 hours
3-4 hours
4 hours - 1 day
1 - 2 days
More than 2 days

SECTION 2. Motivational Interviewing Components (MIC)
For this section, please read the following scenario and answer the questions that follow.

New Ways Treatment Center, an outpatient addictions treatment program, recently received state funding to provide training for its counselors in an empirically supported treatment of its choice. After attending a Motivational Interviewing workshop at a recent conference, and applying the method in her own practice, the program director, Dr. Anne Decker, is convinced that MI is just what New Ways needs to improve retention and outcomes of their diverse clientele. She admires the non-confrontational style of MI and is persuaded by the empirical support for its effectiveness. After searching the MINT directory of trainers, Dr. Decker came across your profile and liked your trainer statement right away. You have spoken by phone with Dr. Decker and she has hired you to conduct a two-day training for New Ways in the coming weeks. She has described the trainees as a smart and dedicated group with diverse professional credentialing and experience, and no previous exposure to MI. The trainees will be provided some information on MI's origins and development, so that all of the training time may be dedicated towards learning the method.

In the space below, please tell us about the training you will provide. We are most interested in the specific skills you hope your students will have learned by the end of your training in order to effectively deliver MI to their clients.

Thank you for telling us about your training. Now we would like you to consider some specific skills. For each of the following skills, please indicate whether or not you would include it in your New Ways training.

___Developing discrepancy between the client's values and actions

___Flexibly using Open-ended questions, Affirmations, Reflections, and Summaries

___Using a Decisional Balance to move clients away from ambivalence

___Offering complex reflections that go beyond the client's stated content

___Having a genuine internal experience of MI Spirit

___Detecting change talk and sustain talk

___Generating an appropriate ratio of questions to reflections

___Communicating a sense of compassion for the client

___Always maintaining an attitude of equipoise

___Selectively reinforcing change talk

___Avoiding confrontation

___The Stages of Change model of behavior change

___Identifying a specific target goal

___Softening Sustain Talk

SECTION 3. Trainers' Attitudes Measure (TAM)

Please answer the following questions about your own views and training practices. Indicate the extent to which you agree with each item using the following scale.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree

The technical elements of MI are too complicated to teach ___

The technical elements MI are too difficult for trainees to learn ___

There is not enough time to teach the technical elements in a typical training ___

Technical elements are a passing fad in MI___

My clinical experience has not found the technical elements of MI to be useful ___

Trainees do not want to learn the more technical aspects of MI ___

MI Spirit is the only required aspect of excellent MI ___

The research on technical elements of treatment is not applicable to my own practice/clients ___

The technical elements of MI have research support for efficacy ___

I have had personal success using the technical factors of MI with my clients ___

The technical factors of MI are the elements that distinguish MI from good person-centered counseling ___

The technical factors of MI provide me ongoing real-time feedback on whether MI is working ___

The technical factors of MI allow me to maintain direction in the session ___

Trainees should already possess basic relational skills prior to MI training ___

The relational skills of MI are not unique to MI ___

Forming good relationships is an innate talent that is not influenced by training ___

The relational skills of MI are too touchy-feely for the people that I train ___

There is research support for the value of relational factors of MI in client outcomes ___

Technical elements of a treatment without a good relationship have no value ___

The relationship elements form the moral core of MI ___

Without the relational elements the technical components can be used to pursue a goal that is not in the client's self-interest ___

My trainees appreciate learning the relational elements ___

The relational elements of MI resonate with my trainees views of good therapy ___

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