Measuring motivational interviewing self-efficacy of pre-service students completing a competency-based motivational interviewing course

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ABSTRACT

Background: Improving health outcomes requires health care practitioners to work collaboratively with clients to make healthy lifestyle changes. Motivational interviewing (MI) is an evidence-based approach found to evoke and support behavior change.

Objective: The aim of this study was to examine changes over time in pre-service professional students' confidence in their MI skills after a 15-week interprofessional MI course.

Methods: Students ($N = 22$) completed a newly developed 24-item Motivational Interviewing Confidence Survey (MICS pre and post participation in the course). Summary statistics, initial scale reliability assessment and t-tests were carried out.

Results: MICS was a reliable measure (Cronbach's $a = 0.98$) and detected significant changes in students' self-perceived skill set. Using t-tests, significant differences were noted in pre- and post-assessments in students' confidence in their skills; students (p values < 0.001) demonstrated significant gains in confidence on 23 of 24 MICS items.

Conclusion: After participating in the course, students' confidence in their MI skills improved significantly. Adding pre-service training in MI may increase future healthcare practitioners' confidence in their MI skills and improve their capacity to engage in individually tailored, client-driven practice.

Introduction

Strong evidence has accrued over decades that motivational interviewing (MI), a client-centered method of counseling, is a powerful skill for fostering lifestyle change and positive health outcomes.[1–3] While MI has been described as simple, it is not easy to learn or master.[4,5] MI uses specific language and strategies to evoke client's motivation to change, respecting their readiness for change and personal autonomy. MI explores their ambivalence about changing or staying the same and affirms their capacities and movements toward change. And when clear readiness for change is exhibited, mobilizes their efforts to develop a workable tailored plan to achieve personal goals.[6]

Ideally in MI, the practitioner uses reflections and open-ended questions that invite the client to speak in greater depth about their desire for better health and the barriers impeding change. The practitioner avoids giving advice or persuading the client, and instead uses reflections strategically to uncover ambivalence and then direct the conversation toward change. This "spirit of MI," evidenced in the practitioner's strongly held belief in the clients' competence and capacity, is powerful in facilitating and supporting therapeutic change. Research suggests that the spirit of MI more than any specific set of skills is an essential element in promoting behavior change.[6,7]

Addressing the fidelity of MI use has been strongly advocated to enhance treatment integrity; greater fidelity to the method has been associated with better client outcomes.[8–11] Several tools have been developed and used to assess fidelity of MI training after workshop training and during intervention trials.[12] Currently, MI training is typically conducted in short workshops by experts, although train the trainer models and self-study programs have also been developed to more broadly train practitioners.[13] These two- to three-day trainings focus mainly on skills such as creating the spirit of MI, using open-ended questions, affirmations, reflections, summaries, reinforcing change talk and rolling with resistance.

MI requires mastery of a style of interaction that runs counter to typical conversational communication styles. Miller notes that developing this skill requires "disciplined practice, feedback and coaching from an expert."[14] Thus, it may be argued that longer practice over time is needed to develop competence in MI especially in pre-service practitioners who lack substantive clinical experience. Consequently, an interprofessional team of faculty at a Midwestern research university set out to develop an MI course for pre-service health professional students.

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The team designed a semester-long 2-credit course that provided students with key readings, pre-class exercises in an MI workbook, core didactic content, weekly practice of MI skills with consistent peer/professor debriefing on skills, and mid-term and final exams using simulated patients.[15] (See Table 1 for course objectives and content areas.) Students had approximately 24 h of in-person content, with around half of that time purposefully devoted to weekly in-person practice of MI skills. The aim of this descriptive study was to examine the changes over time in pre-service professional students' confidence in their MI skills by participating in a 15-week interprofessional course.

Methods

Participants

A total of 36 students in three cohorts completed the interprofessional course at a major Midwestern research university. The majority of students were in their final year of didactic professional training (99.6%), were female (92.6%) and were training to be counseling/school psychologists (31%), occupational therapists (33%), pharmacists (31%) or nurses (5%).

Procedures

This study was awarded an exemption from IRB review since there was minimal risk; it was considered quality improvement/program evaluation, and surveys were gathered without linking identifiers. Students were prompted to create an identifier string before taking the pre- class survey, which they used again in the post-class survey. Students registered for the class were sent an email requesting they complete pre-class surveys; another reminder was sent after the course was complete for post-class surveys. All students completed surveys prior to the class and twenty-two (61%) completed the post-class survey.

To assess students' confidence, the authors found no existing instruments in the literature that captured critical and detailed skill components related to MI skills that could translate into practice behaviors; thus it was necessary to create a new measure of MI confidence based on Bandura's self-efficacy work.[16,17] Several iterations were reviewed by the two authors (professors of occupational therapy and pharmacy), with the desire to

effectively assess the most salient components of MI skills without overlapping themes and to have a manageable number of items. The survey instrument was field tested by an ambulatory care pharmacist who had recently been trained in MI, a nursing professor with an extensive MI background, a counseling psychology professor, and a social worker with national content expertise (part of the Motivational Interviewing Network of Trainers) for the purpose of optimizing each item and its interpretation. Each survey item was read aloud and its interpretation from each respondent was noted in order to identify any cognitive or conceptual problems with the item. The resulting Motivational Interviewing Confidence Survey (MICS) was developed to assess how confident students were in mastering key MI skills. Items were selected that reflected key skills essential to good MI practice and that adhered to the MI spirit. The 24 items were rated from 0 (Cannot do at all) to 10 (Highly certain can do). For example, items included, "Right now, how certain are you that you can: solicit participation despite recent client refusal," or "… use complex reflections or reframing to suggest different meaning to the client about their perceived situation." Table 2 lists all survey items.

Analysis

First, to analyze responses from MICS, the 0–10 point scale was recoded to a 1–11 point scale. Next ratings were summed and averaged for each survey item. Since the MICS was designed for this study, a Cronbach's alpha was calculated to assess reliability of the scale. Based on the Shapiro test of normality, *t*-tests were used to compare pre- and post-class group means. Microsoft Excel and *R*3.4.3 were used for data management and analysis, respectively.

Results

The results demonstrate the MICS was a reliable measure and detected significant changes over the class in students' self-perceived skill set. The internal consistency of the MICS was high (Cronbach's $a = 0.98$). Overall, there was an increase in student confidence in MI skills after taking the course on each item (see Fig. 1). Using *t*-tests, significant differences were noted in the pre- and post-assessments of student confidence in their MI skills (see Table 2). On the majority of skills, (23 of the 24 items), students

Table 1
Interprofessional motivational interviewing elective course overview.

Course Goals
This course focuses on the use of Motivational Interviewing to facilitate client-centered change across a range of problem behaviors in health care, social service and mental health care. Students will learn the history of Motivational Interviewing (MI), examine the evidence supporting the efficacy of MI, learn the four processes of MI (engaging, guiding, evoking, & planning), practice core MI skills, and engage in peer assessment of MI competencies.
Course Objectives
Following the completion of this course, the student will be able to:

1. Describe the evolution of Motivational Interviewing (MI) and key elements of MI.
2. Describe evidence supporting the efficacy of Motivational Interviewing in health care.
3. Demonstrate proficiency in MI skills including OARS (open-ended questions to engage the client, simple and complex reflections, affirmation of client strengths and summarizing), dealing with discordance, heightening ambivalence and utilizing a MI roadmap to guide sessions.
4. Recognize and code MI elements within a MI conversation and use this information to give feedback to a peer.
5. Incorporate principles of cultural awareness, sensitivity and competence into MI conversations and plans.

Course topics, activities and assessments	
Motivational interviewing: an evidence-based practice	• Introduction to MI and the Spirit of MI • Discussion of evidence in each of the professional areas represented • Ethics and the MI approach, informed by self-determination theory
Four processes in MI: Engaging, Focusing, Evoking, and Planning	• Skills training (use of open-ended questions, affirmations, reflective listening and summarizing) in order to elicit meaning • Responding to discord and ambivalence, & evoking change talk • Using MI in brief consultations (Brief Action Planning)
Active Learning Strategies & Assessment Activities	• Weekly MI practice using questions relevant to student's lives and practice (e.g. *What would make you a better practitioner? How could you change your daily routine to improve your quality of life?*) • Weekly peer-to-peer practice of MI skills • Peer debriefing of in-class practice, giving feedback using MI approach • Peer review of video recorded MI interviews • Faculty modeled collaboration & supplemented students' discussions with additional interdisciplinary perspectives on case studies • Student teams developed discipline specific solutions to case studies & presented to class for feedback • Cross-discipline dyads of students collaborated to develop MI approaches to case studies • Midpoint and final standardized patient encounters graded using MITI 4.0 tool

Table 2

Paired T-Test Pre- & post-survey ratings for MI confidence survey ($n = 22$).

Item	Pre-survey Mean[a]	Post-survey Mean[a]	Difference	T-value	*p*-value
1. Introduce yourself to a new client	10.23	10.77	0.54	−1.55	0.14
2. Invite the client to talk about behavior change using agenda settings	6.82	10.00	3.18	−4.50	<0.001
3. Solicit client participation despite recent client refusal	5.32	7.95	2.63	−5.43	<0.001
4. Elicit the client's understanding of illness/treatment/lifestyle or situation	7.14	9.27	2.13	−4.29	<0.001
5. Demonstrate sensitivity and openness to client's concerns	9.18	10.32	1.14	−4.28	<0.001
6. Ask mainly open-ended questions during client conversations	8.00	9.68	1.68	−4.80	<0.001
7. Express empathy by reflecting a client's emotions during an interview	8.27	10.05	1.78	−4.49	<0.001
8. Provide affirmations to help the client identify strengths & past successes and support their motivation to change	7.82	9.45	1.63	−3.28	<0.001
9. Do more listening than talking during the client interaction	7.68	9.86	2.18	−4.57	<0.001
10. Invite the client to talk about and explore his/her own ideas for change	6.55	9.59	3.04	−5.47	<0.001
11. Elicit client's motivators and barriers for behavioral change	6.50	9.41	2.91	−4.38	<0.001
12. Ask permission to give ideas or feedback	7.09	9.68	2.59	−5.10	<0.001
13. Avoid the righting reflex and trying to "fix" the client	5.55	8.86	3.31	−6.66	<0.001
14. Develop discrepancy between the client's desired health outcomes/goals and present behaviors	6.27	8.82	2.55	−6.57	<0.001
15. Summarize key elements that will support client's desired change	7.23	9.73	2.5	−7.09	<0.001
16. Recover from and explore relational resistance during the client interaction	4.59	7.95	3.36	−7.34	<0.001
17. Avoid imposing a health care provider agenda	5.91	8.95	3.04	−6.27	<0.001
18. Avoid interrupting the client	8.09	9.59	1.5	−3.14	<0.001
19. Use complex reflections or reframing to suggest different meaning to the client about their perceived situation	5.64	9.14	3.5	−6.37	<0.001
20. Consistently respond to change talk with reflections, elaborations or interest	5.68	9.09	3.41	−7.67	<0.001
21. Provide a brief intervention to engage a client in a small behavior change	5.14	9.00	3.86	−7.50	<0.001
22. Maintain a strong belief in your competence despite client's reluctance to change.	5.55	8.73	3.18	−6.86	<0.001
23. Rely on your personal coping abilities to remain calm when the client has multiple co-occurring issues	6.23	9.41	3.18	−5.60	<0.001
24. Actively convey respect for client choice about behavior change	7.95	10.18	2.23	−6.29	<0.001
Summed	164.41	225.50	61.09	−7.81	<0.001

[a] Converted from 0 to 10 point scale to 1–11 point scale: 1 = cannot do at all; 11 = highly certain can do.
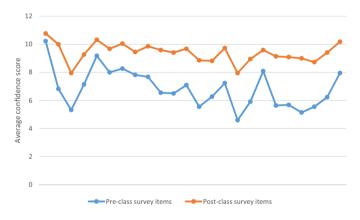

Fig. 1. Pre and post comparison of students' average self-reported confidence ratings for assessed MI Skills ($n = 22$).

showed significantly more confidence at the end of class (*p* values <0.001) when compared to beginning self-ratings. Students gained confidence over the class in their capacities to invite a client to set an agenda, use open-ended questions, listen more than talk, and elicit the client's motivators and barriers to change ($p \leq 0.001$).

The most highly significant changes were seen in those skills that students initially rated themselves as having the lowest level of confidence (see Table 2). Students initially self-rated themselves as moderately confident (rated ~5) in a number of skills that required skillful interaction with clients and confidence in their own capacities. For the remaining skills, students were initially more confident, rating these skills around 7. Even so, there was a significant change in confidence at the $p \leq 0.05$ level (Fig. 1).

Discussion

This course used an innovative developmental approach to teach patient-centered MI skills to students. Usually MI courses are focused on interactive role-plays or simulated testing using standardized patients with comparatively less didactic training-usually in the form of single lectures, seminars and/or presentations. While it is essential to be able to practice MI well, it is important to first, thoroughly understand the concepts and methods of MI in theory to be able to apply them effectively. Our course was developed to systematically allot 50% of the time to teach the skills and the remaining 50% for students to practice acquired skills. Thus, our course adapted a formative approach allowing students to gain confidence in MI skills systematically as they progressed along the course. This approach is better when compared to summative assessments that provide overall understanding of the course but might miss the in-depth learning and application of particular MI skills.

While this interprofessional MI course provided about 24 h of training compared to approximately 16 h typically provided in a two-day workshop,[18,19] this greater "dose" may only be one part of the reason an increased level of confidence and competence was achieved by our students after this course. The repeated weekly practice may also have been important in developing their level of confidence due to the critical learning

strategies of modeling, rehearsal and feedback incorporated in the course. Having frequent and repeated opportunities for practice likely allowed for greater consolidation of skill development and increased competency, which may allow these skills to become more readily drawn upon in practice.

Over the course, students grew confident in their MI skill set, especially in the more complex higher-level skills. In the set of skills that is perhaps the most challenging, such as dealing with client resistance, client refusal or trying to "fix" the client, the students initially rated themselves rather low. But with practice, they gained confidence in these skills. MI communication skills are especially important when addressing a client's ambivalence and the discrepancies between the client's present behaviors and the desired ones while allowing this process to be client-driven. These skills may not be taught in traditional health professional communication courses nor rehearsed in various situations. This is a unique contribution that an MI course could have in pre-service education in facilitating advanced skills for client-centered practice promoting prevention and lifestyle change.

Several limitations should be kept in mind when interpreting the results of this study. Firstly, caution must be exercised in generalizing the results because of the small number of students who participated. Besides the survey being voluntary, which impacted the low post-class response rate, the class size was also purposefully kept small to accommodate students in the active learning classroom. Secondly, although we knew the health profession students were exposed to limited required (if any, depending upon discipline) MI skill training we did not specifically assess the degree to which they may have exposed themselves to additional training prior to this course. Finally, the effect of measurement was limited by the completion of the course. A follow-up test would be useful to measure whether skills were maintained over time.

Conclusion

The MI course was seen to significantly improve student confidence in their MI skills. Thus, adding pre-service training in motivational interviewing and mandating changes in health professions' credential requirements and entrustable professional activities may lead to better training. Achieving a critical mass of health care professionals with MI competencies is important because we may finally be able to better address the lifestyle issues associated with clients' chronic disease conditions, thus leading to better prevention and outcomes.

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Declaration of Competing Interest

The authors have no conflicts of interest to report.

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