

An Application of Motivational Interviewing to After-School Programs

By

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Abstract

Implementation fidelity of motivational interviewing (MI) hinges on effective training (Miller & Rollnick, 2013). The present research, consisting of two separate studies, examined the application of an evidence-based MI training for school-based professionals (Frey et al., 2017) with after-school professionals. These two studies investigated (a) the degree to which participants engaged and participated in MI training, (b) to what extent participants' MI competence and self-efficacy in practicing MI was changed by a motivational interviewing workshop training with and without subsequent opportunities for practice and supervision, and (c) how socially valid MI training was for individuals working in after-school settings. Study 1 utilized a mixed-methods, non-experimental design in which quantitative data were collected before and after a workshop training and again after optional group feedback sessions. Qualitative interviews were then conducted with three participants who experienced all the training elements. Study 2 was a repetition of the quantitative portion of Study 1 with modifications to recruitment and training intended to improve study retention and account for restrictions due to the COVID-19 pandemic. Analysis of the quantitative results of Studies 1 and 2 was limited by small sample sizes and missing data at several levels, thus quantitative results were described using descriptive statistics rather than statistical significance testing. Integrated quantitative and qualitative results from Studies 1 and 2 suggested that after-school professionals demonstrated high participation and engagement in MI training, increased self-efficacy, and some increase in competence after workshop training. Quantitative and qualitative results suggested that additional opportunities for practice and feedback (provided in the form of group feedback sessions) were helpful for increasing after-school professionals' MI confidence in their ability to use MI with students. Results also showed that MI and MI training were relevant and

useful for after-school professionals, and indicated modifications necessary to improve the social validity of MI training in after-school settings.

Keywords: motivational interviewing, training, youth, after-school, mixed-methods

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Motivational interviewing (MI) as a therapeutic style of conversing about change and its potential applications with youth in after-school settings is examined within this chapter. The first section of this chapter begins by examining the background and evidence regarding MI as a framework for understanding this approach as it has been implemented in a broad array of settings and client populations to motivate change and prevent or minimize poor outcomes. Additionally, this section provides an overview of research and current best practices for training practitioners in MI and provides insight about core technical requirements for transferring MI strategies to new settings. Following this overview, a discussion of the limited research on MI with children and adolescents is provided and describes the background and evidence for using MI with this population and rationale for further research. The chapter then continues with an examination of after-school programs (ASPs) and evidence linking ASPs to positive student and community outcomes. Finally, the overview of ASPs then leads to a discussion of identified research priorities and the need for improved professional development for individuals working with youth in out-of-school settings. Interwoven throughout is the basic premise that MI is a natural fit with the structure of ASPs, as both are strengths-based, client-centered, and adaptable to students' cultural backgrounds.

Motivational Interviewing

MI is a clinical interview method focused on conversations about change. MI was originally developed for individuals with problematic drinking behaviors and was considered by

many to be a revolution in the addiction treatment field given that prior traditional methods tended to rely on confrontation and shaming individuals for problematic behavior (Miller & Rollnick, 2013). Historically, motivation was conceptualized as one facet of personality; thus, individuals were thought to be ready for treatment only when they had suffered to such a point that they became motivated to change (Miller, 1983). For example, within this traditional service-delivery approach, an individual's acceptance of the label "alcoholic" was an important prerequisite to change, and failure to progress or lack of engagement in treatment was attributed to denial or resistance on the part of the individual, rather than as a mismatch in treatment modality or style. However, Miller noted that most individuals who completed traditional treatments for alcoholism failed to maintain abstinence, and that treatment was often completely unacceptable to those in the early stages of problematic drinking. In the original 1983 publication describing MI, Miller reconceptualized motivation as an interpersonal process facilitated by conversations about change by emphasizing that treatment programs in the traditional style taught clients helplessness by attributing their successes to the program and failure to their own personality. Miller's reconceptualized model of motivation centered around the precepts that confronting individuals and asserting that they must change (i.e., the old model) elicited arguments against change, and that voicing counterarguments for change stimulated belief in those arguments and motivation not to change.

Miller (1983) relocated client motivation to the interpersonal process occurring within therapeutic conversations about change, recognizing that almost everyone with a drinking or other problem has two viewpoints regarding their behavior; whereas an individual may recognize the benefits of change, they may be unsure of their commitment to giving up behaviors from which they reap some benefit. In the most recent version of the MI framework, Miller and

Rollnick (2013) indicated that appropriate targets of MI include internal states, such as grief and self-concept, in addition to overt behaviors. In conversations regarding changes of internal state, a therapist's skill lies in their ability to help the client who is balancing these coexisting motivations (i.e., recognizing benefits of change versus being unsure of their commitment to giving up behaviors) move toward change by exploring cognitive dissonance, always emphasizing individual choice and internal attribution of change in restoring consistency between values, beliefs, and behavior (Miller, 1983).

The Transtheoretical Model (TTM; Prochaska & DiClemente, 1986) of change was developed concurrently with Miller's work on MI and offers a helpful model of psychotherapy designed to be responsive to clients' readiness for change (Miller & Rollnick, 2013). Within the TTM, change is developmentally represented by five stages: (a) precontemplation, (b) contemplation, (c) preparation, (d) action, and (e) maintenance. The TTM helps conceptualize enhanced flexibility within techniques such as cognitive-behavioral therapy, which are designed for clients who are ready for change. Miller and Rollnick (2013) articulated that MI and TTM are not one in the same; for example, MI is a technique that may be used with clients who are not yet completely ready for change. Practitioners using MI may refer to the TTM to help conceptualize how ready clients are for behavior change and where to begin conversations about change.

Miller and Rollnick (2013) indicated that although conversations involving interpersonal influence occur in everyday situations (e.g., sales, politics), these conversations are different from MI because compassion is not at the center of the interviewer's intentions. This compassion and client-centered orientation is known as the "spirit" of MI. Conversations in this style involve four processes, including (a) engaging the client, (b) focusing on a direction, (c) evoking ideas about change, and (d) planning for action with the client by using the key elements of open

questions, affirmations, reflections, and summary statements (Miller & Rollnick, 2013). Miller and Rollnick defined the process of engaging as “establishing a mutually trusting and respectful helping relationship” (p. 40). This working alliance predicates clients’ active engagement in the therapeutic process and can be thwarted by early interactions (e.g., assessment-driven intake sessions) that convey therapist expertise or focus prematurely on issues that are not the client’s central concerns. Therapists may promote engagement by initiating client interactions in a positive and hopeful manner and by attending to the clients’ own motivations for engaging in therapeutic services and their expectations regarding those services. The process of engaging then leads to focusing, or collaboratively developing a direction for the change-oriented conversation and maintaining this course. Treatment plans often formalize the focusing process and operationalize the goals of cognitive or behavioral changes. The third process in MI, evoking, involves eliciting the client’s own arguments or motivations for change. This can be unnecessary if the client enters treatment ready for change and is already asking for expert advice on how to proceed. When the client is ready, the planning process can begin. Planning involves both the process of committing to change and planning for action. Each step (i.e., engaging, focusing, evoking, and planning) is ongoing and may be revisited during the change process.

The key communication strategies used in MI—open questions, affirmations, reflections, and summary statements—are often referred to by the acronym OARS (Miller & Rollnick, 2013). Rather than using questions simply to gain information, MI makes use of *open questions* to invite clients to say more about a topic and gain access to individuals’ personal frame of reference. Open questions offer the client more freedom in answering than *closed questions*, which ask for more defined information and can often be answered with “yes” or “no” responses.

Affirmation involves therapist attention to and comment on the client's strengths, intentions, and positive actions, as well as general understanding of the client's inherent worth and capacity for change. *Reflective listening* involves making statements that guess at a client's meaning and should promote continued verbal exploration and consideration of change-oriented thoughts and feelings. Reflective listening statements also help clarify if one has accurately assessed the meaning of a client's words. *Summaries* are reflective statements that offer the client a collection, or "basket" (p. 34) of what they have said, and can be used for a variety of purposes, including linking past and present ideas and checking for good understanding of what a client has said. These four key communication strategies (i.e., open questions, affirmations, reflective listening, and summarizing) are used throughout the four processes (i.e., engaging, focusing, evoking, and planning) of MI.

Within the framework of MI, persuading and confronting are considered MI non-adherent (MINA) clinician behaviors (Moyers et al., 2014). *Persuading* is any explicit attempt to change a client's opinions, attitudes, or behavior and includes giving advice or opinions without an explicit statement or other indication that the client is free to accept that information or not. *Confronting* occurs when the clinician directly disagrees with, questions, corrects, warns, or otherwise confronts the client. These behaviors undermine the partnership between clinician and client by limiting client autonomy to make choices and by shifting the balance of power toward the clinician. However, many interventions include some information giving (e.g., presenting assessment results), and this may be done in an MI-adherent fashion with client permission and attention to the relevance of that information to the client's particular situation (Miller & Rollnick, 2013). The clinician may also directly state that the client is welcome to agree or heed this information or advice or not.

Evidence Supporting the use of MI for Substance Use

Empirical support for MI grew out of Miller's research at the University of New Mexico in the 1970s and 1980s on treatments for alcohol problems (Miller & Rollnick, 2013). Miller's treatment was based on client centered counseling (i.e., Rogers, 1959) and combined Rogers's accurate empathy with behavioral therapeutic techniques (Miller & Rollnick, 2013). Rogers' client centered therapeutic technique centered on the therapist's experience of unconditional positive regard toward the client and their empathetic understanding of the client's internal state (Rogers, 1959). He theorized that for change to occur, the client must perceive the therapist's unconditional positive regard and empathy without their explicit statement of these experiences. Within the client centered framework, empathy is the accurate perception of the internal state of another person, and Miller's early work with problem drinking behavior showed that this therapist variable was an important source of behavior change (Miller & Baca, 1983; Miller et al., 1980). Valle (1981) also verified that drinking behavior was negatively related to therapists' client-centered skills.

Adults

Since Miller's original development work, there have been more than 200 randomized clinical trials of MI published (Miller & Rollnick, 2013) and more than 20 meta-analyses of MI indicating small to medium effects on a diverse array of behaviors in adults including substance use, problem gambling, weight loss and other health behaviors, treatment adherence, and symptoms of mental illness. DiClemente et al. (2017) conducted a review of systematic reviews and meta-analyses of MI and MI-based interventions including: Motivational Enhancement Therapy (MET; a manualized adaptation of MI; Miller et al., 1992); Screening, Brief Interventions, and Referral to Treatment (SBIRT; e.g., Mcpherson et al., 2010); and Brief

Intervention (BI; e.g., Bernstein et al., 2005) for substance use and gambling problems. Their search included reviews published between January 2007 and January 2017 and resulted in the identification of 34 articles that were categorized as MI/MET intervention studies or Brief Intervention studies for alcohol (n = 20), tobacco (n = 5), cocaine/psychostimulants (n = 3), marijuana (n = 9), and gambling (n = 1). DiClemente et al. (2017) provided a rating of the evidence in each substance domain based on the guidelines used in Cochrane Reviews (Dijkers, 2013), which are systematic reviews that aim to answer health research questions by identifying and rating empirical evidence pertaining to that question that meets pre-determined eligibility criteria for inclusion. Ratings are based on magnitude of effects demonstrated, number of studies and participants, and the number of negative or contradictory findings; rating categories include *Strong and Significant Support*, *Substantial Support*, *Some Support*, *Minimal Support*, and *Insufficient Evidence*.

DiClemente et al. (2017) found that there was strong and significant evidence across three meta-analyses (i.e., Lundahl & Burke, 2009; Lundahl et al., 2013; Stewart, 2012), indicating that MI positively impacted alcohol-related outcomes in adults as compared to a range of comparison treatments (odds ratio $[OR] = 1.83-2.31$) and as compared to no treatment ($d = 0.18-0.39$, standard mean difference $[SMD] = 0.79$). MI also had decreasing effectiveness over time (6–12 months post-treatment $SMD = 0.15$) for alcohol-related outcomes. Brief interventions for alcohol use showed significant effects on alcohol use after 1–5 sessions in primary care settings (mean difference = -38 grams), although no significant effects were found for brief interventions in inpatient settings. The benefits of MI were mixed when compared to active treatment, with MI showing no significant advantage over other active treatment in most studies, with at most a 20% advantage found in others compared to active treatment. DiClemente et al.

also found some evidence that MI had small positive effects on alcohol outcomes for particular subgroups of individuals with alcohol problems, including those with dual diagnoses of major depressive disorder (MDD, $d = 0.33$) and men who reported having sex with men (MSM, $OR = 0.62$). MI was often combined with CBT in treatment with these complex subgroups, although evidence did not conclusively indicate that the addition of CBT provided benefit above MI alone in the MSM population.

DiClemente et al. (2017) also investigated MI's effectiveness for alcohol problems in young adults and college students. Among the 20 reviews that they identified, one (i.e., Foxcroft et al., 2016) was a Cochrane literature review and meta-analysis of 84 randomized controlled studies of MI for alcohol problems in young adults (up to age 25 years). Foxcroft et al. found that MI delivered either individually or in small groups had small or borderline effects on the amount of alcohol consumed, alcohol-related problems, and peak blood alcohol content (BAC). Receiving MI was associated with an average decrease of 1.2 drinks per week ($SMD = -0.11$) and a decrease in peak BAC of 0.013 ($SMD = -0.12$). No significant effects of MI were found for binge drinking episodes, average BAC, drunk driving, or other risky behaviors related to alcohol use, and no relationship was found between number of MI sessions (treatment ranged from 10 min to 19 hr) or type of setting and effectiveness of MI. However, Foxcroft et al. (2016) noted that many authors did not disclose how participants were assigned to treatment and control conditions; furthermore, many participants dropped out before follow-up. Thus, effects found in this review may be weighted in favor of MI and should be interpreted with caution. DiClemente et al. (2017) found that substantial evidence indicated that brief MI was associated with reduced adult alcohol use but was less effective for reducing alcohol-related problems in adolescents and younger adults. Brief MI interventions for college students with alcohol problems suggested

strong evidence that brief MI was associated with reductions in alcohol use and alcohol-related problems posttreatment. Samson and Tanner-Smith (2015) found an overall effect size of $g = 0.20$ in a meta-analysis of 73 studies. As compared to control groups that involved assessment only, MI performed more favorably ($d = 1.06$ for drinking reduction and $d = 0.65$ for alcohol-related consequences) than individualized or normative feedback interventions ($d = 0.54$ – 0.91 for reductions in drinking and $d = 0.54$ for alcohol-related consequences), which may be more similar to an MI approach. More formal MI interventions (i.e., median intervention of two 50 min sessions) were associated only with reduced alcohol-related problems ($B = 0.21, p < .01$) as compared to control conditions (Carey et al., 2007). DiClemente et al. (2017) noted that although the most extensive research on MI was in the area of treatment for alcohol problems, only one review noted the use of fidelity monitoring (Huh et al., 2015), and thus it was not possible to evaluate the *quality* of MI used in these studies. Although the evidence reviewed provides support for the use of MI techniques with alcohol use behaviors, the lack of MI integrity monitoring leaves researchers wondering what components of MI, and in what format, were used.

DiClemente et al. (2017) also found small effects for MI on tobacco cessation in adults and adolescents ($d = 0.11$ – 0.35) and somewhat larger effects on marijuana use in adults (mean difference [MD] in use frequency = 3.99 and 4.45 as compared to inactive and active control conditions, respectively). MI/MET was less effective than other active treatments and no more effective than self-help or no-treatment control conditions for tobacco use. Evidence reviewed by DiClemente et al. also suggested that brief interventions (i.e., fewer or shorter sessions) for tobacco use were at least as effective (and oftentimes significantly more so) than longer treatments (risk ratio [RR] = 1.26–1.69 and RR = 1.20, respectively). Brief interventions for

marijuana use were generally more effective as compared to no treatment but not as compared to more intensive active treatments.

Evidence does not universally support the use of MI for treating all substance use problems. DiClemente et al.'s (2017) review of reviews found substantial evidence that MI-type interventions were not more effective than inactive treatment for cocaine/psychostimulant use, and there were no systematic reviews of MI interventions for methamphetamine or opioid use. One meta-analysis (Yakovenko et al., 2015) reviewed by DiClemente et al. provided some support that brief MI was effective for small reductions in gambling frequency (weighted mean difference [WMD] = -1.30 days per month). Yakovenko et al. (2015) also noted that few reviews discussed the issue of fidelity to MI, and many included studies with combinations of MI and CBT that were not assessed separately from more “pure” MI interventions. DiClemente et al. noted that making conclusions about the overall effectiveness of MI was challenging due to the diversity of outcome variables measured in the research they reviewed. DiClemente et al. suggested measuring more immediate behavioral effects, such as commitment, planning, and decision-making, to define more temporally proximal mechanisms of MI. Additionally, MI appears to vary in effectiveness across demographic groups (e.g., pregnant women versus other adults using tobacco, individuals with severe substance use disorders) and substances (e.g., cocaine/crack cocaine versus alcohol), and thus more specific analyses of subgroups is necessary to establish the appropriateness of this technique at different intersections of population and behavior.

Adolescents

Three meta-analyses in the field of substance use and addiction have summarized research on the use of MI with youth. Two of these studied interventions by target behavior

(Grimshaw & Stanton, 2006) and broad intervention format (Tait & Hulse, 2003) rather than specific psychotherapeutic technique. Tait and Hulse conducted a systematic search of the literature on brief interventions (i.e., 1–4 sessions) for adolescent alcohol, tobacco, and other drug use, and found seven studies of interventions for alcohol use and four studies of interventions for other substances (two for cigarette smoking and two for polysubstance use). Participants included in these studies had a mean age of less than 20 years. Eight of the studies used MI, and the other three studies provided personalized health information; results indicated that brief intervention had a small effect on adolescent alcohol consumption ($N = 1,075$, $d = 0.275$), a very small effect on cigarette smoking ($N = 2,626$, $d = 0.037$), and a large effect but with fewer individuals on polysubstance use ($N = 110$, $d = 0.78$). The effects of MI interventions separately from other brief intervention techniques were not separately calculated, warranting further research on the effectiveness of this intervention component. Grimshaw and Stanton (2006) reviewed 15 studies published between 1978 and 2005 relating to tobacco cessation interventions for youth under the age of 20 years, including randomized controlled trials, cluster-randomized controlled trials, and controlled trials (i.e., studies that did not use random assignment, but evaluated baseline characteristics to determine comparability). A pooled odds ratio was calculated based on quit rates at the longest follow-up to estimate the effects of interventions with at least six months of follow-up from the beginning of intervention. Three of these studies used MI components, and their pooled odds ratio (2.05) was statistically significant and positive, meaning that the odds of quitting was twice as high for individuals in interventions using MI, although none were effective at six months or longer over a control group. However, Grimshaw and Stanton noted that MI was only one component of the three studies that they identified that used MI components, thus it was not possible to distinguish the effects of MI from

other aspects of the intervention. Tait and Hulse (2003) and Grimshaw and Stanton's (2006) work suggests that MI has frequently been used with adolescents and young adults, often in adapted or manualized formats. Neither of these studies provides evidence of MI's effectiveness apart from other components of interventions targeting adolescent alcohol and other substance use due to the dearth of research isolating this specific component. Therefore, it is necessary to study MI-specific effects of interventions that include MI components.

Jensen et al. (2011) conducted a third meta-analysis that examined intervention-specific analyses of studies that reported the use of MI to effect change in the substance use behaviors of youth. Their search identified 21 studies that included interventions with a control condition and with participants under 21 years old. Thirteen of the studies consisted of a brief intervention consisting of only one session, such as in an emergency department or a doctor's office. Interventionists included public health workers, addiction counselors, youth workers, and other interventionists with bachelor's, master's, and Ph.D.-level qualifications. Primary clinicians had graduate training (master's or higher) in only five of 21 studies (24%). Additionally, participants in most studies (17 of 21, or 81%) were youth who were not diagnosed with substance use disorders and thus were not in treatment. Overall, pooled effect sizes revealed that these interventions achieved small but significant reductions in substance use ($d = 0.173$), and studies targeting smoking specifically had the largest effects ($d = 0.32$). Jensen et al. reported that studies with follow-up less than six months had a greater effect size ($d = 0.32$) than those with follow-up greater than six months post-intervention ($d = 0.13$), and that both were significant, suggesting motivational interviewing for adolescent substance use had small but enduring effects. This study also indicated that training in MI within brief interventions may be appropriate for individuals who do not have advanced training in counseling or clinical

psychology, as most interventionists were not trained at the graduate level. Jensen et al. recommended that future researchers attend to evaluating fidelity to MI technique, as only five of the studies they analyzed included fidelity information. However, their findings suggest that considering individuals who are not counseling professionals but who have frequent contact with youth may be worth additional investigation.

Evidence on MI for Other Behaviors

Adults

MI has also been used in treatment for adult exercise and diet, weight loss, and treatment adherence with small to moderate effects. O'Halloran et al. (2014) reviewed randomized controlled trials of MI interventions to increase the physical activity of adults with chronic health conditions and found small effects of MI (SMD = 0.19) across 11 studies examining physical activity, cardiorespiratory fitness, and/or functional exercise capacity. Studies that verified treatment fidelity produced a larger pooled effect size (SMD = 0.30) than the combined sample of studies, potentially indicating a higher quality of treatment where verification occurred (O'Halloran et al., 2014). In a meta-analysis of MI delivered in primary care settings, VanBuskirk and Wetherell (2014) found significant, although small, effects for adherence outcomes (mean effect size [ES] = 0.19) and combined behavioral outcomes including blood pressure, substance use, body weight, physical activity, and treatment adherence (ES = 0.18) across 12 studies.

MI may also be applied in cases where clients struggle with treatment adherence. Continued attendance at sessions and follow-through with components, such as taking medication or implementing strategies at home, is key to receiving benefit from a treatment and requires client motivation. Wong-Anuchit et al. (2018) conducted a meta-analysis of studies of

MI-based compliance/adherence therapy (CAT) interventions for adult individuals with severe mental illness to synthesize the effectiveness of this technique on psychiatric symptoms (as a proxy for compliance/adherence). MI-based CAT interventions target adherence to prescribed antipsychotic medications and increasing help-seeking and self-care behaviors using an MI framework combined with CBT and psychoeducation. Wong-Anuchit et al.'s literature search identified a total of 1,267 patients from 16 eligible studies conducted in Europe, North America, Asia, Australia, and the Middle East and constituted evidence of moderate effects of MI-based CAT on psychiatric symptoms ($g = 0.45$). Moderator analyses of study characteristics revealed significantly larger effect sizes for studies conducted in Western countries (i.e., Europe, North America, or Australia), studies where patients were younger, and where treatment dosage was greater. Effect sizes were also larger in studies where data collectors were not blinded to treatment condition than those where they were. Although this analysis did not disentangle the effects of the MI features of MI-based CAT from the effects of the cognitive-behavioral therapy or psychoeducational components, these results provide support for a widely used adaptation of MI that addresses behaviors other than substance use. The moderator analyses conducted by Wong-Anuchit and colleagues suggested that although MI is often delivered in brief formats, individuals with serious mental health symptoms and related problems benefit from more prolonged intervention as these difficulties often become more intractable as individuals grow older. These results also indicate that mechanisms of MI-based interventions should be studied in specific subgroups to tailor this method more effectively to local settings by using research methods that minimize bias (e.g., blinded data collectors). This evidence may also provide support for the use of MI-based CAT for younger populations for compliance and adherence behaviors around education (e.g., attendance, homework completion).

Adolescents

MI has also been used for adolescent behaviors beyond substance use. Cushing et al. (2014) extended research on MI for adolescent (12–21 years of age) behavior by conducting a meta-analysis of studies that evaluated MI compared to a control condition for adolescent health behaviors other than substance use. These authors utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009) to demonstrate how they arrived at the final 15 studies included in the review, which included target behaviors that were known to impact health risk, such as diet, exercise, and safe sexual practices (Cushing et al., 2014). The overall effect size was significant and positive, although small ($g = 0.16$), and effect sizes did not vary significantly. Similar to Jensen et al. (2011), Cushing et al. noted that the few studies that provided information on MI implementer training and MI implementation suggested that training experiences and fidelity monitoring were highly variable, implicating the importance of reporting this information in future research.

MI in Educational Settings

Frey and colleagues (2011) noted the potential of MI to improve tiered systems of support in schools by outlining four school-based interventions that incorporated MI with parents and teachers and by describing the possibility of MI to enhance the fidelity of existing interventions with parents, teachers, and youth. New approaches targeting motivation included the (a) Participation Enhancement Intervention (PEI; Nock & Kazdin, 2005), (b) Ecological Approach to Family Interventions and Treatment model (EcoFIT; Dishion & Stormshak, 2007), (c) Family Check-Up (FCU; Stormshak et al., 2010), (d) Classroom Check-Up (CCU; Reinke et al., 2008), and (e) First Step (Frey et al., 2011), which incorporates the FCU, the CCU, and the wraparound planning process (Burns & Hoagwood, 2002) with First Step to Success (Walker et

al., 1997). MI may also be useful in conversations with teachers and parents (i.e., consultation or indirect service) delivering behavior intervention and treatment plans, as these adults are the gatekeepers of treatment for children and youth and often face barriers to implementing treatment with fidelity (Frey et al., 2011; Herman et al., 2014). Frey and colleagues called for research on (a) instructional programs for school mental health professionals to learn MI skills, (b) adding motivational components to improve the fidelity of existing interventions, and (c) systematic study of the barriers and facilitators to implementing MI in school contexts. Frey et al. emphasized the importance of instructional programs for school mental health professionals by noting that no research at that time had examined the training needs of professionals in educational settings who implement interventions but do not have mental health backgrounds (e.g., after-school staff, behavior education assistants).

Jones and Atkinson (2021) reported the results of an empirical, qualitative investigation of integrating MI into consultation-based consultation. The aim of the study was to explore (a) the extent to which educational psychologists (EPs) were able to integrate MI within their school-based consultation practice and (b) what EPs perceived as the benefits and limitations of using MI within school-based consultation. Jones and Atkinson recruited four EPs in the United Kingdom based on practitioner self-report of previous MI training, although only three remained in the study throughout data collection procedures. Final participants included two female and one male doctoral-level EPs. These participants had varying levels of MI training prior to the study: two out of three had received MI training in their doctoral programs, and one had completed their doctoral thesis on MI in schools. All three had been practicing for less than three years, and all rated their self-confidence in MI skills as higher when working with children and adolescents directly than when using MI in consultative practice. As part of the study,

participants (a) completed an online booster training in MI, (b) engaged in consultation with school professionals over the course of seven months using a three-step MI protocol and engaged in three individual supervision sessions with the first author, and (c) engaged in one semi-structured interview with the researchers after consultations were completed. Jones and Atkinson analyzed the transcribed interview recordings using the thematic analysis process outlined by Braun and Clarke (2019) and supplemented these data with researcher notes from throughout the study.

Jones and Atkinson (2021) identified four themes that spanned both the benefits and challenges of using MI within consultative practice that emerged from analysis of these qualitative data. First, participants felt that MI worked and made sense within consultations and for the most part helped consultees feel listened to. Second, participants noted that integrating MI into their consultations was harder than they anticipated. Within this theme, they expressed doubt about both their MI skills and their consultation skills. Additionally, participants felt that applying MI and the MI processes were difficult within a consultation framework, which is more expert driven in some school settings. The third and fourth themes were comprised of statements about facilitators and barriers to using MI in consultation. Facilitators included already having a basic level of MI skills, using the MI protocols to structure conversations, and the self-reflection and confidence engendered by the training and supervision provided in the study. Barriers to using MI in consultation included large workloads, time required to implement MI, their own skills, and systemic barriers, such as lack of long-term relationships, with consultees. Jones and Atkinson noted implications of these findings for practice and research, including the need for improved systems of support for MI skill development within consultation (e.g., ongoing training

and supervision), and the development of a defined structure for implementing MI in consultation.

Motivational interviewing is also appropriate for conversations with youth (i.e., direct service) whose behavior is discrepant from their values and goals, and most research on MI in educational settings examines direct interventions with youth. Evidence of interest in applications of MI in school settings and with young adult populations can also be found in several publications that have outlined applications of MI with adolescents and young adult populations (e.g., Naar-King & Suarez, 2011) and applications of MI in school settings (e.g., Herman et al., 2014; Rollnick et al., 2016). Naar-King and Suarez (2011) suggested that MI is an especially important technique for working with adolescents and young adults because it supports the development of emotional and behavioral autonomy. As in MI-based interventions with adults, MI may also be embedded within other frequently used interventions for youth, such as brief interventions and cognitive-behavioral therapy (Naar-King & Suarez, 2011).

Snape and Atkinson (2016) published the most recent review of student-focused MI in educational settings (i.e., school-based MI) to date. These authors completed a literature search and screening of relevant databases, journals, and article reference lists for articles that included all the following characteristics: (a) participants were ages 5–21 years old, (b) interventions that were implemented in an educational setting, (c) interventions that were based on MI technique, (d) were empirical (qualitative or quantitative), (e) were articles written in English, and (f) were published in a peer reviewed journal. Studies were coded for quality based on a framework developed by Bond et al. (2013) for a systematic review of literature on solution-focused brief therapy. A literature search yielded 11 total articles (out of 539 screened), eight of which the authors judged to be high-quality evidence based on being rated at least of medium quality in

both evidence and methodological domains. These eight studies included randomized controlled studies (3), case studies (3), quasi-experimental studies (1), and mixed methods designs (1), all published between 2003 and 2015 and conducted in the United States ($n = 4$) and the United Kingdom ($n = 4$). Participants (total n ranging from one to 135 students) were middle and high school students, except in Cryer and Atkinson (2015), in which the single participant was elementary-aged.

The best evidence studies collected by Snape and Atkinson (2016) reflected a range of target student outcomes (e.g., academic performance, school-based motivation), intervention dosages (1–10 sessions), practitioner-implementers (e.g., special education teachers, school psychology interns, attendance officers, career counselors), and implementer training in MI (range from 90 min to 8 hr). In five of eight studies, the intervention was manualized, and six of the eight studies monitored implementation fidelity using fidelity checklists with or without observations. Seven of eight studies reported positive results of MI, and one study reported mixed results. Three randomized controlled trials reported small effect sizes on several outcomes, including participation ($d = 0.32$; Strait et al., 2012), overall behavior ($d = 0.38$; Strait et al., 2012), math grades ($d = 0.36$ – 0.55 ; Strait et al., 2012; Terry et al., 2013, 2014), history ($d = 0.47$; Terry et al., 2014), and science grades ($d = 0.58$; Terry et al., 2014). Snape and Atkinson noted that all the best evidence studies used an adapted version of MI or incorporated additional components for the purpose of structuring the process for non-specialist use, and that these interventions may have been more accurately termed *Adaptations of Motivational Interviewing*. Thus, it was unclear whether these adapted versions had the same effect as true MI or whether non-specialist practitioners were equally effective implementers. Consequently, further study is necessary to disentangle the effects of implementer qualifications and adaptations of MI. Snape

and Atkinson also recommended using mixed methods (i.e., qualitative and quantitative approaches) to triangulate results.

Since Snape and Atkinson's (2016) review, other research has examined adaptations of MI with students at risk of high-school dropout (Iachini et al., 2016) and high achieving students (Suldo et al., 2021). Iachini and colleagues used a mixed-methods approach to describe the acceptability and feasibility of Aspire, an MI-based early intervention program designed to prevent high school dropout and increase school-related skills among students repeating ninth grade. Aspire is a nine-lesson structured curriculum based on self-determination theory (SDT; Ryan & Deci, 2000) that posits that people have three underlying psychological needs (i.e., competence, relatedness, and autonomy) and that people have enhanced motivation and well-being when these needs are satisfied. Within Aspire, SDT functions as a guiding framework for implementing MI. Participants were 13 students who were 61.5% Black/African American, 21.3% mixed race, and 15.4% White and whose ages ranged from 15 to 17 years from three high schools in an urban school district of the southeastern United States. Interventionists were three female social work trainees and graduate students who received intensive MI training, including five 3 hr workshops, a 1 hr group MI discussion, and two individualized coaching sessions with a standardized client. Iachini et al. measured the acceptability of Aspire through surveys completed by students that asked about their relationship with the interventionist and their satisfaction with the program after completing the program. Feasibility and acceptability were also measured through a 1 hr focus group conducted by the researcher with the three interventionists. Implementation fidelity was monitored by interventionists who completed a checklist about which activities they had completed in each session. This implementation data showed that only three of 13 students received all nine lessons. Other students did not complete the intervention

due to expulsion (three students), dropout (one student), and others (six students) who enrolled late, were absent from school, had inconvenient class schedules, or faced disciplinary action.

Iachini et al. (2016) transcribed and conducted thematic analysis of interventionists' responses in the focus groups, which highlighted facilitators and barriers in delivering Aspire. Interventionists reported that the flexibility of the curriculum allowed for clinical decision-making and facilitated individualized intervention delivery. Interventionists also described the limited time they had with participants due to absences, discipline, and class schedules as a main barrier to implementation. All three interventionists noted that MI was helpful for working with students repeating ninth grade and that students responded well to MI (e.g., students seemed to feel more autonomous and understood). Quantitative data from surveys completed by nine students showed that students were satisfied with the program (ranging from *somewhat satisfied* to *extremely satisfied*) and that they perceived the relationship with their provider favorably as measured by the Social Worker Student-Alliance Scale (range of item means = 4.33–4.89 out of five). Students also described learning organizational and study skills, communication, and behavioral control in the Aspire program, which helped them succeed at school. This study had a small sample and high attrition, but results suggested that MI is an acceptable and feasible approach for school-based social work practitioners working with adolescents.

Suldo et al., (2021) also used a mixed-methods approach to examine the applicability and acceptability of Motivation, Assessment, and Planning (MAP), an MI-based intervention for students taking accelerated coursework (i.e., Advanced Placement and International Baccalaureate classes). The MAP intervention is a brief Tier 2 (i.e., selective) intervention developed to align with the Tier 1 (i.e., universal/primary prevention) Advanced Coping and Engagement (ACE) program (Shaunessy-Dedrick et al., 2021), which is a 12-session social-

emotional learning curriculum for students in advanced coursework programs designed to build student resilience and skills for responding to academic stressors. Within this model, students are identified for MAP participation through a mid-year screening for low GPA and emotional challenges. The MAP protocol includes a pre-assessment and two individualized meetings, where interventionists go through the MI processes of engaging, focusing, evoking, and planning with students. Meetings are designed to fit within a 50 min class period. Participants were 121 students participating in ACE who were identified with academic and/or emotional risk at the mid-year screening. To decrease the stigma of participating in the program, six peer leaders were also invited through teacher recommendation, and all six participated in the study. Twelve school mental health providers (seven school psychologists and five school counselors) were recruited to participate in surveys and individual interviews to gain information about their perceptions of MAP; although these mental health providers did not implement the intervention, they were the intended end users. There were seven coaches (i.e., interventionists) who were faculty, postdoctoral fellows, or doctoral students in a school psychology doctoral program. All were female and identified as White (71.4%) and Asian (28.6%). Coaches completed MI training through the Motivational Interviewing Training and Assessment System (Frey et al., 2017), which is described in a later section of the present research. Implementation fidelity of MAP was assessed by coding audio transcripts of Meeting 1 and Meeting 2 and mean fidelity was 97% ($SD = 4\%$) for both meetings.

Quantitative and qualitative data provided by student participants and school mental health providers showed that MAP was perceived as useful and helpful by interventionists and student recipients. Applicability was measured by data collected by coaches that included attendance and session information (e.g., duration, target selected by student) and documentation

of referral for more intensive supports. The most selected change target was time and task management ($n = 35$ in Meeting 1, $n = 22$ in Meeting 2); most students who attended Meeting 2 (81.6%) reported completing at least one step in their action plan. Sixteen students (14.8% of those indicated for MAP) were referred for further support during Meeting 2 primarily due to high levels of perceived stress (13 of 16 students).

Acceptability was rated quantitatively and qualitatively by students, coaches, and school mental health providers. Mean applicability ratings among each group ranged from 4.28 ($SD = 0.61$, coach rating of MAP Meeting 2) to 4.54 ($SD = 0.41$, student rating of MAP Meeting 1) on a five-point scale with higher scores indicating greater applicability. Narrative responses were coded and categorized, yielding information about what students, coaches, and school mental health providers found most important about the intervention. Students felt that the planning segments of Meeting 1 and Meeting 2 was most helpful for their progress, but comments also reflected overall positivity regarding the intervention. Coaches valued student readiness to change and the engaging portion of Meeting 2. School mental health providers noted that MAP would be useful for targeting early signs of internalizing symptoms and prevent later problems from arising. School mental health providers noted that facilitators of MAP included the fact that it is student-led, solutions-focused, and structured using a clear protocol. School mental health providers viewed MI as useful and expressed interest in learning MI skills; however, they perceived that time for adequate training would be necessary to become proficient with the skills and MAP protocol. Students, coaches, and school mental health providers noted that time was a barrier to implementing MAP. Students preferred for Meeting 1 to be shorter, coaches noted that it was difficult to implement the protocol within the time they had, and school mental health

providers reported that the biggest barrier they perceived related to MAP was a lack of time to implement the entire protocol.

Suldo and colleagues' (2021) investigation of MAP indicated that a brief MI-based intervention may be broadly applicable and acceptable by school mental health providers and by adolescents enrolled in advanced coursework. Additionally, this research demonstrated the utility of an MI intervention at the Tier 2 level in conjunction with universal social-emotional screening. Suldo et al. suggested that further research should examine student outcomes with random assignment to the MAP intervention or business as usual condition and the degree to which student progress varies with practitioner factors such as MI training, proficiency, and implementation fidelity.

Factors Influencing Effectiveness of MI

Evidence in the area of differential effectiveness of MI suggests that it is more effective when compared to no-treatment, placebo, or standard procedure conditions than when compared to an active treatment condition. Apodaca and Longabaugh (2009) reviewed studies examining mechanisms of change in MI for substance use outcomes. Their literature search yielded 19 studies published between 1993 and 2007. Mean weighted effect sizes showed that MI had very small effects when compared to active treatment ($r = 0.06$), as opposed to when compared to no control ($r = 0.23$), minimal treatment and placebo conditions ($r = 0.32$), and standard care ($r = 0.36$). Lundahl et al. (2010) conducted a meta-analysis investigating the contributions of MI in both substance use and health-related behavior outcomes and found that MI produced small but significant effects ($g = 0.28$); however, effects were not significant when MI was compared to a specific treatment (i.e., 12-step facilitation or cognitive behavioral therapy; $g = 0.09$). The fact that MI typically did not outperform other evidence-based treatments suggests that the active

ingredients of MI and other techniques may be similar and that further research should investigate settings, behaviors, and patient populations where MI is more cost-effective and efficacious than other available treatments.

Effectiveness may also be influenced by site or institutional characteristics (Ball et al., 2007) and therapist characteristics (Project MATCH Research Group, 1998). For example, a multisite comparison of counseling as usual and MET for alcohol and drug problems found that MET was not significantly more effective than counseling as usual in reducing substance use during the four-week treatment period, although significant reductions were sustained in 12-week follow-up in the MET condition; conversely, substance use increased to baseline levels for patients in counseling as usual. However, Ball et al. found that program site significantly predicted patient outcomes and accounted for more variance (20% including program site and Program Site x Therapy Condition) in percentage of days with a positive urine drug sample in the four-week treatment period and days enrolled in treatment relative to therapy condition or therapist. This suggests that programmatic features outside of what patients experience in treatment sessions influence patient outcomes.

The Project MATCH Research Group (1998) found that therapist attributes are also related to client behavioral outcomes. These researchers compared the effectiveness of cognitive-behavioral skills training, MET, and 12-step facilitation (all manualized) for the treatment of alcohol problems in a multi-site randomized controlled trial. Patients were randomly assigned to treatment condition but not therapist. This study (total patient $N = 1,726$, total therapist $N = 54$) found that client percent of days abstinence from alcohol was partially correlated ($r > 0.20$) with therapist characteristics in the MET condition at inpatient aftercare sites, but not outpatient sites. Client abstinence was significantly and positively correlated with therapist need for nurturance (r

= 0.23) and significantly negatively correlated with therapist need for aggression ($r = -0.21$) during treatment in the MET condition after inpatient care. In follow-up ranging from 4 to 15 months, patients in the MET condition were more likely to drink less ($r = -0.26$) when their therapist had a lower masculinity rating on the Personality Attributes Questionnaire (Spence et al., 1974). There were no significant therapist effects in the MET condition for client treatment retention. However, in the 12-step facilitation condition many more therapist attributes were related to client outcomes both during and after treatment and in both arms of the study (outpatient and aftercare), and in the CBT condition no therapist attributes were related to client outcomes in outpatient or aftercare nor during or after treatment. To further investigate the role of therapist factors in MI treatment, future research should provide details about therapist characteristics and skills before, during, and after treatment to help elucidate what therapist characteristics facilitate client change.

Characteristics of MI delivery, such as manualized versus non-manualized protocol, and training of interventionists may also be responsible for variable outcomes. Hettema et al. (2005) conducted a meta-analysis of MI treatment studies and found that among the delivery characteristics (i.e., use of a manual, MI duration, purity, counselor training, and post-training support) that they examined across studies, only use of a manual was significantly associated with client outcomes, such that studies where therapists *did not* use a manual were associated with larger effect sizes (combined effect size [d_c] = 0.62) than those where therapists did ($d_c = 0.37$), although they found no studies directly comparing these two conditions. Hettema et al. (2005) also referred to Amrhein et al.'s (2003) psycholinguistic research that suggested that manualized MI containing a planning step might be inappropriate for clients not yet ready for change. Conversely, researchers have also used manualization as a quality indicator. In a review

of MI interventions for adolescent substance abuse, Barnett et al. (2012) classified studies according to a continuous measure of quality that was a sum of (a) the use of a manual to guide treatment, (b) training and supervision of interventionists, and (c) MI fidelity measurement. In the 39 included studies, only three included all three indicators, and Barnett et al. (2012) found that a greater number of quality indicators was not related to positive substance use outcomes. In the most recent version of MI, Miller and Rollnick (2013) cautioned against the use of manuals to circumvent practitioner inexperience and advocated for (a) intervention flexibility according to client needs and (b) effective training and supervision for practitioners.

Research reviews have also investigated whether MI is effective for adults of different ethnic backgrounds and whether cultural adaptations of MI are effective for racial/ethnic minorities (REM; Bahafzallah et al., 2019; Oh & Lee, 2016). Bahafzallah et al. (2019) conducted a narrative systematic review of peer-reviewed research published through February 2019 to determine the utility of MI within ethnic populations. Inclusion criteria for participants were studies that (a) included participants ages 18 years old or older, (b) conducted analyses specific to one or more ethnicities relevant to the Canadian population, and (c) included participants presenting with health concerns. Inclusion criteria for interventions were those that described brief MI, MET, and other motivational interventions using MI principles and skills; studies where MI was not the primary treatment were excluded. Of 432 full-text articles assessed for eligibility, the authors included 47 in the final review. Bahafzallah et al. used the Mixed Methods Appraisal Tool (MMAT; Pace et al., 2012) to rate the quality of studies. Ratings on the MMAT range from 1 star (*poor*) to 4 stars (*excellent*). The modal MMAT rating was 2 stars, with lower ratings largely due to lack of detail about the study design (including lack of detail about

interventionist training and treatment fidelity, as well as how interventions were culturally adapted).

Bahafzallah et al. (2019) compared the effectiveness of MI by ethnic group and found that MI was effective in reducing risk behavior or improving health indicators for Hispanic, Iranian, and First Nation/Native American patients. However, for African, African American, and Asian patients there were more mixed results as five studies found that MI was not effective for African American patients and three studies found that MI was not effective for Asian patients. In one study, researchers found that MI was not only ineffective but led to increased anxiety among cardiac patients who identified as Asian (Chair et al., 2011). Some studies explicitly asked participants about their experience with MI, and although African American and Iranian participants in three studies reported that it was largely helpful, two studies reported findings that African American participants preferred a more physician-led approach (Longshore et al., 1999; Miller et al., 2010). In most studies (39 of 43 studies) in which MI was effective for participants, interventions acknowledged participants' culture and were culturally adapted or modified. Examples of cultural adaptations included holding the intervention in familiar places, having a traditional meal during the therapy meetings, and having interventionists who spoke the same language or were from the same ethnic background as the participant. Bahafzallah et al. neither quantitatively compared the effect sizes of included studies, nor reported the number of studies in which interventions were culturally adapted but were not found to be effective for patients. However, this review suggested that acknowledging culture and patient preferences and modifying interventions to account for these factors play a role in effective intervention using MI.

Some evidence suggests that therapist behaviors and patient identity characteristics may also interact during MI interventions. Feldstein Ewing et al. (2015) found that in a trial of manualized MI (Feldstein Ewing et al., 2008) compared with an educational condition, therapists used fewer MI skills with Hispanic youth in both study conditions. Participants were 80 justice-involved adolescents (mean age = 16) who used substances (alcohol and/or marijuana). Participants also identified as 65% male, 59% Hispanic, and 41% non-Hispanic. Only one therapist in the study identified as Hispanic. Therapist MI implementation was measured using the Motivational Interviewing Treatment Integrity system (MITI 3.1.1; Moyers et al., 2010). Overall, therapists demonstrated significantly lower MI spirit, Autonomy support, and complex reflections with Hispanic youth than with non-Hispanic youth, which was indirectly associated with less favorable alcohol-related outcomes (problems with family, school, or work). However, level of therapist MI skill was not related to the substance use outcomes days of binge drinking, cannabis use days, or marijuana-related problems. This study suggests that research should examine not only therapist MI skills, but also client speech and behavior during MI interventions to determine how individuals of different backgrounds respond to MI, and further examine how therapists' differential implementation of MI across individuals relates to treatment outcomes.

Mechanisms of MI

MI process research has illuminated mechanisms of action within the MI technique that can assist researchers and practitioners in targeting investigations and applications of this method. Miller and Rollnick (2013) stressed three important factors in the effective delivery of MI, including (a) therapist empathy, (b) avoiding MI inconsistent responses (e.g., confrontive and directive speech), and (c) fidelity of implementation as measured both by therapist adherence to MI and client responses. Miller and Rollnick further suggested that therapist empathy is a key

factor in client outcomes and that an approach consistent with MI is also an empathic approach. Evidence suggests that therapist responses that are consistent with MI produce more client change-talk than those that are not but results regarding the pathway from client in-session language to behavior change are less conclusive. Using a repeated-measure, reversal design (ABAB), Glynn and Moyers (2010) compared the frequency of client change talk in two conditions: one where the clinician focused on evoking change talk, and another where the clinician completed functional analysis of drinking behavior by asking questions about the antecedents and consequences clients' drinking. Clients were undergraduate volunteers who were concerned about their drinking. Audio recordings were coded by trained undergraduate research assistants using the Motivational Interviewing Skills Coding System 1.1 (MISC 1.1; Glynn & Moyers, 2009). The MISC 1.1 quantifies instances of client change talk and counter-change talk during each stage of a session but does not measure clinician behavior. Using a paired-samples *t* test to compare client change talk in the two conditions, Glynn and Moyers (2010) found that clients in the change talk (or MI) condition demonstrated significantly more change talk than those in the functional analysis condition (64% versus 51%, $d = 1.19$). Individual clinicians also evoked significantly different amounts of change talk ($F [8, 37] = 3.948, p = .002$), ranging from 49% to 73%. Glynn and Moyers concluded that clinicians who are given instructions about how to respond to client change talk can influence clients' change-oriented verbal behavior regarding alcohol use. These authors suggested that their findings provide evidence that clinician responses evocative of change talk strengthen change talk and represent a mechanism of change in MI technique, but that connection is weakened by the lack of direct observation of clinician behavior in this study. Consequently, studies which include

direct assessment of clinician in-session language will provide stronger evidence of a possible link between clinician and client verbal behavior.

Miller and Rollnick (2013) described MI influencing behavioral outcomes through a two-part process: (a) therapist technique consistent with MI predicts client in-session change talk, and (b) client change talk predicts client behavior change. Magill et al. (2018) conducted a meta-analysis of MI process research to investigate the “a-path” (i.e., therapist MI technique predicts client change-talk) and “b-path” (i.e., client change talk predicts behavior change). Magill et al. identified 58 published reports of 36 studies that included 3,025 participants who were at least 14 years old and included substance use and other behavioral outcomes. The hypothesis that therapists’ MI-consistent skill leads to client change language was supported (inverse-variance weighted, pooled correlation coefficient [r] = 0.55) and MI-inconsistent therapist skill was negatively related to change talk ($r = -0.06$), although not significantly so. However, MI-consistent skills were also significantly related to sustain talk ($r = 0.40$). MI-consistent skills and complex reflections were positively related to proportion change talk ($r = 0.11$ and $r = 0.05$ respectively), although the ratio of therapist reflections to questions was not. These findings suggest that client sustain talk occurs even when therapists use MI with fidelity and that practitioners should provide particular attention to developing the ability to use complex reflections in addition to overall MI-consistent technique.

The *b* path hypothesis (i.e., client change language predicts behavior change) was only partially supported as change talk was not significantly associated with reduced target behaviors, but sustain talk was significantly associated with worse target behavior outcomes ($r = 0.19$; Magill et al., 2018). Proportion change talk also was significantly negatively related to reduced problem behavior ($r = -0.16$). Magill et al. also examined interpersonal (i.e., therapist empathy

and MI Spirit) and intrapersonal (i.e., client treatment-seeking status) factors as moderators of *a* and *b* path effects and found that therapist MI empathy and MI Spirit did not moderate *a* path effects, nor did client treatment-seeking moderate the relationship between change talk and behavior outcomes. However, in this sample of studies, therapist skill was generally high, and Magill et al. recommended testing these relational hypotheses in community settings where therapist skill is more variable, as well as examining other potential intrapersonal variables that could moderate the link between change talk and outcome behaviors. This evidence supports Miller and Rollnick's (2013) recommendation to avoid MI-inconsistent responses, although connections between therapist empathy, client differences, and client outcomes are thus far unsupported.

Because of the connection between therapist level of MI skill and client language and outcomes, it is important for studies examining the effectiveness of MI to measure and report MI treatment fidelity. For example, of the 38 reviews included in DiClemente et al.'s (2017) qualitative synthesis, only 10 review articles (26%) reported on treatment fidelity measures in included studies. Despite the wealth of research on motivational interviewing and motivational interventions, few studies report adequate treatment integrity data for independent assessment of effectiveness. Future research should assess treatment fidelity to understand what components of MI are successful for specific client challenges.

Frey et al. (2020) proposed the mechanisms of motivational interviewing (MMI) conceptual framework to link MI training to client outcomes using empirical research. Frey et al. built upon Miller and Rose's (2009) theoretical description of the relational and technical components of MI and Magill et al.'s (2014) description of paths *a* and *b* that eventually lead to client behavior change—one between practitioner use of MI and client change talk, and one

between client change talk and client behavior change. The MMI expands on these models by adding in stages of training and MI competence as steps that eventually lead to effects for clients. Thus, the MMI proposed four pathways: (a) initial MI training leads to MI fidelity in simulation (i.e., competence), (b) competence leads to MI fidelity in practice (i.e., proficiency), (c) proficiency leads to client talk about change (i.e., Magill et al.'s "path a"), and (d) client talk about change leads to behavior change (i.e., "path b"). Furthermore, Frey et al. drew from Bennet-Levy's (2006) model of skill development and acquisition that theorized three different systems are involved in learning new skills: declarative, procedural, and reflective. Bennet-Levy (2006) described (a) declarative or factual knowledge that can be gained through didactic training methods, (b) procedural skills that are acquired through practice, and (c) reflection, which is ongoing and allows the practitioner to understand factors that influence the usefulness of their skills. Frey et al. proposed that the technical and relational components of MI, as well as MI-inconsistent behavior, are empirically validated aspects of MI fidelity that are developed through initial training (i.e., declarative knowledge acquisition), as well as ongoing practice and application (i.e., procedural and reflective skill development). Although Frey et al. did not conduct a systematic review, they reviewed empirical support for three of the four links in the MMI—all except for Link 2 (i.e., between competence and proficiency), noting that at the time of their writing, there were no published studies linking aspects of MI fidelity (i.e., technical, relational, and MI-inconsistent behavior) in simulated settings/initial training to corresponding use during applied practice.

Frey et al. (2020) noted several important implications for research and practice and also included a review of published measures that support analysis of each link in the MMI framework. Competence in initial training may be measured through practice with hypothetical

scenarios such as those found in the HRQ (Miller et al., 1991) and the Video Assessment of Simulated Encounters, Revised Version (VASE-R; Rosengren et al., 2008), as well as versions of these measures adapted for use in school settings, including the Written Assessment of Simulated Encounters-School Based Applications (WASE-SBA; Lee et al., 2013b) and the Video Assessment of Simulated Encounters-School Based Applications (VASE-SBA; Lee et al., 2013a). The WASE-SBA and VASE-SBA are described in subsequent sections of this work pertaining to MI training in educational settings. The Motivational Interviewing Treatment Integrity Coding Manual 4.2 (Moyers et al., 2014) and the MISC 2.5 (Houck et al., 2011) can be used to measure both relational and technical components of MI fidelity in initial training and beyond, and the MISC 2.5 offers the ability to describe both practitioner and client speech.

The MMI has several implications for practice and research. Frey et al. (2020) noted that the evidence supporting the link between MI training and competence indicates that practitioners must engage in training strategies beyond didactic workshops—such as coaching and supervision—to become competent and eventually proficient in MI. The empirical evidence supporting Links 3 and 4 of the MMI (i.e., the influence of MI to client change talk, and in turn, on behavioral outcomes) suggests that MI should attend not only to MI-consistent practices, but also to decreasing MI-inconsistent practices such as persuading and confronting. Frey et al. suggested defining MI-inconsistent behaviors in training and addressing them when they come up in observed practice. The MMI also highlights the empirical evidence for the technical aspects of MI (i.e., using core MI skills and processes purposefully to influence client change talk), indicating the importance of training practitioners to recognize and respond to change and sustain talk. For practitioners, evidence suggests that the effectiveness of MI hinges on decreasing sustain talk and helping clients resolve ambivalence about change.

Frey et al. (2020) called for additional research examining the links described in the MMI within different practice settings (e.g., education, child welfare) and the development of more efficient and flexible tools to measure MI fidelity and client behavior. Frey et al. noted that most of the evidence supporting the MMI came from the field of addiction treatment and thus it is necessary to identify how MI works within different contexts where client and practitioner characteristics and contextual factors differ in meaningful ways. Additionally, they noted that it is crucial to develop and evaluate more efficient, updated, and context-appropriate tools to measure MI fidelity. This is necessary both for training practitioners and for investigating the mechanisms by which MI works (or does not work) in diverse practice sectors. Finally, Frey et al. noted that in the development of new and updated fidelity measurement tools, it is necessary to validate the clinical proficiency standards outlined by MI experts who developed the MITI and the MISC by investigating the relationship between fidelity to MI at these thresholds and client outcomes. These clinical standards should be modified based on relevant empirical data to retain meaning for practitioners seeking to learn MI or improve their practice.

MI Training

Miller and Rollnick (2013) suggested that practice and feedback are necessary for MI skill development and retention. There are no set numbers of didactic hours known to contribute to implementation fidelity; moreover, workshop-style training alone has not been effective in increasing the skill of practitioners (Miller & Rollnick, 2013). Baer et al. (2004) evaluated initial and follow-up effects of a two-day (14 hr) MI training on the retention of training and overall MI skill level of 19 addiction and mental health professionals. Participants completed the Helpful Responses Questionnaire (HRQ; Miller et al., 1991) before training (i.e., baseline), in the week following the training (i.e., post), and two months after the training (i.e., follow-up). The HRQ

presents clinicians with six hypothetical client statements and asks them to write what they would say next; responses were coded based on the observed degree of reflective listening according to a modified version of the HRQ coding system, with possible levels ranging from responses contrary to reflective listening (Level 1) to reflection that inferred appropriate meaning, as in paraphrasing (original HRQ Levels 4 and 5 collapsed for this study). Participants also conducted a 20 min recorded interview with a trained standardized patient at each of the three assessment points and the researchers also requested a 20 min audio sample of work with a real patient. Only 31 of 66 expected audio recordings with real patients were completed by participants and thus these interviews were not used to evaluate training outcomes.

The standardized patient interviews were coded using the MISC (Miller, 2000; Miller & Mount, 2001), which involves raters reviewing recordings three times (i.e., once for global ratings, once for coding each clinician and client utterance, and once for timing clinician and client speech). The MISC yields five summary scores: (a) percent of total questions that are open (%OQ), (b) percent of total reflections that are complex (%CR), (c) ratio of total clinician reflections to their total questions (R:Q), (d) percent of clinician utterances that are coded as non-neutral and MI consistent (%MI), and (e) percent of clinician utterances that are coded as inconsistent (%MI-In). The MISC also yields a rating called clinician talktime, or the percentage of the total session that the clinician was speaking. Baer et al. (2004) examined HRQ and MISC scores using repeated-measures analysis of variance. Results from the HRQ showed a statistically significant increase in participants' scores from baseline to post-training, and this increase was maintained at follow-up, although there was a significant decrease in HRQ scores from post-training to follow-up. This indicated that the training was effective in improving clinicians' reflective responding skills—improvements that were maintained beyond baseline

two months after the training—although these skills began to decline after the training. MISC scores of recorded interviews with standardized patients showed that clinicians' ratio of total responses to questions increased significantly from baseline to follow-up and that gains were still significant at follow-up. MISC %OQ and %MI ratings both showed significant increases from baseline to post-training but these gains were not maintained at follow-up (i.e., two months after the training, participants demonstrated a similar amount of open questions and MI-consistent responses as before the training). Clinician talktime and %CR scores from the MISC did not show significant increases from baseline to post-training or follow-up. MISC ratings also showed global (although insignificant) improvements in clinicians' global levels of egalitarianism and overall consistency with MI. Baer and colleagues also reported clinician proficiency data using criteria outlined by Miller (2000) for evaluating MI competence based on the MISC.

Clinician %MI and talktime met proficiency standards (i.e., %MI >80%, clinician talktime <60%) at all timepoints, although the 50% standard for %OQ was rarely met at any point. Thus, Baer et al. (2004) used the other four skill areas (i.e., global clinician ratings, percent complex reflections, rate of reflections, and ratio of reflections to questions) to evaluate clinicians based on their proficiency in three out of four categories. Based on these criteria, two of 19 clinicians were proficient at baseline, which increased to 10 clinicians at post-training and decreased again to eight clinicians at follow-up. The eight clinicians who met proficiency standards at follow-up possessed more highly rated skills at baseline, learned more during the training, and demonstrated more skill retention at follow-up. Baer et al. found that clinicians who were proficient and those who were not proficient at follow-up did not differ based on academic degree, years of professional experience, or prior MI exposure. This study did not utilize a control group, making it difficult to ascertain specific mechanisms of MI skill acquisition and

maintenance; however, Baer et al.'s work illuminated the usefulness of standardized patients in assessing clinician skill, especially in settings where audio recording sessions is not common practice. This study also suggested that a two-day workshop is effective in changing clinician behavior, but that further tools may be necessary to improve long-term skill maintenance. Baer et al.'s work also indicates that other professionals working with children and youth may benefit from more extended professional development beyond workshop-style trainings.

Practice and feedback based on direct observation are critical for integrating MI into everyday practice (Miller & Rollnick, 2013). The Evaluating Methods for Motivational Enhancement Education (EMMEE; Miller et al., 2004) randomized controlled trial examined methods for learning MI. EMMEE compared a waitlist control group relative to five training conditions, including (a) two-day workshop only, (b) two-day workshop plus personal feedback on practice tapes (WF), (c) two-day workshop plus up to six individual coaching sessions with an MI expert by phone (WC), (d) two-day workshop plus feedback and coaching (WFC), and (e) wait-list control (self-guided training; STC). Participants included 140 health professionals working with patients with substance use disorders, and all groups received a training manual and MI training videotapes. Participants' MI skills were assessed before training, immediately after training, and subsequently at 4, 8, and 12 months after training using audiotapes from real client sessions, except for the post-training assessment, which was completed using standardized patients. Participants were also administered a series of assessments at baseline only, including measures of MI skill (the HRQ and the Confidential Pretraining Questionnaire [CPQ; Miller & Mount, 2001]) and measures of personal history with drug-related problems, self-esteem, therapist attributes, therapist personality, and self-ratings of MI proficiency and utilization. Interrater reliability on the MISC as measured by intraclass correlations (ICCs) showed that

coding reliability ranged from good (0.65 on overall spirit) to excellent (0.95 on reflection-to-question ratio). Miller et al.'s results showed that all training groups improved significantly more than the self-guided training control group and only counselors in the enhanced training groups (i.e., those receiving coaching, feedback, or both) achieved average scores at or above the proficiency threshold score of five out of seven in the global MI spirit domain. At the four-month follow-up, only clients of clinicians in the WFC group showed significantly more change talk and less resistance than clients of clinicians in other groups ($F[1, 17] = 9.97, p = 0.006$). These results provided evidence that MI learners benefitted from training enhancements (e.g., feedback, coaching) and that these enhancements were related to desirable changes in client language. Thus, practitioners and researchers should incorporate these opportunities for continued MI learning in applied settings and research projects.

The only clinician characteristic that significantly predicted the acquisition of MI skill was lifetime level of drug use; at baseline only, clinicians with higher levels of lifetime use showed lower levels of MI skill (Miller et al., 2004). Miller et al. also found that participant self-reports of proficiency were not well-correlated with measures of actual skill, indicating that indirect self-report measures have limited use in assessing MI skill proficiency. The percentage of practice samples from treatment group participants also dropped from 76% at four months to 45% at the 12-month follow-up. Although Miller and colleagues reported that remaining participants were representative of the entire sample, it is important to note that submitting audio samples from actual practice in follow-up may represent a significant barrier for clinicians in training; this is consistent with results obtained by Baer et al. (2004). As a result of this study, it follows that MI practitioners should be selected based on professional characteristics rather than similarity to the target client population. Additionally, to improve the feasibility of collecting

audio samples of sessions, it is necessary to create intervention materials which include data collection procedures, as well as problem-solve with clinicians to reduce barriers to audio recording and data collection.

Researchers have also highlighted the lack of published evidence supporting the links between MI training, clinician proficiency, and client outcomes. Hall et al. (2015) conducted a systematic review of studies of MI training for substance use treatment applications to investigate whether research literature has documented changes in clinician practice and client outcomes as a result of MI training. Hall et al. used the PRISMA guidelines (Moher et al., 2009) to structure their review. Studies were included if published in English in a peer-reviewed journal between 1983 and December 2013, and if the study investigated training and or implementation of MI or MET in clinicians working in substance use treatment. After a literature search and screening, 20 articles reporting on different studies were included in Hall et al.'s review. Of the 20 studies, 15 measured training outcomes in terms of clinician skill using standard fidelity measures (e.g., MITI, MISC), and only two studies provided evidence that at least 75% of clinicians achieved beginning proficiency in MI spirit after training (Forsberg et al., 2010; Martino et al., 2011). Three of 20 studies included data on client outcomes related to clinician MI training, and only one (Martino et al., 2008) found that MI implementation fidelity positively impacted client outcomes. Hall et al.'s review was limited by the focus on MI spirit and the field of substance use treatment but suggests that developing beginning competence in MI requires considerable investment of resources and has rarely been achieved in studies of MI training. Hall et al. also found limited evidence that MI training affects client outcomes, suggesting that research on MI training should link training and clinician proficiency to client outcomes.

Miller and Rollnick (2013) provided a suggested list of 12 tasks for learners corresponding to core MI skills, including (a) understanding the underlying spirit of MI, (b) developing skill in reflective listening and OARS, (c) identifying client change goals, (d) giving information and advice in an MI style, (e) building skill in recognizing change talk versus sustain talk, (f) developing skill in evoking change talk, (g) strengthening change talk by responding effectively, (h) responding to sustain talk without strengthening it, (i) supporting client optimism and confidence, (j) appropriate timing and planning with clients for change, (k) strengthening client commitment to behavior change, and (l) integrating MI into other clinical practices. These tasks are not ordered as it is not necessary to learn them in sequence; however, some skills (e.g., reflective listening) are fundamental to others (e.g., responding effectively to change talk). A number of coding systems, such as the Motivational Interviewing Treatment Integrity (MITI), also exist to provide more consistent feedback within a coaching framework, and these can be found at www.motivationalinterviewing.org/library (Miller & Rollnick, 2013). Some coding systems, such as the MITI, are used to code interviewer speech only. The MITI (Moyers et al., 2014) provides global scores in the dimensions of evocation, collaboration, autonomy/support, direction, and empathy, as well as a global spirit rating. Each counselor utterance is also coded in the categories of (a) closed-ended question, (b) open-ended question, (c) simple reflection, (d) complex reflection, (e) MI-adherent, (f) MI-nonadherent, and (g) information. Global spirit ratings, reflection to question ratio, percent open questions, and percent complex reflections can be evaluated based on beginning and competency proficiency standard levels. Of note, the MITI proficiency standards reflect expert opinion as established within the field of clinical counseling (and particularly in treatment for addiction), suggesting that this measure should be used and interpreted along with other measures in other settings and with non-expert raters. Miller and

Rollnick also noted that professional learning communities may provide a vehicle for sustained learning, wherein professionals come together to practice MI technique and conduct feedback sessions based on this practice. In addition to workshop training in MI skills, and MI fidelity monitoring, creating and maintaining professional learning communities may be a sustainable practice for settings (e.g., after-school programs) where professionals are interested in continued learning but lack access to quality professional development opportunities.

MI Training for School-Based Applications

Making MI accessible to school-based change agents requires adaptations of typical training procedures to allow for practice, feedback, and evaluation using protocols and measures that are relevant to the school setting (e.g., involving teachers, caregivers, students). Although there is no conclusive evidence supporting one system over another for training school professionals, there are several documented attempts to modify MI training for school-based professionals (e.g., Burke et al., 2006; Frey et al., 2013, 2017).

Burke et al. (2006) reported on an interdisciplinary project designed to improve school personnel's knowledge and skill in screening and motivational interviewing for adolescent substance use. Five high school student support staff, one wellness coordinator, and a school nurse were trained to identify substance use problems in high schoolers by using the Car, Relax, Alone, Forget, Friends, and Trouble (CRAFT; Knight et al., 2002) screening questionnaire and trained to utilize motivational enhancement to facilitate change or entry into treatment in the community and further prevention efforts in their schools. Burke et al. held a meeting with stakeholders prior to the training to co-determine the content of training workshops based on participants' needs and gave all participants a copy of Miller and Rollnick's (2002) *Motivational Interviewing*. The training consisted of three half-day workshops with the themes of (a)

screening, assessment, and diagnosis of substance use; (b) introduction to brief intervention; and (c) principles of MI. Between training sessions, participants were given the task of thinking of cases they wished to roleplay at the next session. Participants also attended a fourth session six months later to discuss learning gains, and prior to this session the school personnel submitted written case notes to demonstrate skills in substance use screening and MI in brief interventions. Burke et al. noted that school staff felt that this training was useful and that implementing the intervention was feasible; however, they did not report any empirical data from this project. Thus, this report provided little evidence that these training procedures were effective in increasing staff skill proficiency. Future research on MI training for educational professionals should monitor staff MI skill before and after training to discern the effectiveness of training.

Frey et al. (2013) reported a systematic attempt to integrate MI practices within the Tier 2 intervention First Step to Success (Walker et al., 1997) for the purposes of improving fidelity of intervention procedures carried out by parents and teachers for elementary school students with externalizing behavior concerns. First Step to Success typically involves three steps, including (a) a screening process to select a target student, (b) a school behavior management component, and (c) a home-based intervention that is implemented simultaneously with the school intervention. This version of First Step to Success was enhanced with an adaptation of MI in the form of a modified Family Check-Up interview (Stormshak et al., 2010) implemented by a coach before beginning the home-based intervention with families. The coaches on this iterative project included two women and one man (ages 26–47 years) with master's degrees in either school counseling, social work, or education; none had previous experience with MI aside from the project that was being examined. Frey et al. examined the constraints and feasibility of school personnel implementing MI and the training experiences and proficiency benchmarks necessary

for those professionals to gain MI skills. In this pilot trial, the three First Step to Success coaches and the study principal investigator met with an MI consultant for weekly supervision during which they read and discussed readings from Miller and Rollnick's (2002) edition of MI, evaluated skill using quizzes provided by the MI consultant, and took turns evaluating real audio tapes of conversations with parents using the MITI 2.0 (Moyers et al., 2007). In the first iteration of this intervention, Frey et al. (2013) evaluated coaches' MI proficiency by having several audio recordings of conversations with parents coded using the MITI under the supervision of Theresa Moyers, the lead author of the MITI, and found that coaches did not achieve the beginning proficiency threshold on any of the summary scores of the MITI. Frey et al. then modified the MI protocol and First Step to Success intervention to account for three hypothesized barriers to MI proficiency: lack of support for coaches' MI skill development, lack of school focus within the MI training, and problems with the reliability of global ratings on the MITI.

Modifications to the First Step to Success intervention included creating enhanced structure for MI implementation in both home and school components, as well as reducing the coding structure of the MITI assessment (Frey et al., 2013). Frey and colleagues (2013) developed the Motivational Interviewing Navigation Guide (MING) to assist coaches in implementing MI strategies within interviews with parents and eliminated the curriculum for families originally used in the First Step to Success program. The MING process involves (a) engaging in a values discovery activity, (b) assessing current parenting practices, (c) sharing performance feedback from assessments, (d) offering further consultation and support, and (e) providing closure. The goal of this process was for parents to reflect on and potentially commit to developing a plan for change in one or more of the following areas: establishing clear expectations, directly teaching expectations, reinforcing adherence to expectations, and

establishing consequences for inappropriate behavior. The parenting intervention was further refined and is now considered a stand-alone intervention, called homeBase (hB). hB is considered a Tier 2 intervention strategy to target parenting practices in the families of elementary-level children beginning to develop behavior problems (Frey et al., 2019). The intervention is supervised by a behavioral coach and includes three to six, 60-minute home visits over several months to increase parent motivation and capacity to implement effective parenting practices. An efficacy trial of hB with 120 participating families has yielded information about family engagement (Frey et al., 2019) and practitioner fidelity to MI (Small et al., 2020) in this intervention.

Frey et al. (2019) examined parents' participation, engagement, alliance, and perception of the social validity of this intervention using coach-reported measures of parent participation, engagement, and alliance, and parent-reported social validity (satisfaction). No direct measure of these factors was included in the study. Participating students were 70% male, had an average age of 6.8 years, and identified mostly as African American (53%) and Caucasian (34%). Parents were on average 35.4 years old and were mostly female (85%). Of the 120 families, 95 (79%) partially or fully completed the hB steps and 25 (21%) did not complete any steps. Families that fully or partially completed the intervention and families that did not participate differed with respect to only two demographic and behavioral variables measured in this study. Students in families that did not participate at all had a significantly higher number of critical events at baseline than students in families who did participate in homeBase as rated on the Systematic Screening for Behavior Disorders (Walker et al., 2014), and caregivers in families who did not participate were significantly younger than parents who did participate. Coach-reported effectiveness, parent engagement, and coach-parent alliance, as well as parent-reported alliance,

were positively and significantly correlated with greater intervention completion. Parent-reported satisfaction was not significantly correlated with steps completed. Coach-reported parental engagement was the most significant predictor of intervention completion (higher engagement scores were correlated with completing all three sessions of homeBase). Frey et al. noted that parenting behavior change, and consistent communication with the coach, had the highest percentages of parents with low ratings by coaches on the parent engagement measure. This item-level analysis, along with the number of families who did not participate at all, suggests that more adaptation and/or modification is needed to engage some families and impact their parenting behaviors.

Small et al. (2020) also found that more variation in MI fidelity occurred within coaches than between coaches in an analysis of 245 conversations conducted by 20 coaches doing the hB intervention with 113 caregivers. Small and colleagues fit unconditional three-level, random intercept models for four of the MITI 4.2 summary measures (i.e., technical global, relational global, percent complex reflections, and reflections-to-questions ratio) to estimate the proportion of variance at the level of coaches, families, and sessions. Variance in the MITI summary measures for individual coaches between sessions accounted for more variability (64%–91%) than variance between coaches (13%–29%). Variance across families accounted for the smallest proportion of variance (7%–9%). These authors also found that although most coaches (between 14 and 20 of the 20 coaches) achieved basic MI proficiency as measured by the mean of each of their MITI summary scores, most did not achieve basic proficiency on any measure except the technical global score if measured by a categorical cutoff of proficiency in every session. That is, whereas 14 out of 20 coaches achieved a basic level of technical proficiency in every session, only nine of 20 achieved basic relational proficiency, eight demonstrated a basic level of

complex reflections, and four demonstrated a basic-level ratio of reflections-to-questions. Small et al. noted that some skills may require more practice than others to implement consistently. Relational skills were implemented inconsistently, and coaches who implemented more sessions of hB generally attained more favorable reflections-to-questions ratios. These findings suggested that even research-trained professionals do not consistently implement MI with fidelity and that more research is needed to investigate the conditions that influence practitioner MI fidelity and the levels of training and practice that lead to consistent MI implementation.

Frey et al. (2013) also developed a classroom check-up for First Step to Success which uses an MI approach, modeled after Reinke et al.'s (2008) Classroom Check-Up. The First Step version of the classroom check-up differs from Reinke et al.'s protocol in that it does not involve daily data collection or provide teachers with graphic feedback, but rather uses the MING framework as the home component of the intervention to target potential areas of teacher behavior change. Frey et al. also described modifications to the MITI code which were made to differentiate each code. After these modifications, coaches' mean summary scores fell in the competency range on the global spirit rating and percent complex reflection domains, and mean scores in the percent open questions and reflection-to-question ratio domains were in the beginning proficiency range. When ratings were disaggregated by interview type (i.e., parent versus teacher), there were no differences between the thresholds achieved by setting (Frey et al.), indicating that explicit procedures for integrating MI into evidence-based interventions may assist practitioners in delivering MI with fidelity.

Frey et al. (2017) and Small et al. (2020) described the Motivational Interviewing Training and Assessment System (MITAS) for school-based professionals and a trial of this system. This system includes a multi-session training on MI that can be delivered according the

needs of participants, includes up to three individualized coaching sessions, and can include monthly consultation groups where professionals form a learning community to analyze conversations they have had with clients. If coaching sessions are included, the coach first codes a 20-minute segment of conversation using the MITI 4.0 (Moyers et al., 2014) and uses the results of this to provide feedback via a 30 min coaching session using the Elicit-Provide-Elicit framework (E-P-E; Miller & Rollnick, 2013). The E-P-E method includes asking the participating clinician about their perceptions of the coded conversation, giving a small amount of information from the MITI 4.0 (Moyers et al., 2016), and seeking the participant's reactions to the information. The monthly consultation groups involve participants bringing audio recorded conversations with real clients, and together coding these using the MITI, as well as discussing how implementation is going. These meetings may be supported by an MI expert at first and later conducted independently.

The MITAS also includes a series of assessments within the training procedures to measure whether training is achieving the desired effect of improving professional skill. Before the training, participants complete the VASE-SBA (Lee et al., 2013a) and the WASE-SBA (Lee et al., 2013b). The VASE-3-School Based Applications is adapted from the VASE-Revised (VASE-R; Rosengren et al., 2008) and involves participants writing eight MI-consistent responses to each of three video-recorded vignettes that were relevant to school settings. Each response is rated on a three-point scale, with 1 representing responses of *Elicits/Reinforces Sustain Talk* or *Engenders Discord*, 2 representing *neutral responses*, and 3 representing responses of *Elicits/Reinforces Change Talk*. Four subscale scores are also derived for the categories of open-ended questions, affirmations, reflections, and summaries. The WASE-SBA is adapted from the HRQ (Miller et al., 1991) to include school-specific situations and measures

reflective responding abilities. MITAS uses the Measure of Perceived Proficiency (MOPP) to measure participants' perceived proficiency in MI-specific skills using 10 items rated on a five-point scale (Frey et al, 2017).

Frey et al. (2017) conducted an efficacy study using a single-group pre-post comparison design to evaluate the feasibility of MITAS for training school personnel to use MI to enhance intervention fidelity. Participants in this trial were 12 early childhood support staff (mean age of 48 years) in the following roles: curriculum resource teacher, disability liaison, special education resource teacher, and social worker. All were former classroom teachers without previous exposure to MI. The workshop portion of this training consisted of five 3 hr sessions; participants were provided feedback on audio recordings with real teachers or parents (participants attended 2.7 coaching sessions on average). Within-subjects partial effect sizes for changes on the HRQ and the VASE-R were in the large range ($r = 0.92$ and 0.90 , respectively). Participant engagement in the MITAS was measured via a facilitator's checklist, with a mean engagement rating of 4.40 (ratings on a 5-point scale). Frey et al. also obtained participant satisfaction ratings (on a 5-point scale from *Strongly Disagree* to *Strongly Agree*) and obtained a mean satisfaction rating of 4.70. These results indicated that MI training may be feasible and effective for school-based personnel, although this study did not include a control group. The lack of experimental control in this study means that practitioner knowledge of MI cannot be compared to those with no training and that the separate effects of training components cannot be evaluated. This work provides a starting place for research on MI training for educational professionals that incorporates evidence-based training procedures (i.e., coaching in addition to workshop training). Frey et al. noted that future research on this type of training including continuing feedback should use experimental controls (e.g., a control group that does not receive

the training) to eliminate alternative explanations for skill development. Additionally, future research should investigate the effects of MI training on client behavior change in the school setting.

Iachini et al. (2018) reported the results of embedding MITAS (Frey et al., 2017) into coursework for social work students in school-based field placements. Iachini et al. reported evaluation results of nine social work graduate students who participated in MITAS during their coursework between 2014–2016. Participants included six female and three male students in their mid-20s who all held bachelor's degrees. Five identified as African American, four identified as white, and none identified as Hispanic. Participants completed the MISE Questionnaire, WASE-SBA, and VASE-SBA at baseline and after participating in MITAS and participated in an hour-long focus group to better understand their experiences with MITAS and using MI in their field placement. Descriptive statistics and Reliability Change Index scores (RCI; Jacobson & Truax, 1991) were used to analyze changes in quantitative data from baseline to post-training, and qualitative data from the focus groups were coded and analyzed thematically.

Iachini et al.'s (2018) results demonstrated that most students experienced growth in MI competence and confidence as a result of MITAS, and that MI and MITAS are socially valid for social work students practicing in school settings. Six participants (the total number who were administered this measure) demonstrated increased MI self-efficacy on the MISE Questionnaire, with an average change in total points of 20 ($SD = 6.00$) from baseline to post-training. On the WASE-SBA, seven of eight participants demonstrated growth from baseline to post-training. Two participants demonstrated clinically reliable change with significant RCI statistics, and three demonstrated clinically significant increases in WASE-SBA total score (moving from below the

competence cutoff score of 16.02 at baseline to above at post-training). On the VASE-SBA, eight of nine participants demonstrated growth in total score, and one participant's total score decreased after the training. Two participants demonstrated clinically reliable change, and four participants demonstrated clinically significant change (moving from below to above the cutoff score of 30.64). Analysis of the focus group responses indicated that participants enjoyed the MI training and perceived MI as useful in their field placement and in daily life. Participants responded that the opportunities for practice and feedback (recorded role plays) were important for improving their MI skills. Suggested modifications included: including training on how to use MI when administering assessments, and clarification about the roles and responsibilities of trainers/leadership. This research provides some evidence that MITAS can be successfully embedded in a training sequence and provides evidence of the effectiveness and social validity of MITAS and MI for a young, inexperienced, and majority non-white sample. More research is necessary to validate the effectiveness of MITAS in different settings with participants with different characteristics.

After-School Programs and MI

After-school programs (ASPs) are designed to offer youth a safe and adult-supervised environment for enhanced personal, social, and academic development outside of school time (Durlak & Weissberg, 2007). These programs are located at schools, community centers, and within community organizations that work inside and outside of schools. ASPs are also sometimes called extended learning programs (ELP) and the time that youth spend in such activities is within the broad category of out-of-school time (OST). Activities that take place at ASPs often fall under the umbrella of positive youth development (PYD), that is, strengths-focused strategies that promote “developmental competencies that young people need to become

productive, contributing members of society” (Durlak et al., 2007, p. 270). Durlak et al. noted that a positive youth development approach focuses on holistic development, youth self-determination, and youth identity in the delivery of interventions. Motivational interviewing represents a technical improvement that fits the structure, spirit, and needs of after-school programs (as outlined through the preceding review of evidence). Both MI and ASPs are strengths-based and client-centered. Importantly, youth participation in ASP activities is often voluntary, differentiating the tenor of staff-student relationships in such programs from those in schools. Thus, MI may be implemented in ASPs with more authenticity than in traditional educational settings (i.e., school).

Although relatively little research has investigated the broad characteristics of staff working at ASPs, Ehrlich et al. (2017) noted common challenges and opportunities for staff at comprehensive ASPs. Challenges included (a) a lack of capacity to meet the needs of the surrounding community, (b) a reactive rather than proactive staff culture, (c) program discontinuity due to high staff turnover, (d) insufficient training, (e) lack of access to training, and (f) low frequency of training. Opportunities for staff in comprehensive ASPs included (a) their ability to provide collective mentoring, (b) their ability to integrate their interests into programming, and (c) the possibility of program-university partnerships to support staff activities. Ehrlich et al.’s (2017) enumeration of challenges for staff at ASPs suggested that training should be a focus of efforts to improve staff efficacy and retention. ASP leadership may capitalize on opportunities such as program-university partnerships to provide staff with appropriate training.

Evidence Supporting ASPs

ASPs represent an important link between home and school environments, reinforce academic skills and outcomes, and help bridge the gap between home and school. At the individual level, meta-analytic research exploring the effects of ASPs on youth has found small to moderate positive effects on reading and mathematics skills (Good & Sim, 2016; Lauer et al., 2006), school attendance (Good & Sim, 2016), academic interest (Young et al., 2017), personal and social skills (e.g., Durlak et al., 2010, Pierce et al., 2010), and physical activity and fitness (Beets et al., 2009; Zarrett & Bell, 2014). However, ASPs solely focused on academic skills development may not be effective in impacting academic outcomes (Good et al., 2014). Other analyses have failed to find effects of after-school programming on school attendance and externalizing behaviors of at-risk students (Kremer et al., 2015). Meta-analyses have also indicated that positive youth development programs can have significant effects on related microsystems (e.g., schools and families) and relationships between those systems (mesosystems; e.g., parent-child relationships; Durlak et al., 2007).

After-school programs also played a crucial role in supporting students during school closures and virtual learning during the COVID-19 pandemic. Afterschool Alliance (2021) reported the results of a national survey of after-school providers in February and March of 2021 in which 75% of providers reported being physically open. Sites provided safe and supervised learning spaces during virtual learning (57%), distributed meals (57%), and helped families connect with community resources (53%). After-school staff also connected with teachers to help students keep up and served youth remotely (57%).

Academic Outcomes and School Attendance

Lauer et al. (2006) reviewed the research evidence on OST activities across timeframes, including after-school programs, before-school programs, summer school, vacation, and

Saturday schools. Lauer et al. situated their review in the context of the No Child Left Behind Act of 2001, which provided new funding for evidence-based OST activities for children with deficient skills in reading and math, although little rigorous research supported any particular model of OST program in improving students' skills in these areas. Through meta-analyses of rigorous research, Lauer et al. sought to provide an overall effectiveness rating of OST programs for at-risk youth in the areas of reading and mathematics, as well as examine differential effectiveness by type of program and study features. In this analysis, possible moderators of program effectiveness included the program features of timeframe, grade level, program focus, program duration, and student grouping, and research study features included research quality, type of publication, and type of score used to calculate effect size. After examining 371 articles identified from database searches, web sites, and prior research syntheses, 35 studies met Lauer et al.'s inclusion criteria. Of these 35 studies, 13 examined only reading outcomes, five examined only math outcomes, and 17 studied both areas. Lauer et al. then coded program and participant characteristics, as well as study features of each research article, and coders received training and participated in practice coding.

Lauer et al. (2006) found that the OST programs evaluated in the identified research studies exerted small positive effects on reading achievement ($g = 0.05$ based on a fixed-effects model and $g = 0.13$ based on a random effects model, with 95% confidence intervals not including zero). Significant program feature moderators of OST program effects on reading achievement included grade level, duration (programs with durations between 44 and 210 hr had significant effects), and grouping structure, with one-on-one work showing the greatest effects followed by combined grouping approaches. Study feature moderators included study quality

(i.e., high and medium quality studies showed larger effects) and publication type (i.e., studies in peer reviewed journals showed more effects).

In Lauer et al.'s (2006) analyses of OST programs related to math achievement, effects were statistically significant and positive on average ($g = 0.09$, $g = 0.17$ based on fixed and random effects, respectively). Program-related moderators of program effectiveness on math achievement included grade level (i.e., the largest effects were observed for high school, followed by middle school students), program focus (i.e., combined-focus programs were more effective than solely academic-focused programs), program duration (i.e., only those lasting 45 hr or longer showed effects), and grouping structure (i.e., mixed, small, and large-group formats were significantly effective, whereas those that involved one-on-one tutoring did not show effects). The only significant study-related moderator of program effectiveness was study quality in that only studies rated of medium or high quality showed significant effects on math achievement.

Lauer et al.'s (2006) meta-analysis of rigorous research identified a small positive effect of OST programs on student reading and mathematics achievement. Lauer et al. noted that due to the supplementary nature of OST programs (i.e., they supplement services provided during the school day), even effects traditionally categorized as small may be meaningful in combination with interventions implemented during the regular school day. Another important outcome of this research synthesis was the finding that some moderators of effectiveness resulted in larger than average OST program effect sizes. Lauer et al. indicated that although the timeframe of program delivery (i.e., after-school or summer school) was not a significant moderator for reading or math outcomes, tutoring had a strong positive effect on reading, and tutoring programs existed only in after-school OST settings. Lauer et al. also noted that program duration

was a significant moderator of program effectiveness for both reading and math outcomes, and only programs with more than 45 hr of programming were effective for reading or math outcomes. Among reading programs, those that were longer than 210 hr did not have significant effects on reading outcomes.

Student grouping was also an important moderator with the synthesis showing that grouping structures may be differentially effective based on subject matter (e.g., one-to-one tutoring was the most effective structure for reading; small or combined grouping structures were most effective for math). Lauer et al. recommended extending this research by examining more factors related to dosage and exposure, such as program attendance and attrition, as well as more detailed analysis of intervention aspects like treatment fidelity, specific intervention components, and interventionist characteristics. Staff characteristics were notably missing from this research synthesis, perhaps due a lack of reporting in this area in the original studies. Lauer et al. also recommended examining both published and unpublished studies (e.g., dissertations) due to their finding that significant findings were more likely to be found in published articles. Overall, Lauer et al.'s findings supported the additive effects of OST programming and suggested specific structural factors that influence these effects, such as student groupings and program duration. Additionally, Lauer et al.'s (2006) results suggested that programs that are not solely focused on academic programming (i.e., ASPs) may be more likely to contain features that support specific skill acquisition (e.g., reading). Thus, ASPs would appear to represent an important context for youth academic skill development outside of school.

Indeed, OST programs focused solely on academic achievement have failed to show effects on reading and math outcomes (Good et al., 2014). Good et al. (2014) reported on a mixed-methods evaluation of supplemental educational services in five urban school districts in

four states. Qualitative analyses included semi-structured interviews, focus groups, observations of tutoring sessions, and document analyses, whereas quantitative data included district standardized tests, transcripts, and student demographics. Good et al. (2014) found no effect of tutoring on reading and math outcomes, citing low levels of attendance, low treatment exposure given that most students received under 40 hr of tutoring per year, and lack of instructional quality. Qualitative findings indicated that tutoring offered students important opportunities for positive relationships with adults in an academic context, although lack of instructional innovation was reported as a barrier to the effectiveness of tutoring services by parents and district administrators. Further research should investigate the potential benefits individualized attention in OST programs, such as ASPs for youth, using experimental procedures to allow for causal statements.

Outside of direct academic effects, OST programs may be beneficial for motivating student interest in academic exploration. Young and colleagues (2017) conducted a meta-analysis to investigate the effectiveness of OST programming in stimulating student interest in science, technology, engineering, and mathematics (STEM) and how program and study characteristics moderated those effects. Young et al. conducted a search for published and unpublished (e.g., dissertations) reports of educational interventions conducted outside the school day, including summer camps, after school programs, and academic fairs. In the 15 studies included in the meta-analysis, there were 11,303 total participants. The majority of studies ($n = 8$) included middle school participants ($N = 3,372$) in Grades 6–8. Three studies included high school students ($N = 7,437$), and four studies included elementary school students ($N = 494$). Only six of 15 studies included representative samples of students of color. Overall, these programs had small and significant positive effects in increasing interest in STEM ($g =$

0.37) after removing one outlier study. Moderators of program effectiveness included grade level (i.e., programs for students in grades K–5 were more effective than those for middle school or high school students), program focus (i.e., a combination of academic and social focus was more effective than academic only), and study design (i.e., high quality studies showed larger effects than medium or low). Young and colleagues noted that study designs often lacked measures of treatment integrity and randomization procedures for assigning treatment group due to the difficulty of prescribing activities to students outside the school day. Young et al.'s study also lacked information on OST program staff characteristics, which should be explicitly measured and included in future research and meta-analytic work.

Local program evaluations may contribute to understanding of how ASPs contribute to youth behavior across settings and what aspects of staff background and training contribute to youth and community outcomes. Good and Sim (2016) completed a program evaluation of after-school sites that hosted AmeriCorps members in Dane County, Wisconsin. AmeriCorps is a national service program in the United States administered by the Corporation for National and Community Service, in which participants (i.e., members) receive an education award and a subsistence stipend in exchange for a year of full or part-time service with a local or national organization (Frumkin et al., 2009). In Dane County, Wisconsin, AmeriCorps members in the Partners for After School Success (PASS) Program served at 13 community agencies that provided tutoring and extended learning opportunities for students in Grades 6–12. These ASPs' core activities included tutoring, social and emotional skill-building activities, and volunteer activities, and AmeriCorps members received over 100 hours of training in strategies for literacy tutoring, building supportive relationships with youth, and other youth-service-related issues. Good and Sim's evaluation of PASS programming took place during the 2014-2015 academic

year and examined how well programs were aligned with partner districts' practices and goals, how closely program implementation reflected PASS goals and target population, and the effect of PASS programs on youth academic achievement and school engagement. They examined these questions using mixed methods, including focus groups, surveys, site visits, and quasi-experimental analysis of student-level data from PASS and its largest partner district. Propensity score matching was used to identify demographically similar peers who did not attend PASS programs and match them with PASS-attending students within the partner school district.

Good and Sim (2016) found that PASS was well-aligned with research best-practices and partner district goals in terms of tutoring delivery and program structure and that PASS programs served the intended student population (75%–78% of those in PASS ELPs and 91% of those in PASS tutoring received free and reduced lunch and were students of color). They also found that middle school youth who participated in tutoring completed an average of 29 sessions, and those who participated in ELPs completed an average of 123 hours of programming. Descriptive analysis showed that youth who participated in PASS tutoring demonstrated gains in reading between the fall and spring on two different measures, although due to the small sample size these results were not able to be compared with peers in the district. Quasi-experimental analysis of program and school attendance between 2012 and 2016 showed that youth who attended 30 or more PASS ELP programs had significantly higher (1.30–2.57 percentage points) rates of attendance than comparison peers. Recommendations for future PASS program evaluation included continued assessment of PASS effects on youth school attendance and evaluation of PASS programming within a culturally responsive framework. Recommendations for AmeriCorps member training included iteration of training to focus on student engagement to

improve youth academic outcomes (Good & Sim, 2016). This aligns with Ehrlich et al.'s (2017) summary of challenges related to training in the ASP community.

Personal and Social Skills

Extending Lauer et al.'s (2006) synthesis of OST programs and academic outcomes, Durlak et al. (2010) completed a meta-analysis of ASPs focused on personal and social skills to examine the effectiveness of ASP programming on these important developmental outcomes. Durlak et al. focused on youth outcomes in the three general categories of feelings and attitudes, behavioral adjustment, and school performance, hypothesizing that ASPs produce positive outcomes for youth in these three areas based on research on similar school-based interventions. Durlak et al. also examined the moderating effects of skill development programs that followed accepted best-practices for effective training, commonly summarized as sequenced, active, focused, and explicit (SAFE) techniques. *Sequenced* refers to skill training that is broken down into small steps to be learned sequentially, typically achieved through lesson planning or manualized interventions. *Active* describes interventions that involve opportunities for skill rehearsal (practice) and feedback, and *focus* refers to dedicated time within programming devoted to targeted skill development. The final characteristic of best practice in youth skill training—*explicit*—refers to the overt explanation of specific skill development goals (e.g., problem-solving versus social skills).

Durlak et al. (2010) defined ASPs as organized programs occurring during at least part of the school year, happening outside of school hours, and supervised by adults. For a study to be included in the meta-analysis, the study's ASP programming also needed to (a) be directed toward personal and/or social skill development, (b) have included a comparison group, and (c) have included sufficient information to calculate an effect size if one was not provided. Durlak et

al. completed a literature search of databases, specific journals with the most outcome studies, reference lists of previous reviews, and a search of the Harvard Family Research Project database on after-school research, yielding 75 reports of 69 programs published between 1980 and December 31, 2007, two-thirds of which were published in 2000 or later. Durlak et al. calculated the standardized mean difference when possible to compare program effects, and coded studies for methodological characteristics, ASP characteristics, participant characteristics, and outcomes. Methodological characteristics examined included randomized design, reliability of outcome measures, and attrition. Outcome categories included the three areas mentioned above, and the programs were coded dichotomously as having SAFE features or not. Inter-coder reliability averaged an acceptable 0.85.

Among studies with post-intervention data ($n = 68$), the majority included in this meta-analysis were unpublished technical reports and dissertation abstracts, and only 35% employed a randomized design (Durlak et al., 2010). The overall mean effect size for programs was 0.22, with a confidence interval that did not include zero, indicating that these ASPs had a positive effect on youth. Significant and positive mean program effects were found for all outcome categories except for school attendance and drug use (effect size of 0.10 for both) and ranged from 0.12 (school grades) to 0.34 (child self-perceptions; e.g., confidence and self-esteem). Durlak et al. also found significant variability among effect sizes and thus they examined moderators of program effectiveness. By grouping programs according to SAFE practices that were used, Durlak et al. found that programs with SAFE training practices resulted in significant mean effects for all outcomes, whereas those that did not use SAFE practices showed no significant effects for any outcome. These authors noted that there was some variability within effects of SAFE programs in four categories: problem behaviors, drug use, test scores, and

grades, indicating that additional unexamined moderators may have contributed to differential program effects. Durlak et al. also reported that the more SAFE practices a program used (i.e., none, one, two, or four—there was no report of a program using three practices), the greater the study-level effect size ($SMD = 0.02\text{--}0.31$).

Whereas Lauer et al. (2006) found publication effects, Durlak et al. (2010) found differential publication effects based on program practices: published and unpublished studies of SAFE programs showed nonsignificant SMDs. Conversely, published studies of other programs showed a higher SMD than unpublished studies of other programs. Durlak et al. contextualized their findings by comparing SMDs of SAFE programs to the effects of other universal interventions for children and adolescents (since most ASPs in this analysis served youth without specific challenges), noting that SAFE programs achieved greater effects ($SMD = 0.31$) on achievement test scores in particular than academically-focused ASPs and summer school programs analyzed in other reviews, and that this effect was comparable to the effects of school-based academic interventions. This research expanded on the work of Lauer et al. (2006) in illuminating more specific program characteristics that support student improvement.

Durlak et al. (2010) provided several recommendations for further research as a result of this meta-analysis. They noted that many of the reports that they analyzed lacked socioeconomic and racial/ethnic identity data on participants and that future program evaluations should include this information and other pre-intervention data on participants, such as academic history and presenting social or behavioral problems. Durlak et al. specified that youth in comparison groups may often participate in extra-curricular programs or other enrichment activities that should be controlled for in future analyses, and that few reports at the time of their publication included follow-up data. Complete participant data in these areas would make it possible to more

precisely evaluate program effects on all children and adolescents, as well as determine how programs effect youth development over time. Durlak et al. also suggested that research should investigate effective ASP staff training and program implementation, as well as aspects of program quality and structure that influence effectiveness. To replicate the SAFE model effectively in ASPs, it is necessary to study how program staff develop the capacity to implement SAFE procedures (including their characteristics and training).

Physical Health and Substance Use

Beets et al. (2009) analyzed ASP program evaluations published between 1980 and 2008 that included physical activity components. Based on the premise that youth are not typically as active as recommended, Beets et al. sought to answer whether ASPs with relevant components were successful in increasing the physical activity levels of participating youth. Their literature search included several databases and searches for citations included in articles and reviews, with inclusion criteria including (a) findings related to after-school intervention in a school setting, (b) population of children or adolescents ages 17 years old and younger, (c) the intervention included promotion of physical activity, and (d) outcomes consisting of physical activity or physical fitness measures. Studies were excluded from Beets et al.'s review if they were non-experimental, non-English, if they did not separate the effects of the after-school component from other intervention aspects, and if they did not provide quantitative outcomes. A total of 13 articles reporting on 11 different programs were retained after the literature search. Outcomes were coded using six categories: physical activity, physical fitness, body composition, blood lipids, psychosocial constructs, and sedentary activities (Beets et al., 2009).

Beets et al. (2009) reported significant positive effects for interventions that measured the following four outcome areas: physical activity ($g = 0.44$), physical fitness ($g = 0.16$), body

composition ($g = 0.07$), and blood lipids ($g = 0.20$). In analyses of the FitKid Project at the Medical College of Georgia, girls who attended at least 40% (i.e., two days a week) of an eight-month after-school fitness program showed significant decreases in percent body fat and significant increases in bone mineral density and cardiovascular fitness, whereas those who attended less than 40% of the sessions showed no benefits over students in the control group (Yin et al., 2005). Due to the heterogeneity of programming among after-school programs in including a physical activity component and the dearth of implementation information, Beets et al. recommended that intervention researchers provide more detail regarding the specifics of intervention procedures and implementation fidelity in order to elucidate more specific mechanisms of change. Similar to Durlak et al. (2010), Beets et al. called for more detailed data on the specific activities of control or comparison youth in order to account for the influence of alternative activities that might influence outcomes. This meta-analysis added to the body of evidence that ASPs are implementing diverse interventions related to change that may be strengthened by an approach such as MI.

Adolescent choices in allocating out-of-school time suggest ways that ASPs can facilitate adaptive youth behaviors. Zarrett and Bell (2014) evaluated the effects of OST activities on BMI by examining how adolescents (Grades 7–11) allocated their time between active (e.g., sports) and sedentary (e.g., watching TV) activities. Analysis of student weight patterns from Grades 7–11 indicated that students who were engaged in sports-dominant activities for at least two years were significantly less likely to be overweight in Grade 11 than youth with other OST activity patterns. This group of students had the highest percentage of students with a stable normal weight and the highest percentage of change from at risk to normal weight (30.7% and 30.2%, respectively). Zarrett and Bell suggested that their results indicated a need for increased

accessibility to high quality active programming for youth (even those who are not able to participate in official sports), as well as continued investigation of other program characteristics that promote healthy decision making. Lee and Vandell (2015) also found that high schoolers' choices of OST activities (e.g., unsupervised time with peers, sports, other organized activities; paid employment) were related to health outcomes, in this case their use of substances. Youth who spent more unsupervised time with peers during high school had significantly increased odds of ever having used cigarettes (OR = 1.39), alcohol (OR = 1.47), and marijuana (OR = 1.71) at the end of high school; more unsupervised time with peers predicted higher amounts of all types of drug use at the end of high school. More involvement in organized activities was also related to lower amounts of cigarette, alcohol, and marijuana use ($r = -0.14, -0.11, -0.08$, respectively), and although more sports involvement was associated with lower cigarette and marijuana use ($r = -0.17$ and -0.15 , respectively), it was also related to more alcohol use ($r = 0.10$). Paid employment was associated with increased odds of ever having used tobacco and alcohol at the end of high school (OR = 1.46). Although these results do not allow for causal inferences, these results do suggest that youth choose from a range of contextual options in allocating their OST and these contexts set the scene for substance use (or not). In creating healthy environments for youth, communities should consider a range of organized options that suit youth preferences and share information with youth and families about the potential benefits and drawbacks of participation in different OST activities. Given these results regarding the implications of youths' choices in how they spend their time out of school, increasing motivation to participate in supervised and structured activities (e.g., those found at ASPs) may be a crucial task for ASP staff.

Peterson (2017) examined how youth participating in an after-school youth leadership program viewed the program's effects on their dietary behavior, body image, and self-esteem using qualitative methods. This study examined the views of five female-identifying students in eighth grade (13–14 years old) who were participants in an after-school leadership program for female youth. The program included 20 youth total and involved meetings led by a teacher and a guidance counselor after-school once a week for about 1.5 hr. Peterson conducted a focus group with these five adolescents using a semi-structured format. The audio recording of the focus group was audio recorded and transcribed, then coded and analyzed using theoretical thematic analysis (Braun & Clarke, 2006). Analysis of participants' responses suggested that the program increased consumption of fruits and vegetables and decreased consumption of sugar. Participants also noted that they more frequently asked their family to buy or prepare healthy foods, although they sometimes faced resistance from caregivers. Participants' responses also suggested that the program helped value and improve, confidence, self-esteem, and other strengths over appearance, and they reported an increased awareness of the media's effects on body image. Peterson's participants described the after-school program as a community where they felt belonging and safety. This research provides additional evidence that ASPs have positive impacts on youth social emotional and behavioral competencies.

Systemic Change

In addition to the important implications of OST activities for young people's healthy development, evidence suggests that PYD programs contribute to systems-level change. Durlak, Taylor et al. (2007) examined how PYD programs attempted and achieved success in influencing social systems at the level of the microsystem and the mesosystem. Durlak et al. specified that systems change targets underlying infrastructures within a community or other specific setting to

promote a desired outcome. Selected articles were chosen from a pool gathered for a review by Durlak and Weissberg (2005) of social and emotional skill development outcome studies. Included studies used at least one measure of individual behavior change and were published in English prior to 2006. Durlak et al. coded whether studies attempted change in seven categories, including (a) three school-related (i.e., schoolwide change, classroom-level change, psychosocial environment), (b) two family-related (i.e., parenting practices and family environment), (c) one community-related (i.e., connections with prosocial adults), and (d) one related to linking any of these micro-systems with another (i.e., mesosystemic change; for example, involving parents in school governance). Coding reliability was verified through a check of a random 10% of coded studies ($\kappa = 0.60\text{--}0.95$) and disagreements were resolved through discussion (Durlak et al., 2007).

Durlak et al. (2007) provided a frequency count of how often each micro- and mesosystem was targeted for change. Overall, 64% (336 of 526 reviewed) of interventions targeted change at either the micro- or mesosystemic level, and the school system in general was targeted most frequently by 24% of the interventions. Durlak et al. summarized a second set of results consisting of the extent to which studies evaluated the systems change component(s) of their intervention and the results that they achieved. They found that only 24% of the intervention studies that attempted systems' change evaluated these efforts and that 85% of the assessment measures used for this purpose were questionnaires. Durlak et al. calculated post mean effect sizes (ES), which emerged as significant in six out of the seven categories (listed above) of systemic change efforts and ranged from 0.34 for the family environment to 0.78 for classroom change. The only nonsignificant result was a post mean ES of -0.26 for youth bonding to community adults (in the community category, based on two interventions); Durlak et al.

hypothesized that the lack of findings in this area may have been due to excluding studies with youth who had identified problems. The overall significant positive effects indicated that systems change efforts were effective in influencing both the immediate environments of youth (i.e., microsystems) as well as relationships between environments (i.e., mesosystems). However, Durlak et al. discussed the difficulty of evaluating whether efforts at systems change have been successful when studies fail to measure the effects of an intervention on a system or systems, also noting that more studies attempted a systemic change than explicitly evaluated these effects. Additionally, Durlak et al. noted that although it is often implicit that systems change was responsible for individual-level changes, future research should use designs (e.g., randomization of control and treatment conditions) that allow for causal inference regarding connections between changes in adult behavior and changes in children's behavior over time. Therefore, methods of assessment and analysis should be guided by research questions to discern whether systems change interventions have been successful in influencing both the system and the actors within those systems (Durlak et al.).

Others have proposed that research on positive youth development programs has the potential to promote social justice outcomes (Fisher et al., 2012) by attending to group differences in outcomes based on PYD program factors (Williams & Deutsch, 2016). However, more empirical research is necessary to discover how positive youth development programs, such as ASPs, can create more equitable environments by considering the intersectional identities of youth. Future research should also consider what professional skills ASP staff need to promote all youths' positive development.

Program Quality and Results

Although research has investigated how ASP programming can be structured to provide the most benefit to youth (Durlak et al., 2010), less research has focused on the adults who facilitate these important programs. Relationships with competent adults may be a gateway to youth skill development (Hurd & Deutsch, 2017). Indeed, children in middle childhood who attended after-school programs with more positive staff-child relationships made more gains in reading and math in second grade and more gains in reading in third grade than those who did not attend after-school programs (Pierce et al., 2010). Hurd and Deutsch (2017) suggested that ASP program quality hinges on staff competency in implementing programs effectively and that barriers to skill development include low pay, low initial levels of skill, and high turnover. Thus, worthy targets of research and policy may be creating quality training for staff and shaping ASP workplace environments to sustainable employment.

Conclusions and Remaining Questions

ASP's have shown promising effects on youth academic achievement (Good & Sim, 2016; Lauer et al., 2006), physical fitness (Beets et al., 2009; Zarrett & Bell, 2014), social and personal skills (Durlak et al., 2010; Pierce et al., 2010), and school attendance (Good & Sim, 2016). These programs also ambitiously attempt systems-level change with some success (Durlak et al., 2007). However, evidence suggests that youth who live in chaotic neighborhoods, have more peer drug models, and are more absent from school (i.e., youth who were most at risk) are more likely to drop out of ASPs (Weisman & Gottfredson, 2001). ASPs cannot benefit those who do not attend, and scholars consistently call for increased research on how to maintain youth engagement and participation in ASPs (Durlak & Weissberg, 2007; Weisman & Gottfredson, 2001). Research on the outcomes of OST programming has not typically included a representative sample of all identity groups (Young et al., 2017), and at-risk youth should be

explicitly included in future research on ASPs in order to determine how programs may facilitate the engagement and attendance of this specific group.

Overall, higher quality programming is associated with higher ASP program attendance (Fredricks et al., 2017). Indeed, youth who dropped out of ASPs cited boredom as the main reason for leaving, suggesting that engaging activities and reinforcement for attendance are necessary to compete with alternative and less beneficial activities (Weisman & Gottfredson, 2001). Evidence suggests that programs that include sequenced, focused, active, and explicit methods for training youth are more effective influences on social and personal skills (Durlak et al., 2007).

However, ASPs are not always effective. Research has produced mixed results on the effects of ASP, OST, and PYD programming on outcomes such as academics (Good et al., 2014) and socio-emotional skills (Hurd & Deutsch, 2017). Deutsch et al. (2017) suggested that future research should attend to how programs produce positive outcomes for youth rather than simply focusing on whether they are effective in order to contribute to program improvement. Staff development has been suggested as a target of this process research (Deutsch et al., 2017; Hurd & Deutsch, 2017). Because of the wide variability in staff backgrounds and program activities, and the positive youth development focus of ASPs, MI may present a feasible and flexible professional development option for professionals in these settings working with youth who are ambivalent about program engagement and attendance. AmeriCorps programs, such as Partners for After School Success (Good & Sim, 2016), train large numbers of individuals working in ASPs and may incorporate MI into their training sequence to facilitate dissemination. MI is preventative in nature, and even very brief interventions have shown positive effects (e.g., Suldo et al., 2021; Tait & Hulse, 2003). Although MI is not a cure-all for every behavioral or mental

health concern (Miller & Rollnick, 2013), this client-centered treatment aligns well with the positive, strengths-focused mission of many ASPs. MI also represents an evidence-based practice for conversations about change, with almost 40 years of research in diverse adult populations, and growing evidence across behavioral domains for use with adolescents (Snape & Atkinson, 2016).

The transfer of MI to ASPs requires thoughtful training and program monitoring. Although professionals in these settings may already have some training in MI, evidence suggests that implementation fidelity will be low unless trainees are given opportunities for practice and feedback based on direct observation (Miller et al., 2004; Miller & Rollnick, 2013). Monitoring implementation is also an important research goal for improving program quality, for in order to attribute observed effects to an intervention it is necessary to know what has been implemented.

Research Questions and Hypotheses

1. How much do participants engage and participate in the training and feedback sessions?

Hypothesis: After-school participants are expected to engage and participate in training and feedback sessions at similar levels to previous studies examining MI training for school-based professionals (e.g., Frey et al., 2017).

2. To what extent does the motivational interviewing competency and self-efficacy of after-school professionals change after a motivational interviewing workshop training with subsequent feedback sessions?

Hypothesis: The motivational interviewing competency and self-efficacy of after-school professionals is expected to increase after a motivational interviewing workshop training with subsequent feedback sessions.

3. To what extent does the motivational interviewing competency and self-efficacy of after-school professionals change after a motivational interviewing workshop training without subsequent feedback sessions?

Hypothesis: The motivational interviewing competency and self-efficacy of after-school professionals is expected to stay the same after a motivational interviewing workshop training without subsequent feedback sessions.

4. To what extent do after-school professionals perceive motivational interviewing training and feedback sessions to be socially valid?

Hypothesis: After-school professionals are expected to perceive motivational interviewing training and feedback sessions to be socially valid.

CHAPTER 2

METHOD

This two-study project was developed in collaboration with the Partners for After School Success (PASS) AmeriCorps program leadership and AmeriCorps Members. Study 1 took place between November 2019 and March 2020; Study 2 took place between December 2020 and March 2021. Due to participant attrition, Study 1 used a combined quantitative and qualitative approach to give participants a variety of modalities with which to express their knowledge and experience. A non-experimental, observational method was used to collect quantitative information and individual interviews were conducted with select participants to gather open-ended information associated with the research questions. The combined quantitative and qualitative approaches were consistent with an explanatory sequential mixed-methods design in which quantitative data were collected and analyzed and then qualitative data were subsequently collected with select participants to help explain quantitative results (Creswell & Plano Clark, 2017). Creswell and Plano Clark (2017) noted that this design may be used to follow up on quantitative results that are unclear, unexpected, significant and/or non-significant, or results that represent extreme cases or outliers. In Study 1, quantitative results were based on a small sample size and potentially did not reflect a representative range of participant experiences. Therefore, qualitative interviews were included to clarify and further elaborate the participant experience of MI training for after-school professionals.

Study 2 was a non-experimental quantitative study that was used to answer the same research questions as in Study 1. However, Study 2 included design modifications in two major areas: (a) modifications intended to increase participation and engagement and (b) modifications designed to convert all study activities and components to an online format due to the worldwide

COVID-19 pandemic that resulted in drastic changes to everyday activities, including the delivery of after-school programs.

In 2019-2020 and 2020-2021, PASS members experienced exceptional difficulty engaging adolescents (primarily middle school youth) and managing increased demand for services due to the pandemic and ongoing virtual learning in local schools. According to PASS Quarterly Reports, by August 2020, 224 students had been matched with PASS tutors for academic support, but only 50 students (22.32%) completed tutoring during 2019-2020 year by receiving at least 15 tutoring sessions (Partners for After School Success, 2020). In August 2020, 744 students had been enrolled in Extended Learning Programs (ELP; after-school activities), which fell short of the target of 800 students. Due to social distancing requirements, programs still offering in-person services had limited capacities, and attendance at virtual programming was less well-attended than typical in-person programming. Demand for academic support increased in the 2020-2021 school year: by March 31st, 2021, 344 students had been matched with PASS tutors, exceeding the target number of tutees. However, only 490 students were enrolled in Extended Learning Programs (after-school activities) by March 31st, 2021, which again fell below the target of 800 students (Partners for After School Success, 2021). In 2020-2021, PASS Members found that virtual learning afforded the opportunity to tutor more students by serving students both virtually and in-person. Program staff noted that AmeriCorps Members serving at community centers were strained by the additional responsibility of providing physical space, supervision, and support for students attending school virtually, which is not typically part of their programming (B. Erickson, personal communication, July 28th, 2021). For PASS Members, the challenges involved in engaging youth during the pandemic both virtually and in-

person may have presented barriers to participation in the present research, mostly during 2020-2021.

Design modifications to increase participation and engagement included (a) giving participants more time to complete pre-training and post-training assessments, (b) not seeking out commitments during the initial consent process for participating in group feedback sessions, and (c) not collecting follow-up data from participants who failed to complete all the group feedback sessions. Modifications to shift all study activities to an online format were necessary due to the online delivery format of all training for PASS AmeriCorps Members during the 2020-2021 year. Training activities were delivered online during the COVID-19 pandemic to reduce the spread of the virus. Modifications to increase participation and engagement were necessary given the low response rate in Study 1 and were designed to increase initial willingness to participate and increase the response rate at follow-up in Study 2.

Study 1

Method

Researchers' personal backgrounds and experience with research may inform interpretations of qualitative data (Creswell & Creswell, 2018), therefore the primary researcher's characteristics are explicitly described in this section. The primary researcher identifies as a cis-gender white woman and during this research she was a doctoral student in the School Psychology Program at a large midwestern university. At the time of the present research, the primary researcher had a master's degree in Educational Psychology, and she worked on qualitative and quantitative research about home-school partnerships during graduate school and quantitative research in the field of addiction medicine prior to entering graduate school. Prior to graduate school, the researcher was a PASS AmeriCorps Member and served at a community

site for one year working with middle and high school students. As a former PASS Member, the researcher was positioned to understand the study participants, their work, and their training needs from her own experiences with the program.

The research assistants on this project included four other doctoral students in the same school psychology program as the primary researcher. One research assistant identified as male, and the other three identified as female. Three of these research assistants had also worked on research on home-school partnerships with the primary researcher and others. Due to these shared training and research experiences, the research assistants likely had similar understandings and beliefs about the qualitative research process and reliability standards used to evaluate this work.

Participants

Participants in the quantitative portion of Study 1 were all PASS AmeriCorps Members in after-school programs in one mid-sized midwestern city and surrounding area. The after-school programs were located in schools and community centers. Each participating PASS AmeriCorps Member was at least 18 years old. Participants in Study 1 were recruited from a total of 25 individuals, including 21 PASS AmeriCorps Members and four non-AmeriCorps staff at the after-school program host sites. Nine Members were serving in full-time (1700 hr) positions, and 12 were serving in half-time (900 hr) positions. Individuals were recruited at in-person AmeriCorps meetings, via email, and through individual meetings with interested participants. Interested individuals self-selected into the study by signing a paper consent form provided by the researcher at which time they also indicated whether they were interested in participating in the group feedback sessions following the two-part workshop training, or just the workshop training.

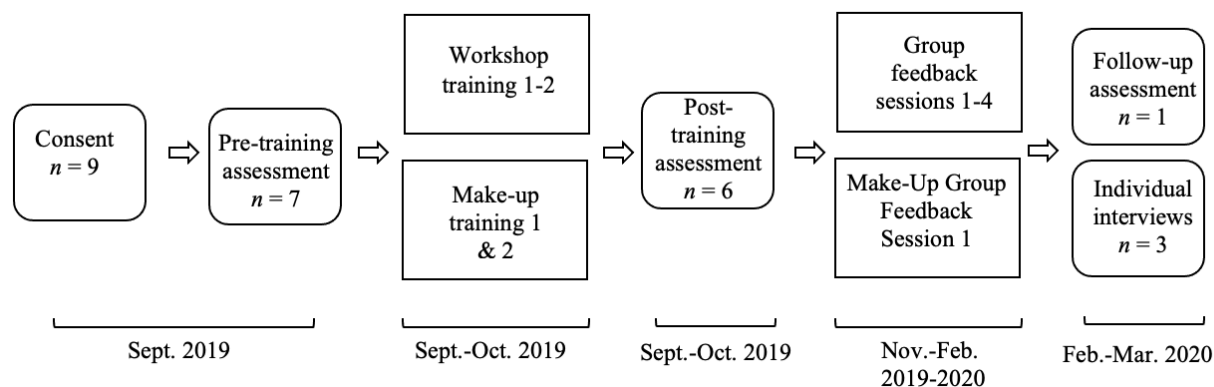
Of the pool of 25 individuals, nine consented to participate (36%); three individuals only participated in the workshop and six individuals participated in the workshop training and group feedback sessions. The only exclusionary factor was noncompletion of the MI training. Of the nine individuals who originally consented to participate, seven (77.78%) filled out the pre-training assessments, six (66.67%) completed the post-training assessments after the second workshop training, and one (11.11%) completed the follow-up assessments. However, three participants completed only the pre-training assessments and two participants completed only the post-training assessments; consequently, those five participants' data were not included in pre-post analyses reported in this work. One participant completed the assessments at all three time points.

Participants who missed the workshop training and group feedback sessions were offered make-up sessions. Participant 1 was not able to attend the first workshop training and consequently met with the researcher individually to cover the material after the second workshop training). Participant 8 was unable to attend the second workshop training and instead met with the researcher on October 2, 2019, to cover the material. Both Participants 1 and 8 completed the post-training assessments after the make-up workshop trainings. Participant 7 did not attend either workshop training due to schedule conflicts, and did not respond to the researcher's email outreach about scheduling make-up trainings. During the group feedback sessions, Participant 9 was unable come to the first group feedback session and instead met with the researcher to go over the content of the session on October 31, 2019. During make-up sessions, participants were able to practice MI techniques with the researcher. All meetings happened in private rooms at public library locations convenient for participants.

Following the conclusion of the group feedback sessions, the four participants who took part in all the training stages (i.e., workshop trainings, group feedback sessions) were invited to participate in individual interviews. Three participants (75%) consented to participate, were interviewed, and thus contributed to the qualitative results in Study 1. Figure 1 shows the flow of participants through the different phases of Study 1. Table 1 shows individual participation in each training and assessment component of Study 1. Approaches used to address missing data in Study 1 are discussed in more detail in Chapter 3.

Figure 1

Participant Flow for Study 1



MOTIVATIONAL INTERVIEWING IN AFTER-SCHOOL PROGRAMS

Table 1

Participation by Individuals in Study 1

Participant Number	Pre-assessment	WS1	WS2	Post-assessment	FB1	FB 2	FB3	FB4	Follow-up assessment	Individual interview
1	F	MU	F	F^						
2	F	F	F	F	F	F	F	F	F	F
3	F	F	F	F	F	F	F	F		F
4	F	F	F	F						
5	F	F	F							
6	F	F	F							
7	F^									
8		F	MU	F	F	F	F	F		F
9		F	F	F	MU	F	F	F		

Note. WS1 = workshop training one, WS2 = workshop training two, FB1 = feedback session one, FB2 = feedback session two, FB3 = feedback session 3, FB4 = feedback session 4. F = full participation/no missing constructs, ^ = missing item(s) MU = make-up training/feedback session.

Demographic characteristics (i.e., racial and gender identity, linguistic background, educational attainment, previous exposure to MI training, and length of time working at their current position) of seven participants (see Table 2) were collected prior to the initial workshop training as part of the pre-training survey. Seven individuals completed the pre-training assessment and demographic questionnaire, and four participants completed both the pre- and post-training assessments (measures/assessments are described more below). Overall, two participants had prior exposure to MI, and one had completed a four hr training and received individualized supervision and feedback from an MI expert. The four participants who completed both pre-training and post-training assessments had a mean age of 22.79 ($SD = 1.98$) years and had been in their positions for an average of 0.94 ($SD = 1.39$, range = 0–3) months. All four participants identified as White, with two (50%) participants identifying as Hispanic or Latino and two identifying as not Hispanic or Latino (50%). Two participants (50%) identified as male and two identified as female (50%). Three (75%) participants reported their highest attained educational degree as being a bachelor's degree and one participant (25%) reported their highest educational level as a high school diploma. Three participants (75%) had no previous exposure to MI, whereas one participant (25%) reported completing four hours of MI training and having received supervision and feedback from an MI expert in the past.

The three participants who completed the pre-training assessments but not the post-training assessments or follow-up assessments were similar to those who completed both sets of assessments in age ($M = 22.04$ years, $SD = 1.01$), level of experience in their positions ($M = 3.83$ months, $SD = 4.54$, range = 0.50–9.00), and exposure to MI (just one of three had been exposed before) as those who completed the pre- and post-training assessments. None identified as Hispanic/Latinx. However, among participants who did not complete post-training or follow-up

assessment, a greater proportion (two of three or 66.66%) identified as non-White, with one participant identifying as White, one as Black, and one as Asian.

Table 2

Study 1 Overall Participant Demographic Characteristics

Demographic variable	<i>n</i>	Percent of sample	<i>M</i>	<i>SD</i>
Age	7	77.78	22.46	1.57
Number of months in position	7	77.78	2.18	3.20
Ethnicity	7	77.78		
Hispanic or Latino	2	22.22		
Not Hispanic or Latino	5	55.56		
Racial Background	7	77.78		
White	5	55.56		
Asian	1	11.11		
Black	1	11.11		
Gender Identity	7	77.78		
Female	5	55.56		
Male	2	22.22		
Highest education completed	6	66.67		
High school diploma	1	11.11		
Bachelor's degree	5	55.56		
Previous Exposure to MI	7	77.78		
No exposure	5	55.56		
Limited exposure	1	11.11		
Attended an MI training	1	11.11		

Note. Two participants did not complete the demographic questionnaire.

Of the four individuals in Study 1 who completed all training stages (i.e., both workshop trainings and all group feedback sessions), three consented to participate in one-on-one interviews with the researcher. Their demographic characteristics are reported in Table 3 below. All three participants identified as White, two participants (66.67%) identified as male, and one participant (33.33%) identified as non-binary. One participant (33.33%) previously attended an MI training and two participants (66.66%) had no previous experience with MI prior to the current study. All participants had completed a bachelor's degree.

Table 3*Individual Interview Participants*

Participant	Racial identity	Gender identity	Age	Months in position	Prior experience with MI	Level of education
2	White	Male	25	6	None	Bachelor's degree
3	White	Male	24	6	None	Bachelor's degree
8	White	Non-binary	25	18	Attended an MI training	Bachelor's degree

Measures

The American Psychological Association (2020) recommended clarifying data sources in mixed-methods studies using a table or “implementation matrix.” Table 4 includes the information sources that contributed to the quantitative and qualitative data for Study 1.

Table 4*Implementation Matrix for Study 1*

Data source		Data collection period	Participants	Research question
Quantitative (closed-ended)	Revised MITS Coaching Checklist	Pre-Training Post-Training Follow-Up	Researcher-reported information about individual participants	1
	WASE-SBA	Pre-Training Post-Training Follow-Up	Participant 2 (Question 2) Nine participants who completed pre-and/or post-training measures (Question 3)	2, 3
	VASE-3-SBA	Pre-Training Post-Training Follow-Up		2, 3
	MISE Questionnaire	Pre-Training Post-Training Follow-Up		2, 3
	Feedback Survey-Workshop Trainings	Post-Training		4
	Feedback Survey-Group Feedback Sessions	Follow-Up		4
Qualitative (open-ended)	Individual Interviews	Follow-Up	Three individuals who completed training (2/3 also contributed quantitative data)	1, 2, 3, 4

Engagement and Participation

The Revised MITS Coaching Checklist was adapted from the Motivational Interviewing Training and Assessment System (MITAS; Frey et al., 2017; Small et al., 2020) project to measure participant engagement and participation. The primary researcher completed the checklist for each participant at the conclusion of their participation. Therefore, the primary researcher assessed those who only participated in the workshop training after the workshop training and those who participated in the group feedback sessions after the final group feedback session. The revised checklist includes items assessing whether the participant attended each training session and feedback session. The checklist also includes six questions about participant engagement during the workshop and feedback sessions (e.g., “The consultant asked questions and/or sought advice from me”) assessed on a scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Motivational Interviewing Competency

The following MI skills measures, which were developed to reflect common situations in educational contexts, were used to measure participants’ MI skills before the workshop training, after the workshop training, and after the feedback sessions.

Written Assessment of Simulated Encounters–School-Based Applications (WASE-SBA). The WASE-SBA (Lee et al., 2013b) was adapted from the Helpful Responses Questionnaire (Miller et al., 1991) to include situations from educational rather than clinical settings. Small et al. (2014) reported acceptable internal consistency for the WASE-SBA ($\alpha = .71-.76$). All items on the WASE-SBA demonstrated acceptable inter-rater reliability as measured by the intraclass correlation (ICC), ranging from .54 to .95. The WASE-SBA total score had high inter-rater reliability (ICC = .92). This adapted measure asks respondents to write

what they would say next to six hypothetical individuals in school settings. The measure includes four negative statements and two positive statements attributed to four teachers, a mother, and a father. Although participants mostly worked with youth, and none of the scenarios on the WASE-SBA involve an adolescent perspective, the prompts on the WASE-SBA more closely approximate the after-school context than the prompts on the original HRQ. The WASE-SBA also includes added scoring anchors not present in the original HRQ to facilitate reliable coding. Responses on the WASE-SBA are rated based on their consistency with MI technique on a scale of 1–5 (1 for responses containing *no reflection and including a roadblock* and 5 for responses that include *paraphrasing or inferred meaning or emotion*). The six item scores are then added together to create a total score, with possible scores ranging from six to 30. A score of 75% or greater on total score (i.e., at least 22.5/30) indicates basic proficiency in MI.

Video Assessment of Simulated Encounters–School-Based Applications (VASE-3-SBA). The VASE-3-SBA (Lee et al., 2013a) was adapted for greater consistency with school contexts from the Video Assessment of Simulated Encounters-Revised (Rosengren et al., 2005). The VASE-3-SBA also demonstrated acceptable internal consistency and inter-rater reliability (Small et al., 2014). Internal consistency as measured by coefficient α ranged from .77 to .81. As with the WASE-SBA, inter-rater reliability for the VASE-3-SBA was measured using ICCs. Consistency in subscale ratings ranged from an ICC of .79 on change talk to an ICC of .99 on the reflective listening and developing discrepancy subscales. The ICC of the VASE-3-SBA total score was .99. The concurrent validity of the VASE-3-SBA and the WASE-SBA is reflected by the significant and high correlation between the total scores of these measures ($r = .89, p < 0.001$) found by Small et al. (2014). The VASE-3-SBA prompts respondents to write about what they would say next in 24 total responses to three short video vignettes depicting school-based

scenarios (eight responses for each scenario). Responses are rated on a three-point scale based on their consistency with MI technique in five areas: (a) reflective listening, (b) response to discord, (c) summarizing, (d) eliciting change talk, and (e) developing discrepancy. A score of either 1 or 2 indicates that the response may elicit/reinforce sustain talk or engender discord, whereas a score of 3 indicates a motivational response. In the current version of the VASE-3-SBA, items load onto four subscales (i.e., open questions, affirmations, reflections, and summaries) that are summed to yield a total score (range = 0–48). A score of 75% or greater on each subscale and the total score (i.e., at least 36/48 on the total score, 9/12 on open questions, 4/6 on affirmations, 18/24 on reflections, and 4/6 on summaries) indicates basic proficiency in that area of MI.

Motivational Interviewing Self-Efficacy. The Motivational Interviewing Self-Efficacy (MISE) Questionnaire is a seven-item scale adapted by Frey et al. (2017) from Young's (2010) 12-item MI Knowledge Questionnaire, which they designed to assess counselors' understanding of MI and feelings about one's own ability to use MI in practice (self-efficacy). Young developed the MIQ using Miller and Moyer's (2006) eight stages of learning MI. The 11-item MISE Questionnaire includes items from the MIQ designed to assess the respondent's self-assessed ability to use MI. When completing the MISE Questionnaire, participants use a Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) to respond to each item. Items scores are added together to create a Total Score, with possible values ranging from 11 to 55. Higher scores on the MISE indicate higher perceived MI self-efficacy and lower scores indicate lower perceived MI self-efficacy. This adapted measure has not been research validated.

Social Validity

Feedback surveys were adapted from the MITAS project and are included in Appendix A. These surveys were designed to assess training acceptability and were administered in a

combined Google Form with the WASE-SBA, VASE-3-SBA, and MISE Questionnaire at the post-training (for the workshops) and follow-up (for the group feedback sessions) assessment timepoints. The feedback survey for the workshop trainings includes 26 total questions. Twenty questions are about the content of the trainings, the presenter, and the format of the training and call for responses on a Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Three questions ask how much information in the trainings was new, review, and relevant to the individual's current work and participants responded by selecting *None*, *Some*, or *All*. One question asks to what extent the trainings met their expectations and is rated on a 5-point scale from *Did not meet my expectations* to *Exceeded my expectations*. Two narrative response questions ask what participants liked most and least about the sessions. The feedback survey for the group feedback sessions is composed of nine questions: eight about how the sessions were run, how feedback was delivered, and how helpful the sessions were with responses rated on a Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) and one narrative response question for additional feedback. Participants who completed the original feedback surveys in Frey et al.'s (2017) MITAS training gave similar satisfaction ratings to the workshop trainings and feedback sessions: the mean satisfaction rating for workshops was 4.6 ($SD = 0.4$) and the mean satisfaction rating for feedback sessions was 4.7 ($SD = 0.5$).

MI Implementation (Training Tool Only)

The Motivational Interviewing Treatment Integrity Code, Version 4.2.1 (MITI 4.2.1; Moyers et al., 2014) is a framework used to code each therapist or interventionist utterance during a session according to what category of MI skill it falls under (i.e., open question, affirmation, reflection, or summary) and how well the interviewer is aligned with global aspects of MI. The MITI was used to measure participants' MI implementation in practice exercises

during the group feedback sessions for training purposes, but data from this measure were not reported. The MITI was chosen to measure MI implementation because it has been used previously to measure interventionist MI implementation in school-based applications with parents and teachers (Frey et al., 2015, 2017). The MITI is also open source (i.e., free and available to the public) and the most commonly used instrument for measuring MI fidelity in the research literature (Moyers et al., 2016). The most current reliability research on this measure was conducted by Moyers et al. (2016) with the MITI Version 4.0. Moyers et al. found that the MITI 4 demonstrated average ICCs in the good to excellent range for all four global ratings (.64–.95) and ICCs in the fair to excellent range for the behavior counts questions (.87–.97), simple reflections (.59–.93), and complex reflections (.56–.91). Moyers et al. also determined that the MITI 4 global ratings were valid predictors of client change talk as measured by the Motivational Interviewing Skills Code (MISC; Miller et al., 2003) in overall sessions and 20-minute segments (from $r = .51$ for the MITI Empathy rating to $r = .55$ for Cultivating Change Talk, in both cases $p < .001$). However, none of the MITI global ratings were significantly correlated with session or segment sustain talk counts on the MISC, indicating that the MITI may not be a valid predictor of client sustain talk. Moyers et al. noted that their sample included relatively few instances of sustain talk that may have masked the relationship between the MITI's Softening Sustain Talk scale and the MISC's measure of client sustain talk. Thus, inferences regarding the influence of youth worker MI on youth in-session behavior may be made with more certainty about change talk than sustain talk.

Revisions made to MITA 4.1 from the MITI 4.0 included (a) clarifications to the way that interviewer speech is coded when asking permission to persuade a client, (b) revision of examples, and (c) correction of formatting errors (Moyers et al., 2014). Revisions from the MITI

4.1 to MITI 4.2.1 included additions to the categories of sustain talk, change talk, and seeking collaboration to clarify how interviewer speech should be coded. These changes are listed on page 2 of the MITI 4.2.1.

A scoring sheet used by the Tertiary First Step (TFS) research group to monitor the MI implementation fidelity of parent coaches (Frey et al., 2013, 2015) was used to record the global MI ratings of cultivating change talk, softening sustain talk, partnership, and empathy on a scale of 1–5 (1 = *low*, five = *high*). This scoring tool, called the TFS MITI 4.0 Tool, was also used to record instances of specific behaviors associated with MI including questions, simple reflection, and complex reflections using tallies. This scoring sheet was used by the researcher to provide feedback, as well as by participants to provide to guide the provision of peer feedback.

Procedures

Data were collected using remote online administration via Google Forms that were sent to participants via email. Reminders to complete post-training and follow-up assessments were also provided in person at the second workshop training, the fourth group feedback session, and by email. Pre-training data were collected from participants between September 15–17, 2019. Post-training data were collected between September 24 and October 31, 2019, and follow-up data were collected on March 7, 2020. No payment or compensation was offered to participants because AmeriCorps Members' employment agreements prohibit accepting compensation for AmeriCorps activities. Participants were able to log time spent in training and assessment for the study as part of their required training hours.

Training procedures included a two-session basic skills training in MI adapted from a training used for consultants working with parents (Frey et al., 2019) and four group feedback sessions conducted according to a protocol developed by the primary researcher and A.J. Frey

(see the Group Feedback Session Protocols in Appendix B). Before the first training session, all AmeriCorps Members and participating program staff were informed of the study procedures and purposes and asked to sign the informed consent form. Each training session was 3 hr long (6 hr total) and the trainings were provided to all PASS AmeriCorps Members and some program staff members in two consecutive regular weekly training meetings. The workshop trainings consisted of didactic training, video examples, demonstrations, role-plays, discussion, and corrective feedback.

For those who opted to participate, the second part of the intervention began after the workshop trainings. Each feedback session involved the primary researcher meeting with a small group of participants to discuss successes and challenges in implementing MI in after-school settings and review practice assignments. Participants also received two different practice assignments that they completed with a partner of their choice outside of the group feedback sessions and recorded on their own device. Participants uploaded their recordings to a shared folder and the primary researcher coded the recordings using the MITI 4.2.1 before giving participants written performance feedback on their MI fidelity. Prior to the next feedback session, participants selected a 5-minute section of audio to review with the group. During the third and fourth feedback sessions, the researcher and participants listened to the 5-minute audio segment selected by each participant and used the elicit-provide-elicited (EPE) framework to provide verbal performance feedback. Performance feedback (i.e., written and/or verbal) is considered an evidence-based method of improving implementation fidelity among educators (Fallon et al., 2015).

The measures of MI competence (i.e., WASE-SBA, VASE-3-SBA) were administered to all participants at three time points: (a) before the workshop trainings (i.e., pre-training), (b) after

the workshop trainings (i.e., post-training), and (c) after the fourth group feedback session (i.e., follow-up) as noted in the Implementation Matrix (Table 3).

The explanatory sequential nature of this mixed-methods research is a result of the ordering of data collection, with qualitative following quantitative. Interview questions were designed, conducted, and analyzed using a phenomenological thematic approach.

Phenomenological studies seek to describe the lived experiences of several individuals who have experienced the same phenomenon and describe fundamental features of that experience (Creswell & Poth, 2018). In this case, the phenomenon of interest was the workshop training and subsequent feedback sessions experienced by the four participants in Study 1. Phenomenological research is focused on interpreting meaning and is a commonly used qualitative method in the social sciences, including counseling, counselor education, and supervision (Miller et al., 2018). Thematic analysis of individual interview data was conducted based on the work of Braun and Clarke (2019).

Individual interviews were conducted after the last group feedback session and took place between February 26 and March 7, 2020. Participants met with the primary researcher for one interview each at a location that was convenient for them, which included a private room in a public library, community center, or in a location at the researcher's university. Participants were told that interviews would last no longer than one hour, and interview times ranged from 14 min, 19 s to 53 min, 52 s ($M = 31.74$ min, $SD = 20.19$). Interview times varied due to the amount of information participants gave in response to each question and how quickly participants spoke. The individual interview questions (Appendix E) were mostly open-ended and reflected the content of the four research questions in this study. Questions asked participants about their MI competence and self-efficacy before and after the training, as well as their perceptions of the

social validity of the training model. The primary researcher was trained in clinical interviewing and had received extensive supervision and feedback on interviewing techniques during their school psychology graduate training. This helped the researcher manage the influence of bias due to background characteristics and experiences with participants using these clinical interviewing skills and practice.

During each interview, the researcher collected an audio recording using a free mobile application for Android called Voice Recorder. They then transferred the mp3 files to a secure online location. The researcher transcribed each interview verbatim in a word document. No transcription software was used during this research.

The University of Wisconsin–Madison Institutional Review Board categorized this study as exempt from full review, meaning that it was judged to pose no more than minimal risk to participants and was not subject to continuing review.

Data Analysis

Quantitative

Two methods were used to assess reliability in the quantitative portion of this research. Inter-rater reliability (IRR) was assessed for WASE-SBA and VASE-3-SBA pre-training and post-training data in Study 1 to assess rater consistency and verify the primary researcher's competence to code these assessments. The fidelity of implementation of the group feedback sessions was rated by the primary researcher and an independent coder, and inter-observer agreement (IOA) was assessed for fidelity ratings of the group feedback sessions to determine IRR.

The statistical analysis used by Frey et al. (2017) to assess IRR for WASE-SBA and VASE-3-SBA was replicated in this study. Intra-class correlations (ICC) using a two-way mixed

effects model (Shrout & Fleiss, 1979) were used to determine IRR across the primary researcher and a trained coder involved in the MITAS project. Each coder independently coded all 13 of the pre- and post-training WASE-SBA and VASE-3-SBA assessments from Study 1. Thus, coders completed double coding on 37.14% of the total WASE-SBA assessments (13 of 35) and 39.39% of the total VASE-3-SBA assessments (13 of 33). The coders communicated about specific instances of disagreement to resolve questions about coding method. The primary researcher calculated ICCs for individual items and the total score of the WASE-SBA, as well as subscale scores and the total score for the VASE-3-SBA using SPSS 26. Cicchetti's (1994) guidelines for assessing the clinical significance of reliability coefficients were applied to evaluate the resulting ICCs ($<.40$ = poor, $.40-.59$ = fair, $.60-.74$ = good, $.75-1.00$ = excellent). Intra-class correlations for the WASE-SBA and VASE-3-SBA total scores were excellent, ranging from 0.97 for the WASE-SBA to 0.98 for the VASE-3-SBA. Item-level ICCs on the WASE-SBA were all in the excellent range (range = 0.92–0.99), and ICCs for the VASE-3-SBA subscales were in the fair to excellent range (0.44–1.00). Table 5 shows the ICCs calculated for the WASE-SBA and VASE-3-SBA.

Table 5*Intra-Class Correlations for the WASE-SBA and VASE-3-SBA*

Score category	95% Confidence interval		
	ICC	Lower Bound	Upper Bound
WASE-SBA Total Score	0.97	0.91	0.99
WASE-SBA item 1	0.93	0.80	0.98
WASE-SBA item 2	0.94	0.82	0.98
WASE-SBA item 3	0.99	0.96	1.00
WASE-SBA item 4	0.96	0.87	0.99
WASE-SBA item 5	0.99	0.97	1.00
WASE-SBA item 6	0.92	0.74	0.97
VASE-3-SBA Total Score	0.98	0.95	1.00
Open questions	0.44	-0.54	0.82
Affirmations	0.93	0.76	0.98
Reflections	1.00	0.99	1.00
Summaries	0.93	0.78	0.98

The primary researcher coded the audio of each group feedback session for fidelity to the session protocol and a trained graduate student double-coded the audio recordings of the group feedback sessions. The Group Feedback Session Checklist was used to assess implementation fidelity (Appendix C). A separate checklist was constructed for feedback Sessions 1–4 consisting of the session objectives outlined in the Group Feedback Session Protocol for the sessions (Appendix B). These session objectives included steps from the Elicit-Provide-Elicit framework described by Miller and Rollnick (2013) and used in the MITAS project (Frey et al., 2017). After

each group feedback session, the primary researcher completed the Group Feedback Session Checklist for that session and a trained school psychology graduate student independently reviewed the audio recording from each session and completed the corresponding session checklist. Mean implementation of protocol items across sessions as assessed by the primary researcher was 95.5% (SD = 6.2) and ranged from 87.5% (Session 2) to 100% (Sessions 1, 4). Point-by point agreement was calculated to evaluate IRR for the implementation fidelity of group feedback sessions and agreement for all group feedback sessions, and the average IRR across sessions was 96% (range = 80%–100%).

Repeated measures of MI confidence (i.e., MISE Questionnaire) and competence (i.e., WASE-SBA, VASE-3-SBA) were analyzed using descriptive statistics including the mean and standard deviation for the MISE, WASE-SBA, and VASE-3-SBA total scores, as well as the mean and standard deviation of the VASE-3-SBA subscale scores across participants. The difference between pre-training, post-training, and follow-up (if relevant) scores was also calculated for these measures to measure the extent to which MI confidence and competence changed after the workshop training and the group feedback sessions. Analysis of change did not include parametric or non-parametric tests of significance because (a) assumptions of randomness and normal distribution for parametric tests such as within-subjects analysis of variance (ANOVA) and paired-samples *t*-test were violated, and (b) the small number of non-missing paired samples was small (less than five), making non-parametric tests for paired samples (such as the Wilcoxon signed-rank test; Wilcoxon, 1945) unlikely to yield a significant result.

Data from the Feedback Surveys were also summarized using descriptive statistics and quotes to determine whether the training and group feedback sessions were feasible and

acceptable to ASP staff. Recommendations for modifications were summarized in narrative form.

Qualitative

Several strategies were used to create an audit trail and achieve credibility in analysis of the qualitative interviews as recommended by Trainor and Graue (2014; e.g., Garbacz et al. 2021). The researcher's positionality and background characteristics were explicitly outlined earlier in the Method section. Credibility checks were also performed in the analysis process by using independent unitization of participant speech, explicitly defining coding processes using manuals, and assessing reliability between coders. First, the primary research assistant worked with a trained research assistant to unitize and categorize the data. These two primary coders created (a) a manual to describe how units of meaning were formed and (b) a manual to describe the thematic categories. Then, a third trained research assistant used these manuals to independently unitize and categorize the transcribed participant speech from each interview. Point-by-point agreement was calculated after each stage of independent coding and the primary researcher and two research assistants met to discuss and resolve all disagreements. Agreement calculations demonstrate the degree to which coders independently arrived at the same conclusions about the meaning of participant statements (before resolving disagreements). In the process of resolving disagreements and categorization, the meaning distilled from these interviews was consolidated through collaborative discussion.

Individual interviews were conducted and analyzed using a phenomenological thematic approach as previously described. The primary researcher created a spreadsheet organized by participant responses to each question (responses were not separated by respondent in the spreadsheet, because the goal of this process was to distill common meaning from participants'

experiences). Themes were created by separating participants' responses into units of meaning and categorizing those into larger groups, using a thematic approach (Braun & Clarke, 2019). First, participant responses were unitized, or divided into the smallest possible units of meaning, by the primary researcher and research assistant. These primary coders also created a unitization manual (Appendix F), which another trained research assistant (secondary coder) used to independently unitize all the participant responses. The researchers met to discuss coder questions and provide additional coding training during the unitization process. Point-by-point agreement between the primary coders and secondary coder was 75.2% at this stage. After independent coding, the researchers met to resolve disagreements and come to agreement on all final units, which led to the formation of a total of 249 final units.

The units were then categorized into minor categories by the primary coders, and the coders made a document describing each minor category and examples of units that fit in that category (Minor Category Definitions; see Appendix G). The secondary coder then independently categorized all the units using the minor category definitions. Inter-coder agreement after independent coding was 72.7% for the minor categorization stage. The researchers then met to resolve disagreements and come to agreement on minor categorization, which led to the formation of 34 minor categories (including "No Category," for units that did not fit in any category and that were irrelevant to the topic of MI training). The researchers collaboratively grouped minor categories into 11 major categories. Finally, the researchers together wrote a description of each major categories based on their content of units and minor categories.

Study 2

Method

The University of Wisconsin-Madison Institutional Review Board continued to categorize this study as exempt from full review, meaning that it was judged to pose no more than minimal risk to participants and was not subject to continuing review.

Participants

Participants in Study 2 were recruited from 27 total members of the PASS AmeriCorps Program (13 working full-time and 14 working half-time). One individual had previously participated in the Study 1 and was not eligible to participate in Study 2; thus, the total number of possible participants was 26. All study activities were completed online due to the COVID-19 pandemic. Individuals were recruited at virtual AmeriCorps trainings and by email starting approximately one month before the first MI workshop training. Interested individuals self-selected into the study by completing an online consent form at the beginning of the pre-training assessments. Of the pool of 26 eligible individuals, 15 (57.69%) consented to participate. Each participant was at least 18 years old and exclusionary factors included noncompletion of the MI training and having participated in Study 1. Demographic characteristics of each participant were collected prior to the initial workshop training as part of the pre-training survey, including racial identity, ethnic background, gender identity, educational attainment, previous exposure to MI training, and length of time working at their current position. In Study 2, 15 individuals completed the pre-training assessment and demographic questionnaire and seven individuals completed both the pre- and post-training assessments. Data from the eight participants who did not complete the post-training assessments was not included in pre-post analyses of MI self-efficacy and MI competence (Research Question 3), or analysis of social

validity (Research Question 4), although they were included in analyses of participation and engagement (Research Question 1). Unlike in Study 1, no make-up workshop trainings or feedback sessions were provided, although participants had two opportunities to attend each group feedback session to make these accessible for participants working different schedules. All trainings and feedback sessions were held online via video conferencing software due to the COVID-19 pandemic.

Figure 2 shows the flow of participants through the different phases of Study 2. Table 6 shows individual participation in each training and assessment component of Study 2. Approaches used to address missing data in Study 2 are discussed in more detail in Chapter 3.

Figure 2

Participant Flow for Study 2

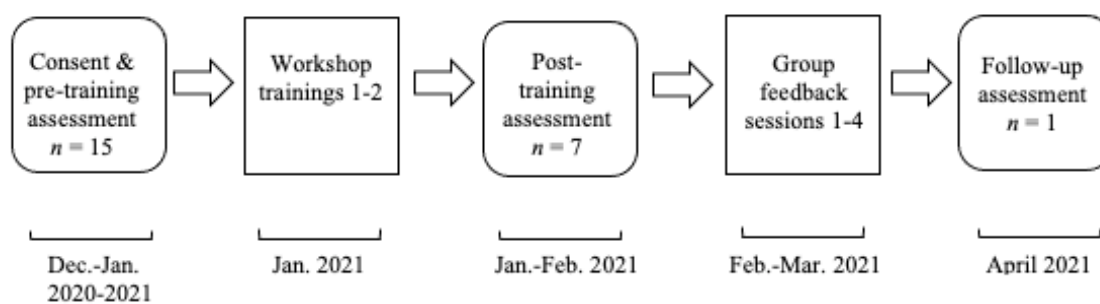


Table 6*Participation by Individuals in Study 2*

Participant Number	Pre-assessment	WS1	WS2	Post-assessment	FB1	FB2	FB3	FB4	Follow-up assessment
10	F	F	F	F	F	F	F	F	F
11	F	F	F	F					
12	F^	F	F	P					
13	F	F	F	F					
14	F^	F	F	P					
15	F	F	F	F^					
16	F^	F	F	F	F				
17	F	F	F						
18	F	F	F						
19	F	F	F						
20	F^	F	F						
21	F	F	F						
22	P	F	F						
23	F	F	F						
24	F								

Note. WS1 = workshop training one, WS2 = workshop training two, FB1 = feedback session one, FB2 = feedback session two, FB3 = feedback session 3, FB4 = feedback session 4. F = full participation/no missing constructs, P = partial participation (missing responses at the scale level), ^ = missing item(s).

All 15 participants' demographic characteristics are reported in Table 7. Overall, seven participants had prior exposure to MI; three completed MI training (mean number of hours = 10.33, $SD = 8.74$, range = 3–20) and two received individualized supervision and feedback from an MI expert. The seven participants in Study 2 who completed (at least partially) pre-training and post-training assessments had a mean age of 22.98 years ($SD = 0.69$) and had been in their positions for an average of 4.57 months ($SD = 0.79$). One participant (14.29%) identified their ethnicity as Hispanic or Latinx and six identified as not Hispanic or Latinx (85.71%). All seven participants identified as female. Of the seven participants, one (14.29%) identified as Black, one identified as Asian, one identified as Other (not specified), and four (57.14%) identified as White. Six of seven (85.74%) participants had earned a bachelor's degree and one individual did

not respond to the educational attainment item. Four individuals (57.14%) had no previous exposure to MI, two participants had limited exposure to MI (28.57%), and one individual (14.29%) had completed 20 hours of MI training, as well as supervision and feedback from an expert in the past.

The eight participants who did not complete post-training or follow-up assessments had similar ages ($M = 22.37$, $SD = 1.84$) and levels of experience in their positions ($M = 6.75$ months, $SD = 4.65$, range = 4–16) as those who did complete further assessment. A similar proportion also identified as Hispanic/Latinx (1 of 8 or 12.5%). However, among participants who did not complete post-training or follow-up assessment, a greater proportion identified as non-female, non-white, and non-college educated. Five of eight (62.5%) identified as female, one (12.5%) identified as male, one (12.5%) identified as a transgender man, and one (12.5%) identified as non-binary. Regarding race, three of eight participants (37.5%) identified as White, two (25%) identified as Black, two (25%) identified as Other (not specified), and one participant did not respond. Fewer participants in this group had attained a bachelor's degree (three of eight, or 37.5%), and 12.5% (one of eight) and 50% (four of eight) had earned an associate degree and a high school diploma respectively.

Table 7*Study 2 Overall Participant Demographic Characteristics*

Demographic variable	<i>n</i>	Percent of Sample	<i>M</i>	<i>SD</i>
Age	15	100.00	22.65	1.41
Number of months in position	15	100.00	5.73	3.51
Ethnicity	14	93.33		
Hispanic or Latinx	2	13.33		
Not Hispanic or Latinx	12	80.00		
Racial Background	14	93.33		
Asian	1	6.67		
Black	3	20.00		
White	7	46.67		
Other	3	20.00		
Gender Identity	15	100.00		
Female	12	80.00		
Male	1	6.67		
Transgender man	1	6.67		
Non-binary	1	6.67		
Highest education completed	14	93.33		
High school diploma	4	26.67		
Associate degree	1	6.67		
Bachelor's degree	9	60.00		
Previous Exposure to MI	15	100.00		
No exposure	8	53.33		
Limited exposure	3	20.00		
Read articles/books	1	6.67		
Attended an MI training	3	20.00		

Measures

The measures used in the Study 2 were the same as the quantitative measures used in Study 1. The measures of MI competence (i.e., WASE-SBA, VASE-3-SBA) were administered to all participants at two time points including (a) before the workshop trainings (i.e., pre-training) and (b) after the workshop trainings (i.e., post-training). Follow-up assessments were administered to the one participant who completed group feedback Session 4. Similarly, data were collected using remote online administration via Google Forms that were sent to

participants via email. Reminders to complete post-training and follow-up assessments were also given during the second workshop training, the fourth group feedback session, and by email. Pre-training data were collected from participants between December 18, 2020 and January 15, 2021. Post-training data were collected between January 25 and February 19, 2021 and follow-up data were collected on April 6, 2021. As in Study 1, no payment or compensation was offered to participants, but participants were again able to log time spent in training and assessment for the study as part of their required training hours.

The MITI 4.2.1 (Moyers et al., 2014) was also used for training purposes during Study 2 to measure MI implementation in two practice exercises (a values discovery activity, and an unstructured conversation about a typical youth behavior). The researcher gave participants a guide for each practice exercise (Appendix D).

Data Analysis

As in Study 1, fidelity of implementation and inter-observer agreement (IOA) were assessed for the group feedback sessions to determine integrity of implementation for this component of the training. The primary researcher coded the audio of each group feedback session for fidelity to the session protocol and a trained graduate student double-coded the audio recordings of the group feedback sessions. The Group Feedback Session Checklist was used to assess implementation fidelity (Appendix D). Mean implementation of protocol items across sessions as assessed by the primary researcher was 100% in all four sessions. Point-by-point agreement was calculated to evaluate IRR for the implementation fidelity of group feedback sessions, and the average IRR was 96% (range = 83%–100%).

The approach used in Study 1 was also used for repeated measures of MI confidence (i.e., MISE Questionnaire) and competence (i.e., WASE-SBA, VASE-3-SBA) due to the small sample

size in Study 2. Descriptive statistics including the mean and standard deviation were calculated for the MISE, WASE-SBA, and VASE-3-SBA total scores, as well as the mean and standard deviation of the VASE-3-SBA subscale scores across participants. The difference between pre-training, post-training, and follow-up (if relevant) scores was calculated to measure the extent to which MI confidence and competence changed after the workshop training and the group feedback sessions.

Data from the Feedback Surveys was also summarized using the same approach as in Study 1 in which descriptive statistics and quotes were analyzed to determine whether the training and group feedback sessions were feasible and acceptable to ASP staff. Recommendations for modifications were summarized in narrative form.

CHAPTER 3

RESULTS

Chapter 3 separately describes the results of Study 1 and Study 2. First, Study 1 results are presented, and within these results the quantitative and then qualitative results are described. The results of Study 2 are then presented later in this chapter.

Study 1

Quantitative Results

The quantitative, followed by the qualitative, results of Study 1 are presented in this section. The quantitative results are presented by research question, and the qualitative data is presented by theme in alignment with the analysis approach. A discussion of missing data and methods used to address this precedes the results.

Methods Used to Address Missing Data

Missing data occurred in Study 1 at the item-, construct-, and person-levels. Guidelines outlined by Newman (2014) and Downey & King (1998) were used to address missing data at the construct- (i.e., when one or more scales were missing from a participants' responses) and item-levels (i.e., when one or two items were missing from a scale). According to Newman's guidelines, all the available data were used rather than deleting participants listwise who were missing entire constructs/scales. All completed scales (i.e., WASE-SBA and VASE-3-SBA total scores, as well as VASE-3-SBA subscales) were used to calculate the mean scores for that measure. To address missing data at the item level, mean substitution across items (i.e., within person; Downey & King, 1998) was used to impute the missing values when no more than one item was missing from a scale (this tolerance for item-level missing data was established as recommended by Parent, 2013). In mean substitution across items, the average of one

participant's available items within a scale are used to substitute the missing values on that scale. In Study 1, there was one missing response in Participant 7's pre-training VASE-3-SBA (Number 6 on the reflections subscale) and one missing response in Participant 1's post-training VASE-3-SBA (Number 8 on the summaries subscale). Table 8 shows the response rate at consent and the three assessment timepoints. Response rate was calculated using the following formula recommended by Newman (2014): $\text{response rate} = (n \text{ partial respondents} + n \text{ full respondents}) / n \text{ contacted}$.

Table 8

Overall Response Rates for Study 1

Assessment timepoint	Full respondents	Partial respondents	Number contacted	Response rate
Consent	9	0	25	36.00%
Pre-training	7	0	9	77.79%
Post-training	6	0	9	66.67%
Follow-up	1	0	9	11.11%
Individual interview	3	0	4	75.00%

Research Question 1: How Much do Participants Engage and Participate in the Training and Feedback Sessions?

All nine consented participants were rated by the researcher using the Revised MITS Coaching Checklist (Participant 7 was not rated on engagement as they did not participate in any training components). This measure includes items regarding how many workshops and group feedback sessions the participant attended, as well as five items about the participant's attention,

engagement, and motivation during the workshop trainings and group feedback sessions. Eight of nine (88.89%) participants attended both workshop trainings; as previously noted, two participants attended individual make-up sessions for either Training 1 or Training 2 and these participants were rated as attending both workshop trainings on the Revised MITS Coaching Checklist. Participants attended an average of 1.78 ($SD = 2.11$, range = 0–4) group feedback sessions. Five (55.56%) participants attended no group feedback sessions and four (44.44%) participants attended all four. As previously noted, one participant attended an individual make-up session for one group feedback session and they were rated as attending all four sessions on the Revised MITS Coaching Checklist.

Participants overall received a mean rating of 4.35 ($SD = 0.72$) on the five engagement items of the checklist (range = 3.20–5.00). Among the four participants who attended the group feedback sessions, the mean engagement rating was 4.85 ($SD = 0.30$) and scores ranged from 4.40 to 5.00. Among the five participants who did not attend the group feedback sessions, the mean engagement rating was 3.85 ($SD = 0.66$) with scores ranging from 3.20 to 4.60.

Research Question 2: To What Extent Does the Motivational Interviewing Competency and Self-Efficacy of After-School Professionals Change After a Motivational Interviewing Workshop Training with Subsequent Feedback Sessions?

Participant 2 completed the study assessments at all three timepoints; the results of their WASE-SBA, VASE-3-SBA, and MISE assessments were summarized using descriptive statistics. Participant 2 participated in both workshop trainings and all four group feedback sessions. Participant 2 demonstrated improved motivational interviewing competence after the workshop trainings and less improvement (with some scores decreasing) after the group feedback sessions. This participant's responses before the training and after the training yielded

improvement by 11 points on the WASE-SBA and 26 points on the VASE-3-SBA. Participant 2 also demonstrated improved competence with the specific technical skills after the workshop trainings with improved scores on the VASE-3-SBA subscale of open questions (5 points), reflective practice (16 points), and summaries (5 points). However, after the group feedback sessions, Participant 2 showed minimal growth in MI competence. On the WASE-SBA, Participant 2 showed 1 point of improvement from their post-training score. On the VASE-3-SBA, Participant 2 showed no growth in total score or on the open questions, reflective practice, or summaries subscale scores. On the open questions subscale, Participant 2 scored 2 points less than at the post-training assessment timepoint. The participant demonstrated improved competence in using affirmations after the group feedback sessions as evidenced by their 2 point improvement in this subdomain on the VASE-3-SBA from the pre-training and post-training assessments to the follow-up timepoint.

Participant 2 demonstrated improved self-efficacy after the workshop trainings, which decreased slightly after the group feedback sessions as evidenced by their self-ratings on the MISE. Participant 2 rated themselves as more confident in using MI after the workshop trainings; their score on the MISE increased by 36 points. However, after the group feedback sessions, the participant's rating on the MISE decreased by 7 points. On seven out of 11 items on the MISE, the participant rated themselves 1 point lower after the group feedback sessions than after the workshop trainings. The participant's self-ratings reflected improvement in only one area at follow-up: "I am familiar with the various MI strategies for responding to client sustain talk" (from *Agree* on the post-training assessment to *Strongly Agree* on the follow-up assessment). Participant 2's MI competence and self-efficacy outcomes are summarized in Table 9.

Table 9*Outcome Summary by Measure for Participant 2*

	Pre-training score	Post-training score	Follow-up score	Pre-post change	Post-follow- up change
WASE-SBA Total	11	22	23*	+ 11	+ 1
VASE-3-SBA Total	10	36*	36*	+ 26	+ 0
Open-ended questions	3	8	6	+ 5	- 2
Affirmations	4*	4*	6*	+ 0	+ 2
Reflective Practice	3	19*	19*	+ 16	+ 0
Summaries	0	5*	5*	+ 5	+ 0
MISE	13	49	43	+ 36	- 7

Note. Scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterix (*).

Research Question 3: To What Extent Does the Motivational Interviewing Competency and Self-Efficacy of After-School Professionals Change After a Motivational Interviewing Workshop Training Without Subsequent Feedback Sessions?

Participants 1–7 completed assessments of MI competence (i.e., WASE-SBA, VASE-3-SBA) and self-efficacy (i.e., MISE Questionnaire) at the pre-training and post-training timepoints. These outcomes are described using descriptive statistics and are summarized in Table 10. Prior to the workshop training, the mean WASE-SBA total score was 12.57 ($SD = 3.21$), which increased to 18.50 ($SD = 4.46$) at the post-training assessment timepoint. All participants who completed both sets of responses demonstrated increases on the WASE total score (range = 4–11 points) except for Participant 1, whose total score on the WASE-SBA

decreased by one point from pre- to post-training. The mean total score of the VASE-3-SBA was 22.40 ($SD = 8.39$) before the workshop trainings, which increased to 30.58 ($SD = 9.89$) after the workshop trainings. Participants' responses yielded improvements in VASE-3-SBA total score ranging from six to 26 points from pre-training to post-training, except for Participant 1, whose total score decreased by 0.5 to 1 points. However, only Participant 2 attained the 75% score (i.e., 36) needed to demonstrate basic proficiency on the VASE-3-SBA after the workshop training, and only Participant 4 attained basic proficiency (i.e., a total score of at least 22.5) on the WASE-SBA.

Table 10*MI Competence Outcomes by Participant*

Participant ID	WASE-SBA			VASE-3-SBA		
	Pre-training score	Post-training score	Pre-post change	Pre-training score	Post-training score	Pre-post change
1	13.00	12.00	- 1.00	12.00	10.50	- 1.50
2 [^]	11.00	22.00	+ 11.00	10.00	36.00*	+ 26.00
3 [^]	12.00	16.00	+ 4.00	29.00	35.00	+ 6.00
4	15.00	23.00*	+ 8.00	29.00	35.00	+ 6.00
5	11.00	-	-	26.00	-	-
6	18.00	-	-	30.00	-	-
7	8.00	-	-	20.81	-	-
8	-	22.00	-	-	33	-
9	-	16.00	-	-	34	-
Total M (SD)	12.57 (3.21)	18.50 (4.46)	+ 5.50 (5.20)	22.40 (8.39)	30.58 (9.89)	+ 9.13 (11.79)

Note. Participants who also participated in individual interviews are noted by a caret (^). Scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterisk (*).

Analysis of the VASE-3-SBA subscale scores (Table 11) shows improvement in participants' average subscale scores in the domains of open questions, reflective practice, and summaries. The mean subscale score of open questions increased from 4.29 ($SD = 1.25$) to 6.67 ($SD = 1.37$), the mean rating for affirmations increased from 3.57 ($SD = 1.13$) to 4.50 ($SD = 1.38$), the mean subscale score of reflective practice increased from 13.40 ($SD = 6.87$) to 15.83 ($SD = 6.79$), and the mean subscale score of summaries increased from 1.14 ($SD = 1.46$) to 3.58

($SD = 1.20$). The average score on the affirmations subscale exceeded the basic proficiency cutoff score of 4 after the workshop trainings, while other average subscale scores did not.

Table 11

Mean VASE-3-SBA Subscale Scores

Subscale	Pre-training M (SD)	Post-training M (SD)
Open questions	4.29 (1.25)	6.67 (1.37)
Affirmations	3.57 (1.13)	4.50 (1.38)*
Reflective Practice	13.40 (6.87)	15.83 (6.79)
Summaries	1.14 (1.46)	3.58 (1.20)

Note. Average subscale scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterix (*).

Among those who completed both pre- and post-training assessments, all participants' self-rated confidence in using MI increased from pre-training to post-training, as measured by the MISE Questionnaire (Table 12). The mean total score on the MISE increased from 26.14 ($SD = 8.36$) to 40.67 ($SD = 4.32$) from pre- to post-training. The MISE total score increased from 2 (Participant 1) to 36 (Participant 2) points among participants who completed the pre- and post-training assessments.

Table 12*MI Self-Efficacy (MISE) Scores by Participant*

Participant ID	Pre-training score	Post-training score	Pre-post change
1	35.00	37.00	+ 2.00
2	13.00	49.00	+ 36.00
3	22.00	40.00	+ 18.00
4	38.00	41.00	+ 3.00
5	23.00	-	-
6	26.00	-	-
7	26.00	-	-
8	-	38	-
9	-	39	-
Total M	26.14	40.67	+ 14.75
(SD)	(8.36)	(4.32)	(15.95)

Research Question 4: To What Extent Do After-School Professionals Perceive Motivational Interviewing Training and Feedback Sessions to Be Socially Valid?

The results of feedback surveys completed by six participants after the workshop trainings and by one participant following the group feedback sessions are reported using descriptive statistics and summary of narrative feedback. Participants rated their satisfaction with the workshop trainings on 20 items using a Likert scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), one item assessing to what extent the sessions met their expectations on a 5-point scale (choices included “Did not meet my expectations,” “Met some of my expectations,” “Met most of my expectations,” “Met my expectations,” and “Exceeded my expectations”), and three items

assessing how much of the content presented was new, review, and relevant to their current work. The feedback surveys also included three items with narrative responses that assessed what participants liked most and least about the workshops, and other additional comments.

Workshop Training Satisfaction. The mean satisfaction rating for the workshop trainings was 4.55 out of 5.00 ($SD = 0.22$, range = 4.20–4.80). The item with the lowest average rating was “I would recommend this/these session(s) to my colleagues,” which had a mean rating of 3.83 ($SD = 0.98$). Three items were rated 5.00 out of 5.00 (*Strongly Agree*) by all six participants, including “The small group work during the session(s) was helpful,” “The presenter was knowledgeable,” and “The presenter was prepared.” Five participants reported that the workshops *met their expectations* and one participant reported that the workshops *exceeded expectations*. Specific to the novelty and relevance of workshop content, four participants (66.67%) reported that some of the information was new for them and two participants (33.33%) reported that all the information was new for them. Five participants (83.33%) reported that all the information was relevant to their current work and one participant (16.67%) reported that some of the information was relevant to their current work.

Several participants responded with narrative comments, which are summarized in Table 13. Participants reported that aspects they liked the most about the trainings were opportunities for practice and application of MI to real scenarios. One participant reported that they liked that the presentation included multiple ways of learning and another participant liked the presentation materials. One participant reported that they liked specific aspects of MI and another participant noted that they liked how MI was broken down into discrete skills (i.e., open questions, affirmations, reflections, summaries, and giving information). Most comments addressing aspects that participants liked least about the workshops were regarding not having enough time

to learn all the information and feeling that the pace was too fast. Two participants also noted that they wished there had been more opportunities for practice and one participant indicated that it was difficult to practice role-playing authentically because of time and privacy constraints.

Table 13

Study 1 Workshop Training Feedback Provided by Participants

Liked Most	Number of Comments	Quotations
Practice	3	“Practicing the skills learned with a partner.”
Application to real scenarios	2	“...helped me understand how to apply MI to my work and real-life situations.”
Multiple learning modalities	1	“I found the multiple group sizes (lecture, pairs, small group) and multiple forms of engagement (lecture, slideshow, discussing in pairs/small groups, pair practice, full group go-arounds) very helpful.”
Handouts/materials	1	“...the worksheets were super helpful too.”
Characteristics of MI	1	“...really appreciate ‘the MI spirit.’”
Breakdown of MI into discrete skills	1	“...found it helpful that motivational interviewing was broken down into several steps (ex. OARS+I)...”
<hr/>		
Liked Least		
Not enough time/pacing	4	“I wish we had more time/sessions to learn about MI...”
Not enough practice	2	“More practice using MI might have been nice...”
Role Playing	1	“it was a little hard to take the role playing seriously...had limited time and it wasn’t a private conversation.”

Group Feedback Session Satisfaction. One participant who completed the workshop training and all four group feedback sessions completed the satisfaction survey about the group

feedback sessions. The participant's mean satisfaction rating for the group feedback sessions was 4.88 out of 5.00 and satisfaction ratings ranged from 4.00 to 5.00. The participant noted that all the information was helpful and that "it was nice to have a space to continue to learn and practice." They also mentioned that although they might not use everything from MI in the future, they thought many aspects would be "helpful to keep in mind."

Qualitative Results

Participants' Perceptions of the Training Process

Participants' responses were separated (unitized) into 249 units. Five units were categorized as "No category" according to the unitization manual created by the primary coders, and 244 units were categorized into the minor and major categories in Table 14. The major categories represent broad themes of participant perceptions of the training model and are listed with the number of units in parentheses: (a) use of MI post training (39), (b) results of feedback sessions (36), (c) MI confidence/self-efficacy (30), (d) suggested modifications (25), (e) feedback on training model (24), (d) results of workshop training (23), (e) prior MI awareness/skills (17), (f) barriers to implementing MI (17), (g) listening to recorded practice and feedback on MI skills are helpful (14), (i) MI is challenging (11), and (j) learning needs post workshop trainings (8). The following text is a narrative description of these major themes.

Use of MI Post Training. Participant responses in this category described the usefulness of MI to participants in their current and future professional lives, as well as participants' desires to continue practicing and learning MI. Units fell into three minor categories with number of units in parentheses: (a) MI perceived as useful in professional life (22), (b) specific MI skills are useful (10), and (c) desire for further learning (7). Participants noted that MI was useful in their current work and would be useful in the future, indicating specific situations when MI was called

for with students, clients, and other staff (e.g., wanting to be a band director and “being able to sit down with [students] about being able to practice in the future”). Participants also indicated specific MI skills that they felt were especially relevant to their professional work, including “noticing change talk” and “reflections and affirmations.” Participants’ responses also indicated their desire to continue learning about and practicing MI in the future. For example, one comment indicated that “moving forward I would like to try and be intentional about...using MI.”

Results of Feedback Sessions. This major category included the following four minor categories with the number of units in parentheses: (a) positive statements about feedback sessions (13), (b) skills/knowledge gained from feedback sessions (10), (c) feedback sessions promoted generalization (7), and (d) feedback sessions contained practice opportunities (6). Participants noted general satisfaction with the feedback sessions (e.g., “I loved the feedback sessions”) and observed that their MI skills had grown because of the feedback sessions (e.g., “I think that they [feedback sessions] helped, like increase my ability to practice MI”). Participants reported that the feedback sessions helped them bring MI to their daily work and to generalize their skills (e.g., “I was thinking about that [MI] a lot more when at my youth-working service term”). Additionally, individuals said they valued the additional practice opportunities afforded by the feedback sessions; for example, one participant indicated that “I was really able to practice things that I was interested in.”

MI Confidence/Self-Efficacy. This major category included the following four minor categories with the number of units in parentheses: (a) MI confidence/self-efficacy in structured conversations (13), (b) feedback sessions improved confidence/self-efficacy in implementing MI (9), (c) MI confidence/self-efficacy in unstructured conversations (5), and (d) workshops slightly

improved confidence in implementing MI (3). Participants expressed conflicting opinions about their confidence in implementing structured versus unstructured MI conversations, with more comments expressing confidence in implementing structured conversations. Participants noted confidence related to the predictability of structured conversations (e.g., “You sort of know what’s going to come next” and “I’d be pretty confident”). Other comments reflected more confidence with unstructured conversations (e.g., “I would be more likely to use it [MI] and feel a little bit more confident in...unstructured situations”). Participants also expressed that participating in the feedback sessions contributed to improved confidence in implementing MI related to their confidence before the feedback sessions (e.g., “I would say now...that’s changed [confidence using MI].”) Individuals voiced that the workshop trainings “didn’t have a whole lot of impact on [their] confidence” and that they “did not feel confident like using MI” after the workshops.

Suggested Modifications. This major category included the following four minor categories with the number of units in parentheses: (a) modifications to feedback sessions (14), (b) training should be tailored to after-school context (5), (c) modifications to workshop trainings (3), and (d) no modifications to training model necessary (3). Participants suggested several modifications to the feedback sessions, including having more participants (e.g., “we might have been able to switch up partners more easily”), having activities designed for a three-person group, and getting more written feedback. Individuals also expressed that the training should include more representation of the after-school context, including video modeling of student-focused MI, using MI with groups, and practice with MI in the context of very short (e.g., “five minute”) interactions with students. Specific to the workshop trainings, participants suggested breaking up the content into more sessions (e.g., “over the course of three or four weeks instead

of just two”) to cover the material adequately. Participants also expressed the view that the training should not be significantly modified (e.g., “I don’t think I’d really cut out too much if you were to do it [workshop trainings] again”).

Feedback on Training Model. This major category included the following three minor categories with the number of units in parentheses: (a) strengths of the training model (11), (b) positive statements about the training model (9), and (c) weaknesses of the training model (4). Participants expressed that “the practice,” “the structure,” and the opportunities to individualize learning were strengths of the training model. Participants suggested that in general the MI training had been a positive experience (e.g., “well-implemented” and “helpful compared to like some of the other trainings that we have received”). Weaknesses of the training model noted by participants included the online assessments of MI self-efficacy and competence, as well as the limited accessibility of such a long and involved training.

Results of Workshop Training. This major category included the following three minor categories with the number of units in parentheses: (a) skills/knowledge gained from workshops (11), (b) positive statements about workshops (7), and (c) workshops contained practice opportunities (5). Participants reflected that the workshop trainings provided a fundamental understanding of MI, and the “foundation for...different MI skills.” Individuals also reported generally liking the workshops and finding the information relevant to their practice (e.g., “I really enjoyed everything that we did [in the workshops]”). Responses in this category also reflected the importance of different types of practice opportunities within the workshop trainings (e.g., both “with another person” and “in the large group”).

Prior MI Awareness/Skills. This major category included the following two minor categories with the number of units in parentheses: (a) lack of prior MI awareness/skills (11) and

(b) prior MI awareness/skills (6). Individuals expressed their general lack of knowledge about MI before the training (e.g., “before the training I wasn’t even aware of the word or the term MI”), as well as some knowledge about skills such as open questions, listening, and reflecting without an awareness of the specific importance of those techniques.

Barriers to Implementing MI. This major category included the following three minor categories with the number of units in parentheses: (a) barriers to implementing structured MI in after-school (7), (b) challenges with generalization (5), and (c) personal challenges with training/MI (5). Despite individuals’ confidence with structured conversations (as noted in the minor category MI confidence/self-efficacy in structured conversations), several comments reflected perceived barriers to implementing structured individual activities such as the values discovery activity in after-school. These included comments about the naturalness of such an approach (e.g., “it would be breaking the flow of how I normally am at my host site”) and the prevalence of group-based activities in after-school programs. Participants also observed difficulties in generalizing their MI skills, both in terms of perceived skill level (e.g., “having to come up with questions on the spot is also challenging for me”) and in terms of situational constraints. For example, one participant reported they believed MI might not be compatible with after-school program goals of teaching social-emotional skills. Individuals also noted that personal situations, learning styles, and lack of experience could be a barrier to learning and implementing MI.

Listening to Recorded Practice and Feedback on MI Skills is Helpful. This major category included the following two minor categories with the number of units in parentheses: (a) listening to recorded practice was helpful (8) and (b) getting feedback about skills was helpful (6). Participants noted that listening to their recorded practice in a group was helpful both

for self-reflection and for hearing others model MI practice. Individuals noted that getting written and verbal feedback from the researcher and other participants was helpful in general and for improving specific skills (e.g., affirmations). Comments also reflected the importance of “getting positive feedback” on MI practice.

MI is Challenging. This major category included the following three minor categories with the number of units in parentheses: (a) MI is complex (4), (b) workshop trainings contained a large amount of information (4), and (c) learning MI takes time (3). Individuals expressed an understanding that MI is a complex technique that was at times overwhelming, both when they began learning (e.g., “at first was like, oh man, this is so much”) and as they advanced to learning about fidelity monitoring using the MITI 4.2.1 (e.g., “was a little, uh, detailed to understand”). Individuals also commented on the large amount of information contained in the workshop trainings, which echoed statements in the minor category modifications to workshop trainings. Participants noted that learning MI takes time, both on the part of learners (e.g., “the longer you make it...the more people will get out of it”) and trainers.

Learning Needs Post Workshop Trainings. This major category included the following two minor categories with the number of units in parentheses: (a) lack of MI self-efficacy after workshops (5) and (b) more practice needed post workshops (3). Participants expressed that although they had a baseline level of knowledge after the workshop trainings, they “did not feel confident” about implementing MI. Individuals also reported recognizing after the trainings that they would need more practice with MI to use it effectively (e.g., “I remember thinking...maybe more practice like would have liked helped”).

Table 14*Individual Interview Results*

Major categories	Minor categories	Representative quotations
Use of MI post training (39)	MI perceived as useful in professional life (22)	“Yes, so eventually I’d like to be a band director, and I feel like I want to sort of encourage students to practice in the future, which might be sort of hard”
	Specific MI skills are useful (10)	“I feel like the reflections, the reflections and the affirmations for me, I use them all the time”
	Desire for further learning (7)	“Just moving forward I would like to try and be intentional about, about like using MI”
Results of feedback sessions (36)	Positive statements about feedback sessions (13)	“I really enjoyed like that structure”
	Skills/knowledge gained from feedback sessions (10)	“I feel like I can pick up a lot more on that change talk”
	Feedback sessions promoted generalization (7)	“And so I felt like those sessions allowed me to be more mindful over a much more extended period of time of what we were doing”
	Feedback sessions contained practice opportunities (6)	“I felt like those [feedback sessions] were good practice opportunities”
MI confidence/self-efficacy (30)	MI confidence/self-efficacy in structured conversations (13)	“So I feel really confident about being able to do it [MI] again in that sort of activity [structured]”
	Feedback sessions improved confidence/self-efficacy in implementing MI (9)	“I feel like the feedback sessions were a lot more helpful in my confidence levels”
	MI confidence/self-efficacy in unstructured conversations (5)	“I guess the unstructured conversation, like implementing MI in that felt like a little bit more natural to me, um compared to like the values activity”

	Workshops slightly improved confidence in implementing MI (3)	“I think that they [workshop trainings], like, for me, just started to give me like, a um, a little bit of confidence”
Suggested modifications (25)	Modifications to feedback sessions (14)	“I’m not sure if this is necessarily a weakness, but we had sort of small groups for our feedback sessions, so it might have been nice to have a few more people to practice with”
	Training should be tailored to after-school context (5)	“Just like, like try and make it like as similar to [...] the youth center as possible, like, when practicing”
	Modifications to workshop trainings (3)	“I know I personally would have benefitted from, like short, but more workshop sessions”
	No modifications to training model necessary (3)	“So I don’t think I’d really cut out too much if you were to do it [workshop trainings] again, yeah”
Feedback on training model (24)	Strengths of training model (11)	“Having the opportunity to like really decide for ourselves like what’s important to focus on”
	Positive statements about training model (9)	“Like out of all the trainings that we’ve done, this one has had like the biggest impact on how I do youth work”
	Weaknesses of training model (4)	“Other parts of the training [besides the online assessments] were more helpful to me I think”
Results of workshop training (23)	Skills/knowledge gained from workshops (11)	“So just to get an idea of, like the theory”
	Positive statements about workshops (7)	“I felt like it [information in the workshop trainings] was all super, super relevant”

	Workshops contained practice opportunities (5)	“I would say that like to get a little bit of practice, and yeah like, with another person was helpful to me”
Prior MI awareness/skills (17)	Lack of prior MI awareness/skills (11)	“So I don’t think I had many skills [before the training]”
	Prior MI awareness/skills (6)	“I was just aware [before the training] that they’re like nice things to do [open-ended questions] when you’re asking questions.
Barriers to implementing MI (17)	Barriers to implementing structured MI in after-school (7)	“Cause sometimes they’re [students] sort of overwhelmed when they get off school, and they don’t want to do like a structured activity”
	Challenges with generalization (5)	“It’s harder for me to like imagine um using MI like effectively with students for like the more long-term sort of like social and emotional, like learning that we’re like, really trying to foster”
	Personal challenges with training/MI (5)	“Just like I think I was like very tired, like, at those, like trainings, um so I maybe didn’t get as much you know”
Listening to recorded practice, and feedback on MI skills are helpful (14)	Listening to recorded practice was helpful (8)	“Just like listening to the recording um ah you know to like, yeah I think that that helped me to just like reflect more, on like um, on like the practice sessions”
	Getting feedback about skills was helpful (6)	“Yeah, I think just like um, like the feedback from other people I think was helpful”
MI is challenging (11)	MI is complex (4)	“Definitely at first was like, ‘Oh man, this is so much’”
	Workshop trainings contained a large amount of information (4)	“And there was just a lot of information”

	Learning MI takes time (3)	“I know that this was like a time commitment both for you, and like for everybody who did, like the feedback sessions”
Learning needs post workshop trainings (8)	Lack of MI self-efficacy after workshops (5)	“Overall I would probably have a hard time implementing MI like fully [after the workshop trainings]”
	More practice needed post workshops (3)	“I realized after that I might need more practice to actually do them [MI skills] effectively”

Study 2

Results

The results of Study 2 (quantitative) are presented in this section by research question. A discussion of missing data and methods used to address this precedes the results.

Methods Used to Address Missing Data

Missing data occurred in Study 2 at the item-, construct-, and person-levels. As in Study 1, guidelines outlined by Newman (2014), Downey and King (1998), and Parent (2013) were used to address missing data at the construct- (i.e., when one or more scales were missing from a participants' responses) and item-levels (i.e., when one or two items were missing from a scale). At the construct or scale level, Participant 22 did not complete any items on the pre-training WASE-SBA or VASE-3-SBA, and Participants 12 and 14 did not complete any items on the post-training VASE-3-SBA. Participant 16's pre-training VASE-3-SBA total score and VASE-3-SBA summaries subscale score were excluded from analyses due to missing two responses on the summaries subscale (Items 8 and 16) and Participant 15's post-training WASE-SBA total score was excluded due to having two missing responses (Items 3 and 4). At the item-level, there

was one missing response in Participant 12's pre-training WASE-SBA assessment (Item 3) and Participant 20's VASE-3-SBA (Item 16, summaries subscale); these missing responses were imputed using mean substitution across items.

In terms of person-level missing data, Participants 17–24 did not complete any of the post-training assessments. The characteristics of individuals who did and did not complete the pre-training and post-training assessments are outlined in Chapter 2. The overall response rate at each assessment timepoint in Study 2 is detailed in Table 15. Response rate was calculated using the following formula recommended by Newman (2014): response rate = $(n \text{ partial respondents} + n \text{ full respondents}) / n \text{ contacted}$.

Table 15

Overall Response Rates for Study 2

Assessment timepoint	Full respondents	Partial respondents	Number contacted	Response rate
Consent/Pre-training	13	2	26	57.69%
Post-training	4	3	15	46.67%
Follow-up	1	0	1	100%

Research Question 1: How Much do Participants Engage and Participate in the Training and Feedback Sessions?

All 15 participants who consented to participate were rated using the Revised MITS Coaching Checklist (Participant 24 was not rated on the engagement questions as they did not attend any training components). Most participants attended both workshop trainings (14 of 15; 93.33%). Two participants (13.33%) attended at least one group feedback session and one participant (6.67%) attended all four sessions. Participants received a mean rating of 4.10 ($SD = 0.66$) on the five engagement items of the checklist (range = 3.00–5.00).

Research Question 2: To What Extent Does the Motivational Interviewing Competency and Self-Efficacy of After-School Professionals Change After a Motivational Interviewing Workshop Training with Subsequent Feedback Sessions?

As in Study 1, just one individual (Participant 10) completed the study assessments at all three timepoints; the results of their WASE-SBA, VASE-3-SBA, and MISE assessments were summarized using descriptive statistics. Participant 10 participated in both workshop trainings and all four group feedback sessions; however, in feedback Sessions 2–4, this participant was the only attendee. Participant 10 demonstrated improved motivational interviewing competence after the workshop trainings, with smaller improvements (including a decrease in one subscale score on the VASE-3-SBA) after the group feedback sessions. This participant's responses before the training and after the training yielded improvement by 14 points on the WASE-SBA and by 13 points on the VASE-3-SBA. Participant 10 also demonstrated improved competence with the specific technical skills of MI after the workshop trainings, with improved scores on the VASE-3-SBA subscale of affirmations (5 points), reflective practice (6 points), and summaries (2 points). After the group feedback sessions, Participant 10 showed smaller growth in MI competence. On the WASE-SBA, Participant 2 improved 3 points from their post-training score and by 2 points on the VASE-3-SBA total score. On the open questions subscale of the VASE-3-SBA, Participant 10's score at follow-up was 3 points higher than at the post-training assessment timepoint. The participant demonstrated no improvement on the affirmations or reflective practice subscales and their score decreased by 1 point on the summaries subscale from post-training to follow-up (although the score of 3 still represented improvement from their pre-training score of 2). Participant 10 achieved basic proficiency according to the 75% cutoff rule

on the VASE-3-SBA total score only at follow-up, due to their improvement in using open questions.

Participant 10 demonstrated improved MI self-efficacy after the workshop trainings and group feedback sessions as evidenced by their self-ratings on the MISE. Participant 10's self-rated confidence and self-efficacy on the MISE increased by 17 points after the workshop trainings and by 9 points after the group feedback sessions as compared to post-training, representing 26 total points of growth on this scale. Participant 10's MI competence and self-efficacy outcomes are summarized in Table 16.

Table 16

Outcome Summary by Measure for Participant 10

	Pre-training score	Post-training score	Follow-up score	Pre-post change	Post-follow-up change
WASE-SBA Total	6	20	23*	+ 14	+ 3
VASE-3-SBA Total	22	35	37*	+ 13	+ 2
Open-ended questions	6	6	9*	+ 0	+ 3
Affirmations	1	6*	6*	+ 5	+ 0
Reflective Practice	13	19*	19*	+ 6	+ 0
Summaries	2	4*	3	+ 2	- 1
MISE	12	29	38	+ 17	+ 9

Note. Scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterix (*).

Research Question 3: To What Extent Does the Motivational Interviewing Competency and Self-Efficacy of After-School Professionals Change After a Motivational Interviewing Workshop Training Without Subsequent Feedback Sessions?

Four participants completed all assessments of MI competence (i.e., WASE-SBA, VASE-3-SBA) and self-efficacy (i.e., MISE Questionnaire) at the pre-training and post-training timepoints and two participants completed the WASE-SBA and the MISE, but not the VASE-SBA. Missing responses led to exclusion of Participant 15's post-training WASE-SBA score, and Participant 16's pre-training VASE-SBA score. These outcomes are described using descriptive statistics and are summarized in Table 17. Prior to the workshop training, the mean WASE-SBA total score was 11.67 ($SD = 5.19$), which increased to 20.33 ($SD = 2.66$) at the post-training assessment timepoint. Among participants who completed the pre- and post-training assessments, five of six demonstrated increased total scores on the WASE (range = 2–14 points), except for Participant 11, whose total score on the WASE-SBA decreased by 2 points from pre- to post-training. Participant 11 also noted in the demographic section that they had received 20 hours of MI training in the past—more MI training hours than any other study participant by 12 hours—and they also reported receiving supervision from an MI expert in the past.

The VASE-3-SBA total score reflected improvement in MI competence for all four participants who completed this measure before and after the workshop trainings. The mean total score of the VASE-3-SBA was 24.69 ($SD = 8.40$) before the workshop trainings, which increased to 37.25 ($SD = 1.71$) after the workshop trainings. Participants' responses yielded improvements in VASE-3-SBA total score, ranging from four to 13 points from pre-training to post-training, with an average increase of 10.25 points ($SD = 4.27$). All but Participant 10

attained the 75% score (i.e., 36 or greater) needed to demonstrate basic proficiency on the VASE-3-SBA; this participant achieved a total score of 37 at follow-up.

Table 17

MI Competence Outcomes by Participant

Participant ID	WASE-SBA			VASE-3-SBA		
	Pre-training score	Post-training score	Pre-post change	Pre-training score	Post-training score	Pre-post change
10	6	20	+ 14	22	35	+13
11	25*	23*	- 2	34	38*	+4
12	8.4	21	+ 14	21	-	-
13	17	19	+ 2	26	39*	+13
14	8	16	+ 8	29	-	-
15	15	-	-	26	37*	+11
16	11	23*	+ 12	-	37*	-
17	11	-	-	28	-	-
18	10	-	-	9	-	-
19	6	-	-	32	-	-
20	11	-	-	18	-	-
21	7	-	-	10	-	-
22	-	-	-	-	-	-
23	12	-	-	31	-	-
24	16	-	-	35	-	-
Total M (SD)	11.67 (5.19)	20.33 (2.66)	+ 8.00 (6.69)	24.69 (8.40)	37.25 (1.71)*	+10.25 (4.27)

Note. Scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterix (*).

Analysis of the VASE-3-SBA subscale scores (Table 18) shows improvement in participants' average scores in all domains. The mean subscale score of open questions increased from 5.86 ($SD = 0.69$) to 8.80 ($SD = 1.92$), the mean affirmations score increased from 2.29 ($SD = 1.70$) to 4.80 ($SD = 1.10$) from pre-training to post-training, the mean reflective practice score increased from 15.29 ($SD = 2.98$) to 19.20 ($SD = 0.45$), and the mean summaries score increased from 3.25 ($SD = 0.96$) to 4.25 (0.50). On average, participants' totals scores and subscale scores reached the cutoff for basic proficiency on the VASE-3-SBA, except on the reflections subscale.

Table 18

Mean VASE-3-SBA Subscale Scores

	Pre-training M (SD)	Post-training M (SD)
Total score	27.00 (5.03)	37.25 (1.71)*
Open questions	5.86 (0.69)	8.80 (1.92)
Affirmations	2.29 (1.70)	4.80 (1.10)*
Reflective Practice	15.29 (2.98)	19.20 (0.45)*
Summaries	3.25 (0.96)	4.25 (0.50)*

Note. Average subscale scores which met or exceeded the cutoff for basic proficiency in MI (75% or more of the total points) are followed by an asterix (*).

All but two participants' self-rated confidence in using MI increased from pre-training to post-training, as measured by the MISE Questionnaire (Table 19). The mean total score on the MISE increased from 25.14 ($SD = 14.06$) to 26.29 ($SD = 7.32$) from pre- to post-training and ranged from a three-point decrease (Participant 15) to a 27-point increase (Participant 13). The two participants whose self-efficacy scores decreased after the workshop trainings were also the two participants with the highest scores at the pre-training timepoint.

Table 19*MI Self-Efficacy (MISE) Scores by Participant*

Participant ID	Pre-training score	Post-training score	Pre-post change
10	12	29	+ 17
11	51	49	- 2
12	17	29	+ 12
13	11	38	+ 27
14	26	37	+ 11
15	34	31	- 3
16	25	41	+ 16
Total M (SD)	25.14 (14.06)	36.29 (7.32)	+ 11.14 (10.67)

Research Question 4: To What Extent Do After-School Professionals Perceive Motivational Interviewing Training and Feedback Sessions To Be Socially Valid?

The results of satisfaction surveys completed by seven participants after the workshop trainings and by one participant after the group feedback sessions are reported below using descriptive statistics and summary of narrative feedback.

Workshop Training Satisfaction. The mean satisfaction rating for the workshop trainings was 4.12 out of 5.00 ($SD = 0.67$, range = 3.30–5.00). The item with the lowest average rating was “I will attend additional sessions in the future,” which had a mean rating of 3.14 out of 5.00 ($SD = 1.07$). The item with the highest average rating was “The presenter was knowledgeable” ($M = 4.71$, $SD = 0.49$). One participant (14.29%) reported that the trainings met

some of their expectations, two (28.57%) reported that it met most of their expectations, two (28.57%) reported that it met their expectations, and two (28.57%) reported that it exceeded their expectations. Specific to the novelty and relevance of workshop content, five participants (71.43%) reported that all the information was new for them, and one participant (14.29%) each reported that some or none of the information was new for them. Five participants (71.43%) reported that all the information was relevant to their current work, and two participants (28.57%) reported that some of the information was relevant to their current work.

Several participants responded with narrative comments, which are summarized in Table 20. Participants reported that aspects they liked the most about the trainings were opportunities for practice and the multiple learning modalities. One participant reported that they liked the presentation materials and one participant reported that they liked specific aspects of MI. Most comments addressing aspects that participants liked least about the workshops were regarding not having enough breaks in the presentations and not enough time for practice. One participant reported they felt role playing felt “unnatural” and one reported concerns that MI would not be a good fit for all students.

Table 20*Study 2 Workshop Training Feedback*

Liked Most	Number of Comments	Quotations
Practice/role playing	3	“The role playing.”
Multiple learning modalities	2	“Talking with other people to better understand it.”
Handouts/materials	1	“Having informational slides that I could read from as the presenter spoke.”
Characteristics of MI	1	“...The idea of reiterating what the person says in order to get them to say more was interesting.”
<hr/>		
Liked Least		
Not enough breaks	2	“I would appreciate more breaks.”
Not enough time for Practice	1	“It would have been helpful for more time in the breakout sessions.”
Fit of MI to student needs	1	“...It’s hard to keep some students talking without asking questions, so I’m not sure this would work for them all.”
Role playing	1	“Role playing felt unnatural.”

Group Feedback Session Satisfaction

One participant who completed the workshop training and all four group feedback sessions completed the satisfaction survey about the group feedback sessions. The participant’s mean satisfaction rating for the group feedback sessions was 4.00 out of 5.00, with all items rated as 4.00 out of 5.00. The participant did not respond to the narrative feedback item.

CHAPTER 4

DISCUSSION

In this chapter, the results of Studies 1 and 2 are integrated and discussed by research question, to assess the extent to which each original hypothesis was supported by the findings. Table 21 at the end of this section shows a joint display of the major integrated findings drawn from the qualitative and quantitative of Studies 1 and 2. This table was constructed based on the Pillar Integration Process recommended by Johnson et al. (2019), in which quantitative and qualitative results are displayed side-by-side to integrate findings. Results are then discussed in the context of other research on MI training and after-school. Finally, this chapter outlines limitations of the current research and implications for research, practice, and policy.

Support of Original Hypotheses

Research Question 1: How Much Do Participants Engage and Participate in the Training and Feedback Sessions?

Quantitative data from the Revised MITS Coaching Checklist collected in Study 1 and Study 2 partially supported the hypothesis that after-school participants would engage and participate in training and feedback sessions at levels similar to those found in the previous examination of the Motivational Interviewing Training and Assessment System (MITAS), upon which the current training in this research was based (Frey et al., 2017). In a study of MITAS, Frey et al. (2017) found that 10 of 12 trainees attended all five of the workshop trainings ($M = 4.8$, $SD = 0.4$). Results of the present research found a similarly high degree of participation in the training model as compared to Frey et al.'s (2017) findings for the workshop trainings. In Study 1 of the present research, eight of nine participants attended both trainings (an average of

1.89 [$SD = 0.33$] workshop trainings). In Study 2, 14 of 15 participants attended 100% of the workshop trainings and one participant did not attend any of the trainings or feedback sessions.

Participants in the present research did not choose to participate in group feedback sessions as much as participants in Frey et al.'s (2017) study of the MITAS model. Frey et al.'s trainees attended an average of 2.7 ($SD = 0.5$) feedback/coaching sessions. Most participants in the current research did not attend any group feedback sessions, but those that did typically attended all four that were offered. In Studies 1 and 2 combined, 83.33% of participants who attended any group feedback sessions attended all four. Participants in Study 1 attended an average of 1.7 ($SD = 2.11$) of four group feedback sessions, and although five participants attended no feedback sessions, four participants attended all four sessions offered. In Study 2, fewer participants attended feedback sessions—only two of 15 attended one session, and just one participant attended all four. For participants in Study 1 and Study 2, the workshop trainings occurred as part of weekly required training sessions in their AmeriCorps Program, and the group feedback sessions occurred outside of required weekly training. The relative convenience of participating during a time that was already committed to training (i.e., workshops) versus an additional 5–10 hr time commitment that included feedback sessions and practice activities may have discouraged AmeriCorps members from participating in the group feedback sessions. It is also important to note that in the present study, the researcher provided make-up workshop trainings and feedback sessions in Study 1 in order to accommodate participants with barriers to participation, and this approach has not been noted in other research on MITAS (Frey et al, 2017; Suldo et al., 2021).

Participants in the present research also received similarly high researcher-rated engagement scores on the Revised MITS Coaching Checklist as Frey et al.'s participants. Frey et

al.'s participants received a mean engagement rating of 4.40 ($SD = 0.4$) on the original facilitator checklist. In the current research, participants in Study 1 received a mean engagement rating of 4.35 ($SD = 0.72$) and in Study 2 participants received a mean engagement rating of 4.10 ($SD = 0.66$) on the revised version of the checklist created for this study. Overall, these ratings of participation in the workshop trainings and engagement indicate that a different population (i.e., after-school professionals who were AmeriCorps Members) were able to engage similarly with this MI training model as more highly educated and older school-based participants in other research on MITAS (Frey et al., 2017). The present research also suggests that the after-school professionals in this research experienced more barriers to participating in extended learning opportunities (e.g., group feedback sessions) than the older and more highly educated school-based professionals in other research on MITAS (Frey et al., 2017; Suldo et al., 2021). In both Study 1 and Study 2, most participants did not participate in any group feedback sessions (55.56% and 86.67% of participants, respectively).

Research Question 2: To What Extent Does the Motivational Interviewing Competency and Self-efficacy of After-school Professionals Change after a Motivational Interviewing Workshop Training with Subsequent Feedback Sessions?

Limited quantitative data from Study 1 and Study 2, as well as qualitative data from Study 1, supported the hypothesis that the motivational interviewing competency and self-efficacy of after-school professionals would increase after a motivational interviewing workshop training with subsequent feedback sessions. Quantitatively, MI competence was measured by participants' written responses on the WASE-SBA and VASE-3-SBA, and MI self-efficacy was measured by participants' ratings on the MISE Questionnaire. Only one participant in Study 1 and one participant in Study 2 completed assessments at the pre-training, post-training, and

follow-up timepoints, and because of these small sample sizes, the changes in their scores were assessed for clinical, rather than statistical, significance. Both participants were completely new to MI and were 25 years of age or younger at the time of follow-up. In Study 1 and 2, participants' MI competence increased as measured by the WASE-SBA total score by one point and three points respectively. On the VASE-3-SBA, Participant 2 in Study 1 maintained their total score, and Participant 10 in Study 2 increased their VASE-3-SBA total score by two points from post-training to follow-up. In both studies, participants made gains on one VASE-3-SBA subscale (i.e., affirmations in Study 1 and open questions in Study 2), maintained post-training scores on two subscales (i.e., reflective practice and summaries in Study 1; reflective practice and affirmations in Study 2), and showed small decreases in competence on one subscale (i.e., open questions in Study 1; summaries in Study 2). Both participants achieved basic MI proficiency per the 75% rule on the VASE-3-SBA total score at the follow-up timepoint, although in Study 1 the participant achieved this rating after the workshop trainings and maintained their score at follow-up, whereas in Study 2 the participant achieved basic proficiency only at follow-up, indicating that additional learning may have been necessary for them to attain this benchmark.

In terms of self-efficacy in practicing MI, in Study 1 Participant 2's total self-efficacy rating on the MISE decreased by seven points from post-training to follow-up and in Study 2 Participant 10's MISE total score increased from pre- to post-training by 17 points, with a smaller increase of nine points at follow-up. However, in Study 1, Participant 2's MISE score at follow-up was still higher than Participant 10's score at follow-up by five points. Participant 2 also had the highest MISE score by eight points at the post-training timepoint among the four participants in Study 1 who also completed the MISE after the workshop trainings. This decrease

in self-rated confidence may indicate that after the group feedback sessions, Participant 2 had a more accurate view of their own MI abilities.

Qualitative data from three participants who completed the workshop trainings and group feedback sessions (including Participant 2) suggested that the feedback sessions were important for their MI skill development and confidence. The second largest category of responses after *use of MI post training* was *results of feedback sessions* and included the minor categories of *skills/knowledge gained from feedback sessions*, *feedback sessions promoted generalization*, and *feedback sessions contained practice opportunities*. Participants noted their ability to use MI increased after the feedback sessions. They also cited the practice opportunities contained in the group feedback sessions and the importance of being able to practice aspects of MI that they were interested in. Participants also reported that after participating in the group feedback sessions, they were able to integrate, or generalize their practice of, MI more effectively into their daily work with youth.

Participant responses in the individual interviews also suggested that the feedback sessions contributed to their confidence and self-efficacy with MI beyond the effects of the workshop trainings. The third largest major category was *MI confidence/self-efficacy*, which included the minor categories *feedback sessions improved confidence/self-efficacy in implementing MI* and *workshops slightly improved confidence in implementing MI*. Participants noted that although the workshop trainings started to give them confidence that they could use MI, the group feedback sessions were more helpful in improving confidence in their MI skills.

Research Question 3: To What Extent Does the Motivational Interviewing Competency and Self-efficacy of After-school Professionals Change after a Motivational Interviewing Workshop Training Without Subsequent Feedback Sessions?

Quantitative data from Study 1 and Study 2, as well as qualitative data from Study 1, partially supported the hypothesis that the motivational interviewing competency and self-efficacy of after-school professionals would remain the same after a motivational interviewing workshop training without subsequent feedback sessions. Quantitative data from the WASE-SBA, VASE-3-SBA, and MISE Questionnaire in Studies 1 and 2 showed improvements in participant competence and confidence in using MI. However, most participants in Study 1 did not achieve the basic proficiency cutoff on either the WASE-SBA or the VASE-SBA after the workshop training, and although more participants in Study 2 achieved this benchmark (i.e., 2 on the WASE-SBA and 4 on the VASE-SBA), more than half of participants did not complete the post-training assessments in Study 2. Qualitative data from the individual interviews in Study 1 showed a more nuanced picture of the results of the workshop trainings in terms of knowledge, competence, and confidence.

Participants showed improvements in MI competence in Studies 1 and 2 after the workshop trainings per the results of the WASE-SBA and VASE-3-SBA. In both studies, most participants who completed pre- and post-training assessments (75.00% in Study 1 and 83.33% in Study 2) demonstrated improved MI competence as measured by the WASE-SBA total score. Average improvement on the WASE-SBA from pre-training to post-training was 5.50 ($SD = 5.20$) points in Study 1 and 8.00 ($SD = 6.69$) points in Study 2. Only one participant in Study 1 and two participants in Study 2 demonstrated basic MI proficiency on the WASE-SBA after the workshop training. Additionally, Participant 11 in Study 2 earned a score above the basic proficiency cutoff on the WASE-SBA at post-training, but this score represented a 2-point decrease from their pre-training score. In both studies, the participants whose WASE-SBA total scores decreased had training experiences unlike other study participants. In Study 1, Participant

1 received the workshop training content out of order (Workshop 2, then a make-up training for Workshop 1), and in Study 2, Participant 11 had previously received 20 hours of MI training with expert supervision and feedback.

Participants also demonstrated improvement on the VASE-3-SBA from pre-training to post-training. As with the WASE-SBA, three of four participants in Study 1 (all except Participant 1) improved on their VASE-3-SBA total scores with the mean improvement being 9.13 ($SD = 11.79$) points. All four participants in Study 2 who completed the VASE-3-SBA at the post-training timepoint improved their total score with an average improvement of 10.25 ($SD = 4.27$) points. In Study 1, participants on average demonstrated improvement in each VASE-3-SBA subscale score except affirmations, and in Study 2, all average subscale scores improved from pre-training to post-training. In Study 1, only one of four participants (25%) achieved basic proficiency per the 75% cutoff rule on the VASE-3-SBA total score after the workshop trainings with a score of 36. In Study 2, four of five (80%) participants who completed both pre- and post-training assessments achieved basic proficiency on the VASE-3-SBA total score after the workshop trainings, but most participants did not complete the MI competency measures at the post-training timepoint.

Participants in Study 1 and 2 indicated improved self-efficacy on the MISE Questionnaire after the workshop trainings. Average total scores on the MISE Questionnaire rose by more than 10 points after the training in both studies. Among participants who completed the pre- and post-training assessments, all four participants' MISE total scores in Study 1 were improved from pre-training to post-training, and in Study 2, five of seven participants reported improved self-efficacy on the MISE. Two participants in Study 2 reported decreased MI self-efficacy on the MISE after the workshop trainings. Thus, most after-school participants perceived an

improvement in their self-efficacy/confidence related to the practice of MI after the workshop trainings.

The qualitative results of the individual interviews in Study 1 indicated that for after-school professionals, the most important outcome of the workshop trainings was a basic understanding of what MI is, and an understanding of the technical and relational skills needed to begin practicing. Participant responses related to this question were clustered in the major categories of *prior MI awareness/skills* and *results of the workshop trainings*. Before the workshop trainings, participants observed a general lack of knowledge or awareness of MI, although they were aware of the general helpfulness of open questions and reflective listening. Participants noted that through the workshop trainings, they gained a foundation in MI skills and theory, as well as an awareness of how MI skills can be used strategically in conversation. In the major category *MI confidence/self-efficacy*, participants noted that they did not feel the workshop trainings had greatly affected their confidence, and as a result, they did not feel confident to implement MI after the workshop trainings. These qualitative results suggest that demonstrating competence and confidence in simulated situations may not translate to authentic practice without additional supervision and feedback. Quantitatively, many participants were able to demonstrate quantitative knowledge of MI skills on the WASE-SBA and VASE-3-SBA after the workshop trainings; qualitative interviews also suggested that the workshop trainings instilled a foundational understanding of MI. Quantitatively, participants' confidence in their MI skills rose as measured by the MISE, but these qualitative results indicate that there may be a higher confidence threshold necessary for individuals to begin using MI in practice.

Research Question 4: To What Extent Do After-school Professionals Perceive Motivational Interviewing Training and Feedback Sessions to Be Socially Valid?

The results of the feedback surveys in Study 1 and 2, as well as qualitative data from Study 1, support the hypothesis that after-school professionals would perceive motivational interviewing training and feedback sessions as socially valid. In both studies, participants' average ratings indicated they were satisfied with the workshop trainings. In Study 1, the average satisfaction rating was 4.55 ($SD = 0.22$) out of five, and in Study 2 the average satisfaction rating was 4.12 ($SD = 0.67$). Participants' narrative comments on the feedback surveys in both studies suggested that aspects of the workshops that were most valuable to after-school professionals were *opportunities to practice MI* (including with different group arrangements) and *different ways of learning*, such as handouts, videos, and discussion. Participants in both studies also reported liking characteristics of MI, such as *the spirit of MI* and *reflective listening*. Qualitative data from individual interviews in the category of *results of workshop training* included general positive comments about the workshop trainings, including that the workshops were enjoyable and relevant to participants' practice in after-school settings. Data from the individual interviews also aligned with comments from the feedback surveys that a variety of practice opportunities within the workshop trainings were important for MI skill development.

Most participants in Studies 1 and 2 reported that the workshop trainings met at least some of their expectations and represented new information relevant to their current work. In Study 1, five of six participants reported that the workshops met their expectations, and one reported that the workshops exceeded their expectations. In Study 2, six of seven participants reported that the workshops met most, met, or exceeded their expectations (one reported that the workshops met some of their expectations). For most participants in Study 1 (four of six), some of the information was new for them, and all participants reported that at least some of the information was relevant to their current work. In Study 2, six of seven participants reported that

some or all the information in the workshops was new to them, and all seven reported that some or all information presented was relevant to their current work. These data indicate that the workshop trainings in this model, which were originally developed for professionals in traditional school settings by Frey et al. (2017), were new, relevant, and acceptable for professionals in after-school settings.

Limited quantitative results from Studies 1 and 2, as well as qualitative results from individual interviews in Study 1, suggested that participants were satisfied with the group feedback sessions. Satisfaction ratings for the group feedback sessions completed by one participant in both studies resulted in a mean rating of 4.88 in Study 1 and 4.00 in Study 2. In Study 1, narrative comments on the feedback session survey reflected that the feedback sessions represented valuable additional learning and practice opportunities, as well as the participant's intent to use some aspects of MI in the future. There were no narrative comments for the feedback session survey completed in Study 2. Importantly, for three out of four group feedback sessions in Study 2, only one participant was present, and the sessions occurred via videoconference due to COVID-19, thus the experience of the sessions was likely different for that individual than the individuals who participated in feedback sessions in Study 1. Qualitative data from interviews with participants in Study 1 suggest that the feedback sessions were a socially valid component of the training experience for individuals working in after-school. The second largest category of participant responses (results of feedback sessions) included the minor category positive statements about feedback sessions, which reflected participants' general satisfaction with, and enjoyment of, the feedback sessions.

Narrative comments from the feedback surveys in both studies, and qualitative data from

the individual interviews, also yielded a range of suggestions for improving the validity of MI training for after-school professionals. Narrative comments from the feedback surveys in Studies 1 and 2 reflected the desire for more of the training content to be divided across more workshop trainings, with more time for practice. Participants in both studies indicated that role playing during the workshops felt unnatural or awkward, suggesting that after-school professionals may lack prior training that prepares them for live practice and need additional preparation to engage in role playing. Participants in Study 2 also suggested that more breaks in the workshop trainings would be beneficial, although this may reflect a need specific to online trainings because participants in Study 1 did not suggest that the breaks provided were inadequate.

Qualitative data from the individual interviews in Study 1 indicated the extent to which this MI training model and MI were perceived as socially valid by after-school professionals. Participant responses regarding barriers to implementing MI were clustered in the major category of the same name. Although participants reported more confidence in implementing structured MI activities such as the Values Discovery Activity (major category *MI confidence/self-efficacy*), they also indicated that such structured activities are not part of their normal role with youth in the after-school setting, especially in an individual format as group-based activities are more common. Participants also perceived that the pre-determined pedagogical goals of their after-school programs presented potential barriers to using MI with youth (e.g., if the program was focused on teaching social-emotional skills). Participants also noted that personal circumstances, strengths, and weaknesses might be barriers to learning and implementing MI.

Participants in the individual interviews suggested modifications that participants saw as beneficial after their experiences with the workshop trainings and feedback sessions. Responses regarding modifications to the workshop trainings and feedback sessions came together in the

major category *suggested modifications*. Participants suggested that spreading the workshop content over more training days would be helpful for learning and that the training should include more representation of the after-school context. Participants' responses also reflected that the content of the training was useful and should not be significantly modified. Participants suggested modifications to the feedback sessions, including having more participants especially for the purposes of practicing with different people, having practice activities designed for arrangements of more than two people, and providing more written feedback in addition to the written feedback already provided by the researcher.

Participants also reported overall strengths and weaknesses of the training model in the major category *feedback on training model*. Strengths of the training model included the practice opportunities, which were able to be individualized by participants during the group feedback sessions. Participants also expressed that overall the training had been more helpful than other trainings they received as AmeriCorps Members. Weaknesses of the training model included the online written assessments of MI competence and the fact that some after-school professionals may face barriers to participating in such a time-intensive training.

Table 21*Joint Display of Major Findings*

Quantitative data	Quantitative themes	Integrated findings	Qualitative major categories	Summary of Minor Categories
Post-training and follow-up assessment non-completers Study 1: greater proportion non-White Study 2: greater proportion non-White, non-Female, non-college educated	Demographic differences in responders	Overall social validity of training model and MI Trainees who do not identify as White and female, and those who do not possess a college education did not respond as much as White, female, and college-educated trainees	Use of MI post-training	<ul style="list-style-type: none"> • MI and specific MI skills useful in professional life • Desire for further learning
Study 1: 55.56% attended no group feedback sessions Study 2: 86.67% attended no group feedback sessions	Low participation in group feedback sessions		Barriers to implementing MI	<ul style="list-style-type: none"> • Barriers to implementing structured MI in after-school • Challenges with generalization and learning
Narrative comments on feedback surveys in Studies 1 and 2: more opportunities for practice, difficulties with role playing	More opportunities and scaffolding for practice	Modifications for after-school participants and cultural context necessary	Feedback on training model Suggested modifications	<ul style="list-style-type: none"> • Strengths and weaknesses of training model • Modifications to feedback sessions and workshop trainings • Training should be tailored to after-school context
Participants 2 and 10 MI skill gains on WASE-SBA and	Fewer gains in skills and confidence		Results of feedback sessions	<ul style="list-style-type: none"> • Skills/knowledge gained from feedback sessions • Feedback sessions promoted generalization through practice

VASE-3-SBA after feedback sessions: +1, +0; +3, +2	after group feedback sessions	Workshop trainings created shared understanding of broad concepts in MI	Listening to recorded practice, and feedback on MI skills are helpful	<ul style="list-style-type: none"> • Listening to recorded practice was helpful • Getting feedback about skills was helpful • MI confidence/self-efficacy in structured and unstructured conversations
Participants 2 and 10 change in confidence on MISE at follow-up: -7, +9				<ul style="list-style-type: none"> • Feedback sessions improved confidence/self-efficacy in implementing MI
Average gains in MI skill on WASE-SBA and VASE-3-SBA at post-training: +5.50, +9.13 (Study 1), +8.00, +10.25 (Study 2)	Greater gains in skills and confidence after workshop trainings	Group feedback sessions instilled confidence necessary for applied practice	MI confidence/self-efficacy	<ul style="list-style-type: none"> • Skills/knowledge gained from workshops
Average change in confidence on MISE at post-training: +14.75 (Study 1), +11.14 (Study 2),			Results of workshop training	<ul style="list-style-type: none"> • Workshops contained practice opportunities
			Prior MI awareness/skills	<ul style="list-style-type: none"> • Prior MI awareness/skills and lack of awareness/skills

Results in Context

This is the first known investigation of MI training with after-school professionals. The MI training used in Studies 1 and 2 was adapted from the MITAS model developed by Frey and colleagues (2017) with key differences: (a) the workshop training occurred on two occasions rather than five, and (b) the workshop training materials and group feedback session activities were modified to suit the needs of after-school professionals. Additionally, the training in Study 2 was delivered completely online, which has not been documented before with MITAS. The participants in the present research were younger, less experienced in their professional role, and less highly educated than participants in previous research on MITAS (except perhaps those in Iachini et al., 2018). The mean age of participants in Studies 1 and 2 was under 23 years old, whereas the mean age of Frey et al.'s (2017) participants was 48 ($SD = 9$) years of age. In Small et al.'s (2020) investigation of MI fidelity within an efficacy trial of hB and FSN the mean age of coaches was 33.6 ($SD = 12.8$) years. Additionally, all participants in the present research were relatively inexperienced in their professions and had less education as compared to previous research on the MITAS—the average time in one's current position was under six months in both Study 1 and Study 2. Participants in the present research all held bachelor's degrees or lower. Frey et al.'s (2017) participants' average years of teaching experience was 14.6 ($SD = 9.4$) years and on average had spent almost 10 years in their current positions. Of the 12 participants in Frey et al.'s (2017) study, 50% held master's degrees in education, counseling, or social work. Suldo et al. (2021) did not report the ages of MITAS-trained coaches in their study, but noted that of seven coaches, one was a faculty member, two were postdoctoral fellows, and four were graduate students in school psychology. Among Small et al.'s (2020) participants, 60% had a master's degree or higher, and 40% were pursuing a master's level degree in social work.

Participants in the present study may more closely resemble those in Iachini et al. (2018), who were all in their mid-20s and held bachelor's degrees.

In terms of gender, race and ethnicity, and experience with MI, the participants in the present research were similar to participants in other studies of MITAS. Overall, most participants who completed the pre-training and post-training assessments identified as female (50% in Study 1 and 100% in Study 2). Participants in Frey et al. (2017), Small et al.'s (2020), and Iachini et al.'s (2018) studies were mostly female (i.e., 91.67%, 80%, and 66.67%, respectively), and in Iachini et al. (2016) and Suldo et al.'s (2021) studies, all participants were female. However, in the individual interviews in the qualitative portion of Study 1 of the present research, none of the three participants identified as female. In Studies 1 and 2, most participants who completed the pre-training and post-training assessments identified as White (100% in Study 1 and 57.14% in Study 2), as was the case with participants in Frey et al. (2017; 75% White), Small et al. (2020; 75% White), and Suldo et al. (2021; 71.4% White), although this was not the case in Iachini et al. (2018; 44.44% White). In the present study, other participants in Study 2 identified as Asian, Black or African American, and Other (not specified). The remaining participants in Frey et al. (2017), Small et al. (2020), and Iachini et al. (2018) identified as Black or African American. In the present study, two participants in Study 1 and two participants in Study 2 identified as Hispanic/Latinx, whereas no participants in other studies of MITAS reported this identity characteristic.

MI Training Outcomes

This research on MI training extends the research literature to a new population by studying an evidence-based training model (MITAS; Frey et al., 2017) for school-based professionals with individuals working in after-school settings. Based on descriptive statistics

and qualitative data, this research demonstrates that the outcomes of MITAS were similar for after-school professionals as compared to early childhood support staff (Frey et al., 2017) and social work graduate students (Iachini et al., 2018). Almost all participants in this research demonstrated improved MI self-efficacy as measured by the MISE Questionnaire after participating in MITAS, although mean post-training scores on the MISE were lower in Study 1 and Study 2 than previously reported results from this measure (Iachini et al., 2018). The qualitative results of individual interviews completed in Study 1 also extend the work of Jones and Atkinson (2021) and Iachini et al. (2018), indicating that ongoing opportunities for practice and feedback are acceptable and integral for improving after-school practitioners' confidence and competence in using MI.

Within the obtained qualitative data, after-school professionals in the present research indicated that MI was useful and relevant for their work, which broadly aligns with perceptions of other school-based professionals (e.g., Frey et al., 2017; Iachini et al., 2016, 2018; Jones & Atkinson, 2021). After-school professionals more frequently expressed confidence with structured MI activities (e.g., values discovery activity) as compared to an unstructured activity, which aligned with other school-based professionals' favorable perceptions of manualized or structured MI (Iachini et al., 2016; Jones & Atkinson, 2021) and improved outcomes when using a manual or protocol (Frey et al., 2013; Snape & Atkinson, 2016). These results are contrary to Hettema et al.'s (2005) finding that not using a manual to deliver MI was associated with larger treatment effect sizes and Miller and Rollnick's (2013) guidance against manualizing MI. However, other research (e.g., Barnett et al., 2012) suggests that manuals may be an indicator of quality related to intervention outcomes. The present research aligns with evidence that for learners who lack clinical or therapeutic experience and training (e.g., many school-based and

after-school professionals), having a structured protocol for implementing MI is helpful. However, individual participants also reported limited opportunities to implement individual MI-based interventions with students. Therefore, after-school trainees may benefit from more specific instruction on using MI within the context of their work with students (e.g., in short conversations with youth, and when working with groups).

Mechanisms of MI

This study examines a small part of Link 1—the connection between initial MI training and fidelity to the technical aspects of MI in simulation (i.e., competency)—described by Frey et al.'s MMI (2021) for a sample of after-school professionals. This study did not assess the relational component of participants' MI practice, nor did it specifically examine the link between training and MI-inconsistent behavior. Although participation in didactic training was high, participants' assessment response rates were low in both Study 1 and Study 2, supporting Frey et al.'s (2021) claim that more efficient, flexible, and context-relevant tools are needed to measure MI fidelity and client behavior.

Limitations

Limitations of this study included threats to internal and external validity related to lack of experimental control, small sample size, and the assessments used for this research. First, this research was non-experimental and did not control for factors that may have influenced participant outcomes other than the MI training. Participants self-selected to participate in the research and may have been different in some way than those who chose not to participate because they were not randomly selected. The number of participants in the qualitative interviews (three) was small and at the low end for sample sizes within phenomenological research (Creswell & Poth, 2018). However, there is no minimum required sample size in

phenomenology, and the interview participants represented 75% of the individuals who experienced the entire training model including workshop trainings and group feedback sessions. Additionally, this study made use of self-report measures including the feedback surveys, MISE Questionnaire, and individual interview questions, which were subject to bias in what participants chose to report about themselves to the researcher. These measures, and the Revised MITS Coaching Checklist used by the researcher to assess participation and engagement, were not subject to internal validity testing, and rather reflected expert opinions about what is important in MI training.

The measures of MI competence (i.e., WASE-SBA and VASE-3-SBA) were also subject to researcher bias. Individuals respond differently to each hypothetical situation, and subjective judgement is required to assign a score to participants' responses. However, the scoring guidelines of these assessments were iterated to improve reliability, and good reliability was achieved on the assessments in the present research which were double coded by the primary researcher and an independent coder.

The results of these studies of MI training with after-school professionals may not be generalizable to the larger population of after-school professionals in the United States due to the small sample sizes in Studies 1 and 2. The population of after-school professionals in the U.S. was more than 20,000 individuals in 2016 (National AfterSchool Association, 2017). However, information about the characteristics of these after-school professionals is limited due to low survey response rates (just 14% of members) reported by the National AfterSchool Association. Participants in the present study were also AmeriCorps Members who may have different population characteristics and backgrounds than other after-school professionals.

The present research also occurred during the COVID-19 pandemic, which began in March 2020 and was ongoing at the time of this writing, which may have hindered recruitment for the individual interviews and follow-up data-collection efforts in Study 1, as well as recruitment and follow-up in Study 2. Due to COVID-19, all recruitment, study procedures, and data collection occurred online in Study 2, and this may have affected participation, engagement, learning outcomes, and individuals' own perceptions of the training and themselves. Additionally, any similarities or differences in researcher-rated engagement of individuals in the training should be interpreted with caution due to inherent differences involved in judging the engagement of individuals physically together in a room and judging the engagement of individuals on a video conference.

Implications

The present research on MI training for after-school professionals has implications for research, practice, and policy. This study provides some support for the use of MI training and the MITAS (Frey et al., 2017) model specifically with after-school professionals, with both quantitative and qualitative data suggesting that after-school professionals' confidence and MI skills in simulated practice improved after workshop training and group feedback sessions. Additional opportunities for practice and feedback were important for after-school practitioners' confidence in their ability to use MI and their ability to self-reflect on their skills, but fewer after-school participants engaged in the group feedback sessions than participants in other educational settings (Frey et al., 2017; Suldo et al., 2021).

Further research and practice should investigate how MITAS may be modularized or adjusted to be more accessible and relevant for professionals who work outside of the traditional education system, such as after-school professionals. For example, participants suggested in

narrative feedback and qualitative interviews that they often work with students in groups and in the context of very short conversations, and lacked the skills to use MI in these situations. Thus, a module of MI training specifically for after-school settings might feature examples, modeling, and practice in using MI with groups students, and in very short (e.g., five-minute) conversations. Practical applications of MI training with after-school professionals may aim to improve participation in extended learning by embedding opportunities for individualized practice and feedback within workshop trainings. In Studies 1 and 2 of the present research, very few participants engaged in the feedback sessions, though qualitative interviews in Study 1 suggested that these extended learning opportunities were important for participants' confidence and competence. Providing limited didactic training followed by the opportunity to record a practice activity and gain personalized feedback, then repeating this cycle until participants are exposed to all the training components may improve engagement and help participants visualize using MI skills in their everyday practice.

A wider range of assessment modalities could be developed and offered to accommodate individuals who face challenges with written assessment, for example by giving individuals the choice to demonstrate their skills via written or verbal response. Researchers and practitioners (MI trainers) may also seek to improve participant response rates and engagement by using MI assessment data to give timely feedback. Qualitative methods, such as interviews, focus groups, and observations, may also provide valuable information via processes that are more feasible for research participants such as after-school professionals. The present research also used both in-person (Study 1) and virtual methods (Study 2) to deliver MI training, and the respective benefits and challenges of these two training modes, and the best way to modify in-person training for virtual delivery, should be examined in future research.

Research suggests that acknowledging culture/cultural differences and making cultural adaptations to MI-based interventions may be beneficial for some recipients of MI (e.g., Bahafzallah et al., 2019; Oh & Lee, 2016) and research on MI training and MI training in the field should also reflect this knowledge by asking participants explicitly how MI interventions and MI training align with their values and beliefs. Analysis of participants in the present research who did and did not complete post-training assessment suggested that participants who did not identify as White composed a greater proportion of participants who did not complete the post-training assessments as compared to participants who completed post-training assessments in Study 1 and Study 2. This indicates that research should examine the extent to which MI and MI training are acceptable to after-school (and other) professionals who do not identify as White, and if and how training may be modified or adapted to be more relevant for those individuals. Future research should also investigate what training is needed for practitioners to competently address culture in their MI practice by acknowledging culture and making appropriate cultural adaptations while retaining the essential technical and relational components of MI. For example, research could investigate to what extent MI and MI training aligns with professionals' cultural backgrounds, and to what extent MI is compatible with their current duties and role. Practical applications of MI training for diverse participants may integrate the same questions, to highlight the aspects of MI that may be most useful and relevant in their practice and begin a conversation about how to integrate MI within other culturally relevant techniques.

Within the larger context of research on MI training, further studies should investigate the level of training necessary for after-school professionals to demonstrate proficiency with MI in simulated and real practice in terms of the relational component of MI and MI inconsistent behavior, in addition to the technical component. Research should also investigate the link

between after-school professionals' MI implementation fidelity in real practice and proximal (e.g., change talk) and distal (e.g., program attendance) outcomes for youth. As Small et al. (2020) suggested, it may also be useful to compare MI fidelity within after-school practitioners across students and other recipients (e.g., teachers, parents) to monitor factors that influence reliable MI practice in after-school settings.

The implications of this research for policy include support for increased investment in evidence-based training in MI for after-school professionals and increased organizational support for professionals' use of MI with youth. The present work suggests that MI is broadly relevant and useful for after-school professionals' work and provides evidence that most professionals in this setting have not been exposed to MI. Policy should promote the use of training methods that are likely to be socially valid and likely to lead to growth in skills and confidence. The current research provides preliminary support for the use of MITAS, an evidence-based method of MI training and assessment, with after-school professionals. However, this research also provides evidence that structural investment, such as paying individuals for their time in training and explicitly designating training time for extended practice and feedback, may be necessary to incentivize participation that leads to meaningful gains in skill and confidence.

Data from the individual interviews also indicated that after-school participants gained confidence and competence in using MI with students, but also struggled to see how they could apply their new skills within the context of regular programming at their sites. This evidence indicates that organizational support for programmatic modifications may be necessary to increase opportunities for staff to use MI with adolescents, and ultimately for adolescents to benefit from MI. For example, program leadership may encourage the integration of MI within regular programming, and support regular peer consultation about MI practice.

Appendix A

Feedback Surveys

A1. Workshop Training Survey

8/9/2021

Workshop Training Survey

Workshop Training Survey

1. Which trainings did you attend?

Check all that apply.

- Motivational Interviewing Part 1 (Wednesday, 9/18)
- Motivational Interviewing Part 2 (Friday, 9/20)

8/9/2021

Workshop Training Survey

2. Rate how much you agree with the following statements.

Mark only one oval per row.

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
The session(s) were efficiently organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The length of the session(s) was just right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session(s) were delivered at a pace that enabled me to follow and understand the material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way that information was shared during the session(s) matched my learning style.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session(s) allowed me to test out the skills that I learned.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There was enough time during the session(s) for my questions to be answered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The small group work during the session(s) was helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The video examples presented during the session(s) were helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The role playing exercises during the session(s) were helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The discussions during the session(s) were helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter was knowledgeable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter was prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter used the time effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Session materials were well organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session(s) sparked my interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ideas and strategies presented during the session(s) are relevant to my work in after-school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will use the information presented during the session(s).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident I will be able to apply what I have learned to my work in after-school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will attend additional sessions in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend this/these session(s) to my colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8/9/2021

Workshop Training Survey

3. How much of the information presented to you during the session(s) was:

Mark only one oval per row.

	None	Some	All
New to you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Review for you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relevant to your current work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. To what extent did the session meet your expectations?

Mark only one oval.

- Did not meet my expectations
 Met some of my expectations
 Met most of my expectations
 Met my expectations
 Exceeded my expectations

5. What did you like most or find most helpful about the session(s)?

6. What did you like least or find least helpful about the session(s)?

7. Do you have any additional comments, feedback, or recommendations?

A2. Group Feedback Session Survey

8/9/2021

Group Feedback Survey

Group Feedback Survey

1. Rate how much you agree with the following statements.

Mark only one oval per row.

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
The feedback sessions were efficiently organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way that feedback was shared during the feedback sessions matched my learning style.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feedback was shared in a sensitive and constructive way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feedback shared during the sessions was relevant.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feedback shared during the sessions was easy to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feedback sessions helped me improve my use of motivational interviewing techniques.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I implemented the ideas and strategies shared during the feedback sessions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feedback sessions were an important part of the MI Training for After School Professionals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Do you have any comments, feedback, or recommendations about the feedback sessions?

This content is neither created nor endorsed by Google.

Google Forms

Appendix B

Group Feedback Session Protocols

Study 1

B1. Study 1, Session 1

PASS MI Feedback Session 1

- Set up audio recording
- Distribute agendas

Item	Description	Materials	Notes
Check-in with participants (15)	<ul style="list-style-type: none"> • Review agenda • Check in with participants about MI practice. What is going well? What is not working? 	<ul style="list-style-type: none"> • Participant agenda 	
Explain practice exercises (2)	Explain that feedback sessions will be centered around “homework” assignments. Explain purpose of these assignments (practice with feedback contributes to effectiveness in MI).		
First practice exercise (10)	<ul style="list-style-type: none"> • Explain values discovery exercise (Iachini, Rogelberg, Terry, & Lutz, 2016). • Choose a peer partner in the group and practice the values discovery interview with that person. • Take turns playing the student and the interviewer. Record with phones and upload. 	<ul style="list-style-type: none"> • Values discovery interview • Values discovery worksheet • Values discovery cards 	

	<ul style="list-style-type: none"> • Participants listen to the recording, write down what they did well and what they want to work on 		
Demonstration and practice/planning (20-30 minutes)	<ul style="list-style-type: none"> • Demonstrate the values discovery interview with a volunteer student • Have participants get together in pairs to plan/practice 		
Next session (1)	Next session on November 15 th at 12:30		

B2. Study 1, Session 2

PASS MI Feedback Session 2

- Set up audio recording
- Distribute agendas

Item	Description	Materials	Notes
Check-In	General check-in		
Discuss Audio Recordings of Values Activity	What went well? What was challenging? Give each person a chance to share.		
Next Steps (personalized feedback)	<p>Next I will code your recordings and give provide written feedback before the next session (Dec 6)</p> <p>Next time, we will spend time listening to a segment of audio from each person's recording and practice coding for MI technique. The goal is to identify strengths and areas for improvement, and to show you ways to evaluate your own practice.</p> <p>Task for next time: Send Tanya email with 5-minute segment that would be good to listen to in the group next time.</p>	Show coding forms	

B3. Study 1, Session 3

PASS MI Feedback Session 3

- Set up audio recording
- Distribute agendas

Item	Time	Description	Materials	Notes
Check-In	5 min	General check-in		
Teach Coding	15 min	<p>Pass out coding forms and MITI copies for everyone</p> <p>Go through coding form with reference to MITI</p> <ul style="list-style-type: none"> • Explain volleys, and coding only one thing per category • No difference between open and closed-ended Qs. 	TFS forms, MITI forms	
Discuss Selected Feedback for Participants	1 hr (15 min per person)	<p>Listen to 5-min segments one at a time. Use EPE format:</p> <ul style="list-style-type: none"> • Tell us about this segment. What went well for you here, what was challenging? • Have participants choose what to code • Listen • Go through feedback from each person 		
Next Steps: Assignment 2	10 min	<p>Choose a problematic youth behavior that is common among students you work with and an appropriate target for MI.</p> <ul style="list-style-type: none"> • Have participants choose this during session <p>Take turns interviewing each other as the student who has the behavior you identified. Focus on using the MI skills you wanted to</p>	Assignment handout	

		improve. Record with phones, upload. I will send written feedback on these recordings before the next session on 1/10.		
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B4. Study 1, Session 4

PASS MI Feedback Session 4

- Set up audio recording
- Distribute agendas

Item	Time	Description	Materials	Notes
Check-In and Announcements	10 min	General check-in <ul style="list-style-type: none"> • Review agenda including post-assessment and individual interviews 		
Coding Reminders	5 min	Pass out coding forms and put MITI on the table for reference Reminders for coding: <ul style="list-style-type: none"> • Explain volleys, and coding only one thing per category • No difference between open and closed-ended Qs. 	TFS forms, 2 copies of MITI	
Discuss Selected Feedback for Participants	40 min (10 min per person)	Listen to 5-min segments one at a time. Use EPE format: <ul style="list-style-type: none"> • Tell us about this segment. What went well for you here, what was challenging? • Have participants choose what to code-perhaps based on goals • Listen • Go through feedback from each person 		
Next Steps	10 min	<ul style="list-style-type: none"> • How will you continue to use MI? 		
Post-Assessment 2	1 hour	<ul style="list-style-type: none"> • Consider taking the time to fill out here 		

		<ul style="list-style-type: none">• Can leave if necessary		
Schedule Individual Interviews?	10 min	<ul style="list-style-type: none">• Where/when• Will consent at the meeting		

Study 2

B5. Study 2, Session 1

PASS MI Feedback Session 1

- Set up audio recording
- Orient to Google Drive folder (paste link in chat)
- Will demonstrate for virtual, but materials are there for in-person use

Item	Description	Materials	Notes
Check-in with participants (15)	<ul style="list-style-type: none"> • Review agenda • Check in with participants about MI practice. What is going well? What is not working? 	-Participant agenda	
Explain practice exercises (2)	Explain that feedback sessions will be centered around “homework” assignments. Explain purpose of these assignments (practice with feedback contributes to effectiveness in MI).		
First practice exercise (10)	<ul style="list-style-type: none"> • Explain values discovery exercise (Iachini, Rogelberg, Terry, & Lutz, 2016). • Choose a peer partner in the group and practice the values discovery interview with that person. • Take turns playing the student and the interviewer. Record with phones and upload. • Participants listen to the recording, write down what they did well and what they want to work on 	-Values discovery interview -Values discovery worksheet -Values discovery cards (in-person) -Values Jamboard (virtual)	
Demonstration and practice/planning (20-30 minutes)	<ul style="list-style-type: none"> • Demonstrate the values discovery interview with a volunteer student • Have participants get together in pairs to plan/practice 		
Next session (1)	Next session on February 24 th at 9 or 26 th at 1		

B6. Study 2, Session 2

PASS MI Feedback Session 2

- Set up audio recording
- Orient to digital materials

Item	Description	Materials	Notes
Check-In	General check-in		
Discuss Audio Recordings of Values Activity	What went well? What was challenging? Give each person a chance to share.		
Next Steps (personalized feedback)	<p>Next I will code your recordings and give provide written feedback before the next session (3/3 or 3/5)</p> <p>Next time, we will spend time listening to a segment of audio from each person's recording and practice coding for MI technique. The goal is to identify strengths and areas for improvement, and to show you ways to evaluate your own practice.</p> <p>Task for next time:</p> <ul style="list-style-type: none"> • Upload your audio recording • Choose a 5-minute segment for group coding • What do you think about these tasks? 	Orient to digital TFS coding forms and MITI (mostly focus on TFS)	
Next Session	3/3 at 9 or 3/5 at 1		

B7. Study 2, Session 3

PASS MI Feedback Session 3

- Set up audio recording
- Orient to materials

Item	Time	Description	Materials	Notes
Check-In	5 min	General check-in (if participants have recorded, go to teaching coding and discussing feedback- if not, start with recording practice, if they are acceptable to this)		
Record Practice	20 min	Record practice activity if the participants have not done so already-use Zoom to record.	Script for activity & Jamboard.	
Teach Coding	15 min	Reorient to coding forms and MITI Go through coding form with reference to MITI <ul style="list-style-type: none"> • Explain volleys, and coding only one behavior per category • No difference between open and closed-ended Qs. 	TFS forms, MITI forms	
Discuss Selected Feedback for Participants	30 min(15 min per person)	Listen to 5-min segments one at a time. Use EPE format: <ul style="list-style-type: none"> • Tell us about this segment. What went well for you here, what was challenging? • Have participants choose what to code • Listen • Go through feedback from each person 		
Individual Feedback	2 min	If we have recorded practice during this small		

		group, I will provide feedback within the week.		
Next Steps: Assignment 2	10 min	<p>Choose a problematic youth behavior that is common among students you work with and an appropriate target for MI.</p> <ul style="list-style-type: none"> • Have participants choose this during session <p>Take turns interviewing each other as the student who has the behavior you identified. Focus on using the MI skills you wanted to improve. Record with phones, upload. I will send written feedback on these recordings before the next session on 3/17 or 3/19.</p>	Assignment handout	

B8. Study 2, Session 4

PASS MI Feedback Session 4

- Set up audio recording

Item	Time	Description	Materials	Notes
Check-In and Announcements	10 min	General check-in <ul style="list-style-type: none"> • Review agenda 	Orient to digital materials	
Record Practice	20 min	Record practice activity if the participants have not done so and are willing already-use Zoom to record. If not interested,	Script for activity & Jamboard.	
Coding Reminders	5 min	Refer to coding forms and MITI Reminders for coding: <ul style="list-style-type: none"> • Explain volleys, and coding only one thing per category • No difference between open and closed-ended Qs. 	Digital TFS forms, MITI	
Discuss Selected Feedback for Participants	40 min (10 min per person)	Listen to 5-min segments one at a time. Use EPE format: <ul style="list-style-type: none"> • Tell us about this segment. What went well for you here, what was challenging? • Have participants choose what to code-perhaps based on goals • Listen • Go through feedback from each person 		
Next Steps	10 min	<ul style="list-style-type: none"> • How will you continue to use MI? 		
Post-Assessment 2	1 hour	<ul style="list-style-type: none"> • Consider taking the time to fill out here 		

		<ul style="list-style-type: none">• Can leave if necessary		
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Appendix C

Group Feedback Session Checklists

Study 1

C1. Study 1, Session 1

MI Feedback Session 1 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-in	<ul style="list-style-type: none"> • Review agenda • Check in with participants about MI practice. 			
Explain practice exercises	<ul style="list-style-type: none"> • Explain that feedback sessions will be centered around “homework” assignments. • Explain importance of practice. 			
First practice exercise	<ul style="list-style-type: none"> • Explain values discovery exercise • Give directions for completing practice exercise. 			
Demonstration and practice/planning	<ul style="list-style-type: none"> • Demonstrate the values discovery interview with a volunteer • Participants practice in pairs 			
Next session	<ul style="list-style-type: none"> • Preview next session 			
Total				
Overall Total				/10

C2. Study 1, Session 2

MI Feedback Session 2 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 8).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Discuss Audio Recordings of Values Activity	<ul style="list-style-type: none"> • Each participant shares experience with practice activity 			
Next Steps	<ul style="list-style-type: none"> • Describe next steps for researcher and participants 			
Next Meeting	<ul style="list-style-type: none"> • Preview next meeting 			
Total				
Overall Total				/8

C3. Study 1, Session 3

MI Feedback Session 3 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Teach Coding	<ul style="list-style-type: none"> • Explain coding using the Motivational Interviewing Treatment Integrity Coding Manual (MITI) 			
Discuss Selected Feedback for Participants	<ul style="list-style-type: none"> • Listen to participant-selected audio segments. • Use E-P-E format to give feedback from group 			
Next Steps: Assignment 2	<ul style="list-style-type: none"> • Explain the next practice assignment • Give directions for completing in pairs 			
Next Meeting	<ul style="list-style-type: none"> • Preview next meeting 			
Total				
Overall Total				/10

C4. Study 1, Session 4

MI Feedback Session 4 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Coding Reminders	<ul style="list-style-type: none"> • Review coding procedures using the Motivational Interviewing Treatment Integrity Coding Manual (MITI) 			
Discuss Selected Feedback for Participants	<ul style="list-style-type: none"> • Listen to participant-selected audio segments. • Use E-P-E format to give feedback from group 			
Next Steps	<ul style="list-style-type: none"> • Discuss how to continue practicing MI 			
Post-Assessment 2	<ul style="list-style-type: none"> • Remind participants to complete 			
Total				
Overall Total				/10

Study 2

C5. Study 2, Session 1

MI Feedback Session 1 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-in	<ul style="list-style-type: none"> • Review agenda • Check in with participants about MI practice. 			
Explain practice exercises	<ul style="list-style-type: none"> • Explain that feedback sessions will be centered around “homework” assignments. • Explain importance/purpose of practice. 			
First practice exercise	<ul style="list-style-type: none"> • Explain values discovery exercise • Give directions for completing practice exercise. 			
Demonstration and practice/planning	<ul style="list-style-type: none"> • Demonstrate the values discovery interview with a volunteer • Offer opportunity for participants to practice 			
Next session	<ul style="list-style-type: none"> • Preview next session 			
Total				
Overall Total				/10

C5. Study 2, Session 2

MI Feedback Session 2 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 8).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Discuss Audio Recordings of Values Activity	<ul style="list-style-type: none"> • Participants given opportunity to share experience with practice activity 			
Next Steps	<ul style="list-style-type: none"> • Describe next steps for researcher and participants • Orient to digital materials 			
Next Meeting	<ul style="list-style-type: none"> • Preview next meeting 			
Total				
Overall Total				/8

C5. Study 2, Session 3

MI Feedback Session 3 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Record Practice	<ul style="list-style-type: none"> • Record practice activity if participants have not done so already (if participants agree) • Move on if participants have already recorded 			
Teach Coding	<ul style="list-style-type: none"> • Explain/Review coding procedures using the Motivational Interviewing Treatment Integrity Coding Manual (MITI) and MI fidelity coding sheets. 			
Discuss Selected Feedback for Participants	<ul style="list-style-type: none"> • Listen to participant-selected audio segments • Use E-P-E format to give feedback from group 			
Next Steps: Assignment 2	<ul style="list-style-type: none"> • Explain the next practice assignment • Give directions for completing in pairs 			
Next Meeting	<ul style="list-style-type: none"> • Preview next meeting 			
Total				
Overall Total				/12

C5. Study 2, Session 4

MI Feedback Session 4 Checklist

Directions: Indicate whether each item was heard in the audio recording completely, partially, or not at all by putting the point value in the space next to the item in the appropriate column. Then add up the point totals from the completed and partially completed columns, and enter the overall total points (out of 10).

Item	Description	Completed (2)	Partially Completed (1)	Not Completed (0)
Check-In	<ul style="list-style-type: none"> • General check-in • Review agenda 			
Record Practice	<ul style="list-style-type: none"> • Record practice activity if participants have not already done so and are willing • Move on if participants have already recorded 			
Coding Reminders	<ul style="list-style-type: none"> • Review coding procedures using the Motivational Interviewing Treatment Integrity Coding Manual (MITI) and coding sheets 			
Discuss Selected Feedback for Participants	<ul style="list-style-type: none"> • Listen to participant-selected audio segments. • Use E-P-E format to give feedback from group 			
Next Steps	<ul style="list-style-type: none"> • Discuss how to continue practicing MI 			
Post-Assessment 2	<ul style="list-style-type: none"> • Remind participants to complete 			
Total				
Overall Total				/12

Appendix D

Practice Activity Guides

D1. Values Activity

Values Activity

Identifying personal values is important for increasing motivation for change. Oftentimes, students may a) be unaware of their own values, or b) be aware of their values but are not demonstrating behaviors consistent with their values. This lesson is designed to increase students' awareness of their values (things that are important to them) and promote change talk around the advantages of engaging in behaviors that are consistent with their values.

Objectives

- Build rapport with the student
- Help students identify at least three personal values

Materials

- Values cards
- Values worksheet

1. **Introduce the session.** “Last time we met, you provided me with some important information about you. I am excited to get to know you a bit more today and learn what things are important to you.”
2. **Values Identification.** “Last week, I mentioned to you that I would like to get to know you better so that we can work together to help you achieve the things that you want in the future. Tell me a bit about what you see yourself doing after high school.”

“Oftentimes the things that we want in our future relate to things that are important to us (sometimes we call those things our values). So if we have a sense of what things are important to you, then we have a sense of the things that you value. Would it be ok if we talked about values for a few minutes?”

“Here are some cards that list some common values that people have. These may help us identify the things that are important to you. Would it be ok if we used these cards for a few minutes?”

Give the student the stack of cards and have them read through them. Then ask the student to sort them into three piles based on very important, important or not important. Once the student does this, pick up and lay out the cards in the very important pile and ask the student to identify 3-4 values that are most important to them. **List most important values here:**

Once the student has identified those 3-4 very important values, ask the student to elaborate more on that value [value worksheet]. Here are some questions to ask the student that might help elicit elaboration on these values:

- What does [insert value] mean to you?
- Tell me a little bit more about what [value] means to you?
- Why is [insert value] important to you?

Open questions, Affirmations, Reflections, Summaries- [Pay special attention to supporting change talk]

- 3. Wrap up.** Summarize what you learned about the student's values and ask the student if that represents what they talked about during the session. Then close the session: "I'm glad we had a chance to meet today. I'm excited about our work together over the few months. Next time, I hope to build on what we talked about today and learn more about you and your school experiences."

D2. Unstructured Conversation Activity

MI Practice Assignment 2: Unstructured Interview

In this assignment, you will choose a problematic youth behavior that is common among the students you work with. You will complete an audio recorded interview with your partner to practice the skills you identified for development during the first assignment.

1. Recall the MI skills you want to develop:

2. Choose a youth behavior. This behavior should be an appropriate target for MI, in that it is something the student controls, is in the student's true best interests, and is something students feel ambivalent about changing (e.g. completing homework, behavior in peer relationships, attending school, etc.). Describe the behavior here:

3. Conduct the interview. Tell your partner about this behavior, and have them play the role of a student who struggles with this and is willing to engage in conversation with you about it. Aim to talk for 15-20 minutes.

4. Upload. Put your recording in the shared folder.

Appendix E

Individual Interview Questions

Introduction

- Name and organization
- Purpose of the research
- Reason you have been asked to participate

Ground Rules

- 1 hour
- Transfer recording to secure UW online location
- Reported in dissertation research and other projects without using your name, including anonymous quotes

Motivational Interviewing Competency

1. Tell me about your MI skills before this training.
 - a. If you had some MI skills before the training, how confident did you feel about using MI before the training?
2. How did the workshop trainings affect your MI skills (relational and technical)?
 - a. What effect, if any, did the workshop trainings have on your competency to practice MI?
3. How did the feedback sessions affect your MI skills (relational and technical)?
 - a. What effect, if any, did the workshop trainings have on your competency to practice MI?

Motivational Interviewing Self-Efficacy

4. How did the workshop trainings affect your confidence in your ability to use MI?
 - a. What was your level of confidence after the workshops?
5. How did the feedback sessions affect your confidence in your ability to practice MI?
 - a. What is your level of confidence after the feedback sessions?
6. How confident do you feel about implementing MI in a structured conversation (like the values discovery activity)?
 - a. How likely are you to use a structured format to have an MI conversation?
7. How confident do you feel about implementing MI in an unstructured conversation (like the second practice activity)?
 - a. How likely are you to use an unstructured format to have an MI conversation?

Training Satisfaction

8. Do you see motivational interviewing as useful in your professional life?
 - a. If yes, in what situations do you see it being most useful?

- b. If no, why not?
9. What were the strengths of this training model?
 - a. Which parts were beneficial?
 10. What were the weaknesses of this training model?
 - a. Which parts were less useful?
 11. What modifications and/or additions would you make to the workshop/feedback sessions to make this training more useful for after-school professionals?
 - a. What would you change?

Other

12. Is there anything else you would like to add?

Thanks and Next Steps

- Thanks
- Give researcher info

Appendix F

Unitization Manual

Individuals who participated in MI training and group feedback sessions for after-school professionals were asked questions in four broad categories: MI competency, MI self-efficacy, training satisfaction, and any other suggestions/additions. The following guidelines should be used to break responses into discrete “units” of meaning. Example and non-example line numbers correspond to lines in the Excel document.

1. **Verbatim unitization.** Units should be identified *verbatim* when possible (i.e. without words added or subtracted by the researchers). That is, when you identify the start of a unit, all speech between the start and end should be included. At times, the participant also has a “false start,” which does not include code-able information and this speech (e.g. “um”) should not be coded.
 - a. Line 5: Um. I would say um, so like before any, my motivational interviewing skills were, I had never heard of motivational interviewing before, and, I, yeah I um, I had definitely never like thought about, I don’t know, it just like it as a science, like sort of like, um, and like a way to, like I had never really thought about like change talk, um, and like what, like I don’t know I’m just like thinking more about like what enables change talk and, like thinking more about like what, um, like I had never thought about like sustain talk either really, and like how those could both be important, um, like to actually like determine somebody’s, like, behavior, or like, you know, for, yeah, for like, um, and so, yeah. I guess I had never really thought like a lot about how that could be like really important to like, try and like, study that, and like, improve.
 - i. 6 units: I would say um, so like before any, my motivational interviewing skills were, I had never heard of motivational interviewing before; I had never heard of motivational interviewing before, and, I, yeah I um, I had definitely never like thought about, I don’t know, it just like it as a science; like I had never really thought about like change talk, um, and like what, like I don’t know I’m just like thinking more about like what enables change talk; and like I had never thought about like sustain talk either really; and like how those [change talk and sustain talk] could both be important, um, like to actually like determine somebody’s, like, behavior; I guess I had never really thought like a lot about how that could be like really important to like, try and like, study that, and like, improve.
 - b. Line 34 (false start): Yeah, um. I’m trying to think of, like a good, I guess if 1 is no confidence, and 10 is like absolutely I can do it, I feel like I’m kind of at a 6.5, because I feel like, before my skills with doing that would have been more at like a 3 and now I feel like I’m much more around a 6.5, but I know that it’s just, this is just an introduction to something that, like, people are doing their doctorates about. So I know that there is like this huge world and I know that it’s something

you could spend like your whole career devoting to like really developing these tools, but um, I feel like I can pick up a lot more on that change talk, and figuring out like when to ask closed or open-ended questions. Or even just asking about reflections, I've gotten so much more confident in my ability to relate, um, just information to kids in a way. Like I think this was with you, when you were talking about like figuring out how to affirm kids without saying the words like "I really like," or just like using statements like, "You put in a lot of effort into this." Like that has just gotten to be so more instinctual for me, yeah.

- i. 6 units: I guess if 1 is no confidence, and 10 is like absolutely I can do it, I feel like I'm kind of at a 6.5; but I know that it's just, this is just an introduction to something that, like, people are doing their doctorates about; I feel like I can pick up a lot more on that change talk; and figuring out like when to ask closed or open-ended questions; Or even just asking about reflections, I've gotten so much more confident in my ability to relate, um, just information to kids in a way; Like that [figuring out how to affirm kids without saying the words like "I really like,"] has just gotten to be so more instinctual for me, yeah.

2. **Unit division.** Units tend to be separated by periods, commas, and prepositions (e.g. but, because, and). However, punctuation and prepositions do not necessarily signify the end of a unit. That is, if a participant paused (indicated by punctuation or preposition), but continued in the same vein/same point, the unit may include punctuation or prepositions.
 - a. Example Line 8: I feel like we covered a lot of information in the workshop trainings, so those were good, and it like started us on a path to practicing them. But, I realized after that I might need more practice to actually do them effectively, so. But overall I really liked all the information that you shared during the workshops, so I don't think I'd really cut out too much if you were to do it again, yeah.
 - i. 6 units: I feel like we covered a lot of information in the workshop trainings; so those were good; and it like started us on a path to practicing them; But, I realized after that I might need more practice to actually do them effectively, so; But overall I really liked all the information that you shared during the workshops; so I don't think I'd really cut out too much if you were to do it again, yeah.
 - b. Non-Example Line 15: I. I think like they, I think they definitely made me aware of like, of, of, just trying to remember what I was like, like some of my things that I had um scored like well in...um, I think maybe like affirmations, like initially I hadn't had many. So, I think just like awareness. And also, yeah, so I think like, yeah they made me aware that I could do more to give, like, affirmations. And I think maybe this is not necessarily like the feedback sessions, but like listening, um, I actually felt like that was like very helpful to me like, and um yeah, like just like listening to the recording um ah you know to like, yeah I think that that helped me to just like reflect more, on like um, on like the practice sessions that another one of the participants and I, um. I. Yeah, I think just like

um, like the feedback from other people I think was helpful, I think for like myself at least, like maybe it would be like, like it would stay with me a little bit more if um you know it was like written, perhaps. Like of course that's more time and everything, but if like maybe like, it's like written like feedback from like the other participants, um. Which I can't remember, yeah, maybe. But I know like you gave the written feedback and that was definitely helpful to me. And then, sorry that's a long answer.

- i. 7 units: And also, yeah, so I think like, yeah they made me aware that I could do more to give, like, affirmations; but like listening, um, I actually felt like that was like very helpful to me like; like just like listening to the recording um ah you know to like, yeah I think that that helped me to just like reflect more, on like um, on like the practice sessions; Yeah, I think just like um, like the feedback from other people I think was helpful; like it would stay with me a little bit more if um you know it was like written, perhaps; **Like of course that's more time and everything, but if like maybe like, it's like written like feedback from like the other participants, um;** But I know like you gave the written feedback and that was definitely helpful to me.

3. **Repetition.** At times, participants say the same thing more than once in a response. In these cases, the clearest statement should be captured. The representative unit may not be the first time a participant voices their statement.

- a. Line 26: Yeah, I feel like when you're learning anything, your confidence kind of goes down and then goes up again. 'Cause I feel like I realized, "Oh, there is a lot of like, different moving pieces to this." So I felt like I really learned and grew a lot in my confidence. Definitely at first was like, "Oh man, this is so much," and then like as we did more sessions and as I was applying like more MI stuff just to like my youthwork job, or even just to like my other job where I'm doing a lot of relating to other people and just talking, like I could feel my confidence starting to go back up. It was just like, "Ok, I'm a lot more aware of a lot of these different moving pieces, and I'm getting more familiar with a lot of these tools, and it's becoming easier to be mindful of what's going on in any moment."
 - i. 4 units: So I felt like I really learned and grew a lot in my confidence; **Definitely at first was like, "Oh man, this is so much,"; and then like as we did more sessions and as I was applying like more MI stuff just to like my youthwork job, or even just to like my other job where I'm doing a lot of relating to other people and just talking, like I could feel my confidence starting to go back up;** It was just like, "Ok, I'm a lot more aware of a lot of these different moving pieces, and I'm getting more familiar with a lot of these tools, and it's becoming easier to be mindful of what's going on in any moment."
- b. Line 87: Mhm. But I, I definitely think there's also, not to take anything away from the value of like the like 20-minute, like MI practice. But I don't know, I guess I'm just like kind of interested, or just curious, about how that would go,

and how useful it might be. Just in that like, I feel that like there's, you know, like at least for myself and like the work I've been involved with, like there's a lot of you know, like more of like the 5 minute sort of, like there's more sort of you know interactions like that, than like the like 20 minute, um, um. But again not to take away from the value of longer stuff. And then I think like just for myself, or I don't know, this is probably helpful for many people, to listen to like um, how the session between, how the practice session, um that another participant and I did, to like listen to that I think was helpful, just to kind of reflect more on things that I. [Mhm. So you mean like something shorter?]

- i. 4 units: Just in that like, I feel that like there's, you know, like at least for myself and like the work I've been involved with, like there's a lot of you know, like more of like the 5 minute sort of, like there's more sort of you know interactions like that, than like the like 20 minute, um, um; But again not to take away from the value of longer stuff; to listen to like um, how the session between, how the practice session, um that another participant and I did, to like listen to that I think was helpful; just to kind of reflect more on things that I.

4. **Lists.** When a participant lists a series of steps (commonly separated by commas), or steps in a process, these should be coded as one unit rather than separated into separate units.
 - a. Example Line 26: Yeah, I feel like when you're learning anything, your confidence kind of goes down and then goes up again. 'Cause I feel like I realized, "Oh, there is a lot of like, different moving pieces to this." So I felt like I really learned and grew a lot in my confidence. Definitely at first was like, "Oh man, this is so much," and then like as we did more sessions and as I was applying like more MI stuff just to like my youthwork job, or even just to like my other job where I'm doing a lot of relating to other people and just talking, like I could feel my confidence starting to go back up. It was just like, "Ok, I'm a lot more aware of a lot of these different moving pieces, and I'm getting more familiar with a lot of these tools, and it's becoming easier to be mindful of what's going on in any moment."
 - i. 4 units: So I felt like I really learned and grew a lot in my confidence; Definitely at first was like, "Oh man, this is so much,"; and then like as we did more sessions and as I was applying like more MI stuff just to like my youthwork job, or even just to like my other job where I'm doing a lot of relating to other people and just talking, like I could feel my confidence starting to go back up; It was just like, **"Ok, I'm a lot more aware of a lot of these different moving pieces, and I'm getting more familiar with a lot of these tools, and it's becoming easier to be mindful of what's going on in any moment."**
5. **Un-coded responses.** Most responses can be coded, and should be considered relevant even if they do not directly answer the interviewer's question. However, not all responses

(or parts of responses) contain meaningful units. Participants' clarifying questions fall into this category and should not be coded.

- a. Line 29 (entire unit): Yeah, just yeah. Like unless things were to change like at the youth center I guess, which like, that's also, yeah, yeah. I don't know.
[Making it realistic.]
 - i. 0 units.
 - b. Line 73 (entire unit): I remember thinking that it, uh, again like, this might just be like more, like I don't know, they say everybody learns differently, and maybe this is just more my learning style. Um, but I remember thinking like after the, we had two like large group?
 - i. 0 units.
 - c. Line 9 (parts of response not coded in bold): I felt like that was, like planting seeds of like, oak trees, like a lot of potential, and there was just a lot of information, and um, I felt like it was all super super relevant. I wished that we had more time to go like further in depth and engage with all of them, but I know, like, having past trainings, so we're trying to hit different topics every week. I really enjoyed everything that we did. I loved the opportunities that we had to practice it in the moment. **That for me really helps me, like just kind of remember things that I've been told. But um, I thought that everything that was in there,** like I liked how comprehensive it was, I loved that we had all of the handouts that we could reference afterwards, and then we had access to that Powerpoint presentation. **And the, I forget if it was the first time around, or the second time around, you had pre-readings.** Those were super helpful as well. So I feel like it was the type of workshop where it was like the more you engage with it the more you got out of it just because there was so much like different material that you could reference or dig into.
 - i. 11 units: I felt like that was, like planting seeds of like, oak trees, like a lot of potential; and there was just a lot of information; I felt like it was all super super relevant; I wished that we had more time to go like further in depth and engage with all of them; but I know, like, having past trainings, so we're trying to hit different topics every week; I really enjoyed everything that we did; I loved the opportunities that we had to practice it in the moment; like I liked how comprehensive it was; I loved that we had all of the handouts that we could reference afterwards, and then we had access to that Powerpoint presentation; Those [pre-readings] were super helpful as well; So I feel like it was the type of workshop where it was like the more you engage with it the more you got out of it just because there was so much like different material that you could reference or dig into.
6. **Brackets.** Brackets have been used in some responses to indicate when the response is a reply to the interviewer's clarifying question. You may also use brackets in unitizing to clarify the participant's indirect reference to something.

- a. Line 71 (Brackets in response indicating interviewer clarifying question): No not really. I really liked how it was implemented overall. [Is there anything else you would change about the way that the training was implemented?]
- b. Line 57 (Brackets in units): Yeah, I also feel like when talking with other staff. Like when they have a problem, I can sort of like help them out in like unraveling their conversation, maybe. And it might also be easier, since I'm like doing it with a peer, like I could also like sort of explain what I'm doing with them, and try getting them to like think about things in a different way. Although that might be kind of like difficult sometimes, if they're like really set in their like, what they want to say.
 - i. 4 Units: I also feel like when talking with other staff; Like when they have a problem, I can sort of like help them out in like unraveling their conversation, maybe; And it might also be easier; since I'm like doing **it** **[MI]** with a peer, like I could also like sort of explain what I'm doing with them; and try getting them to like think about things in a different way; Although that might be kind of like difficult sometimes, if they're like really set in their like, what they want to say.

Appendix G

Minor Category Definitions

This document should be used to guide the categorization of all the units in Minor Categories document. Below are definitions for each minor category, and examples and non-examples of units that fit under each. Numbers next to examples and non-examples refer to the line number of the unit in the Minor Categories document. All minor categories will have at least 3 units.

1. Lack of Prior MI Awareness/Skills

Units in this category discuss participants' lack of awareness of, knowledge of, or skills related to MI before they went through the training provided through the research study. Any discussion of things that the participant did not know about MI or their lack of ability related to MI before the training should be put in this category.

Example (13): I had never heard of motivational interviewing before

Non-Example (6): I was just aware [before the training] that they're like nice things to do [open-ended questions] when you're asking questions.

2. Prior MI Awareness/Skills

This category includes units that discuss knowledge or awareness of MI or use of any of the skills or techniques associated with MI (regardless of whether the participant knew this was part of MI or not).

Example (11): And like sometimes I could tell, like "this conversation's going really well, I don't particularly know why, but I'm enjoying it"

Non-Example (79): and a way to just like help guide the people that we're with, especially in a youthwork setting.

3. Skills/Knowledge Gained from Workshops

This category includes statements about the effects of the workshop training on participants' MI-related knowledge, awareness, and skill development. Units that discuss gaining theoretical understanding and the foundational knowledge necessary for skill development should also be included here.

Example (37): to get some like, um I guess like, yeah, just as you would expect I guess like, you know, like some theory and then like to get to practice a little bit

Non-Example (35): So I feel like it was the type of workshop where it was like the more you engage with it the more you got out of it just because there was so much like different material that you could reference or dig into.

4. Skills/Knowledge Gained from Feedback Sessions

This category includes general and specific statements about knowledge, awareness, and skills gained as a result of the group feedback sessions. Units that discuss the participants' present level of MI knowledge or skills compared to the past should also be included here.

Example (49): just because like, instead of just kind of, more like passively looking at it [MI]

Non-Example (45): but it was also helpful to like see the behind-the-scenes process of what you do to code the MI conversations

5. Workshop Trainings Contained a Large Amount of Information

Units in this category describe the amount of information covered by the workshop trainings.

Example (35): So I feel like it was the type of workshop where it was like the more you engage with it the more you got out of it just because there was so much like different material that you could reference or dig into.

Non-Example (21): and it like started us on a path to practicing them [MI]

6. Positive Statements About Workshops

This category includes units expressing positive sentiments about the workshop trainings, such as liking or loving the content, or finding it relevant in general. Units that make favorable comparisons between this project's workshop trainings and other workshop trainings the participants have experienced should also be included. Units that describe practice activities during the workshops should be included in the category Workshop Trainings Contained Helpful Practice Opportunities

Example (23): But overall I really liked all the information that you shared during the workshops

Non-Example (177): so like that was really helpful [chances to practice during workshops]

7. Positive Statements About Feedback Sessions

This category includes units expressing positive sentiments about the group feedback sessions, such as liking them or that they were helpful. Units containing reasons why a participant liked the feedback session (such as the structure or format of the sessions) should also be included here.

Example (46): So I really liked the feedback sessions for that [seeing how MI is coded].

Non-Example (20): I feel like those [feedback sessions] were good practice opportunities

8. Positive Statements About Training Model

This category includes positive statements about the training model in general, including favorable comparisons with other trainings. Units that recommend others take this training, or that recommend the training be repeated in the future, should also be put in this category.

Example (239): Like out of all the trainings that we've done, this one has had like the biggest impact on how I do youth work

Non-Example (187): and then also having the opportunity to like really decide for ourselves like what's important to focus on

9. Strengths of Training Model

This category includes comments about specific strengths of the training model, including units about practice, structure (including structuring of groups), materials, and the individualization of training for participants.

Example (33): I loved that we had all of the handouts that we could reference afterwards, and then we had access to that Powerpoint presentation

Non-Example (31): I loved the opportunities that we had to practice it [MI] in the moment

10. Workshops Contained Practice Opportunities

Units in this category include comments about practice opportunities included in the workshop trainings. Units in this category may also discuss how practice activities and opportunities during the workshop trainings were helpful for learning MI.

Example (39): I would say that like to get a little bit of practice, and yeah like, with another person was helpful to me

Non-Example (219): Definitely like the time where we got to be like in the small groups, like for me felt like we were able to dive deeper [What were the strengths of this training model?]

11. More Practice Needed Post Workshops

Units in this category reflect participants' feelings that it was necessary to engage in MI practice after the workshops to gain competence. In these units, participants also describe needing more practice than what was provided in the workshop trainings, as well as being prepared to begin practicing after the workshops.

Example (76): just because we didn't have like that chance to practice a whole lot

Non-Example (88): to continue working on my skills as well

12. Desire for Further Learning

This category includes units in which participants discuss their goals, plans, and desires with regard to further MI skill development. This category also includes discussion of specific areas participants wanted to target for improvement.

Example (147): and to like continue to just like refresh myself about like, what MI entails

Non-Example (233): just to kind of reflect more on things

13. Feedback Sessions Contained Practice Opportunities

This category contains units about the practice opportunities included in the group feedback sessions, including units about how the feedback sessions represented an optional opportunity for additional practice. This category also includes units that discuss additional benefits of the practice involved in feedback sessions, including the ability to practice areas of personal skill growth, and the accountability of scheduling with a partner outside of the sessions.

Example (42): especially when you had us, like schedule it [practice] on our own, so we could kind of think about it a little bit and then go in to practice

Non-Example (22): But, I realized after that I might need more practice to actually do them [MI] effectively

14. Personal Challenges with Training/MI

This category includes units that reflect participants' personal challenges with the training and/or MI, such as being fatigued during training, lacking experience in their position, and having trouble using MI fluently.

Example (156): I think for me like one of the most difficult parts, um, about using MI um with like my current profession, is I don't know, it's like my first year actually

Non-Example (64): But I know like you gave the written feedback and that was definitely helpful to me.

15. MI is Complex

Statements in this category describe the complexity of MI as a topic, including feeling overwhelmed by the amount there is to know about MI. Units that discuss the complexity of coding schemes related to MI should be included here.

Example (112): but I know that it's just, this is just an introduction to something [MI] that, like, people are doing their doctorates about

Non-Example (220): I know I personally would have benefitted from, like shorter, but more workshop sessions

16. Getting Feedback About Skills Was Helpful

This category includes units that specifically discuss the utility of written and verbal feedback (from both the researcher and peers) on MI skills for further development. Units that describe how feedback or the feedback sessions impacted specific skill development should also be included here.

Example (58): And also, yeah, so I think like, yeah they [feedback sessions] made me aware that I could do more to give, like, affirmations

Non-Example (60): like just like listening to the recording um ah you know to like, yeah I think that that helped me to just like reflect more, on like um, on like the practice sessions

17. Listening to Recorded Practice Was Helpful

This category includes units that describe listening to recorded practice activities, and listening being helpful. Units describe listening to oneself, as well as other participants.

Example (97): and I think just like hearing yeah, hearing my own, like a clip of the interview that, um like the other participant and I had done

Non-Example (103): because it's very like, slow, like in the clips, or like in the practice sessions that the other participant and I did

18. Feedback Sessions Promoted Generalization

This category includes units about generalization and beginning steps of generalization that occurred as a result of the feedback sessions. This includes units that discuss thinking about MI outside of the sessions, and using MI with students after the feedback sessions.

Example (56): And so I just felt like those sessions allowed me to be more mindful over a much more extended period of time of what we were doing

Non-Example (102): and, like it's obviously much different like at the youth center where I'm serving.

19. Modifications to Feedback Sessions

This category includes units that describe participants' suggested modifications to the group feedback sessions, including units describing reasons for those modifications. This category also includes discussion of potential solutions for aspects of the feedback sessions that participants found less helpful.

Example (202): and maybe have like different activities designed for like a three-person group, or something like that

Non-Example (28): I wished that we had more time to go like further in depth and engage with all of them

20. Modifications to Workshop Trainings

This category includes units that describe participants' suggested modifications to the workshop sessions, including units describing reasons for those modifications. This category also includes participants' desire for change in the workshops. Units in this category include suggestions about the number of training sessions, and the time allotted to training sessions.

Example (220): I know I personally would have benefitted from, like shorter, but more workshop sessions

Non-Example (62): like it would stay with me a little bit more if um you know it [feedback] was like written, perhaps [from other participants]

21. Learning MI Takes Time

Units in this category reflect participants' feelings that learning MI takes time. Statements include discussion of the time commitment involved, including the time that would be required to make suggested modifications.

Example (63): Like of course that's more time and everything, but if like maybe like, it's like written like feedback from like the other participants, um

Non-Example (212): But yeah, I'm not like the best like writer or a very like slow writer

22. Lack of MI Self-Efficacy After Workshops

Units in this category include statements about the lack of self-efficacy that participants felt in their own ability to implement MI after the workshop training. Statements reflect hesitancy or lack of ability to implement MI with students, and lack of improved confidence in MI skills following the workshops.

Example (70): I feel like they didn't have a whole lot of impact on my confidence [workshop trainings]

Non-Example (83): And I would say, now that's like, that's changed [confidence using MI]

23. Workshops Slightly Improved Confidence in Implementing MI

Units in this category reflect participants' sense of somewhat, or slightly improved confidence in MI skills after the workshop training sessions. All units in this category will include the words "confidence," or "confident."

Example (85): I'm more confident now, but they [workshop trainings] started to give me a little bit.

Non-Example (89): So I felt like I really learned and grew a lot in my confidence

24. Feedback Sessions Improved Confidence/Self-Efficacy in Implementing MI

Units in this category reflect participants' sense of improved confidence in MI skills as a result of the group feedback sessions. Units include the words "confidence," "confident," or express improved self-efficacy in implementing MI with students after the workshops.

Example (83): And I would say, now that's like, that's changed [confidence using MI]

Non-Example (69): but like overall I would probably have a hard time implementing MI like fully [after the workshop trainings]

25. Challenges with Generalization

This category includes units that discuss difficulties in generalizing, or applying, MI skills learned in the workshop training and/or feedback sessions to work in after school settings with children and adults. This category includes discussion of differences between the after-school

context and situations presented in the training, and the potential mis-match between MI and after-school program goals.

Example (163): Although that [using MI with other staff] might be kind of like difficult sometimes, if they're like really set in their like, what they want to say.

Non-Example (118): but I often don't have the chance to do that type of one-on-one structured activity with kids just because of the nature of my host site

26. Training Should be Tailored to After-School Context

This category includes statements in which participants discuss the importance of tailoring the training specifically to reflect after-school/school settings.

Example (238): If possible. [But making it a little more specific]

Non-Example (120): so we just have to be very strategic about like, "What am I asking you to do and why."

27. MI Confidence/Self-Efficacy in Structured Conversations

Units in this category reflect participants' positive self-efficacy and confidence in implementing MI conversations with a structured format (such as the Values Discovery Activity). Statements about wanting to implement this type of activity, as well as expressions of lack of self-efficacy with unstructured MI conversations should also be included in this category.

Example (106): it's a lot easier to do it [MI] in a structured activity since you sort of know what's going to come next

Non-Example (121): I guess like my biggest reservations with doing things like that [structured MI conversation] has more to stem with the fact that it would be breaking the flow of how I normally am at my host site, versus do I feel like the conversation would go well, if that makes sense.

28. MI Confidence/Self-Efficacy in Unstructured Conversations

Units in this category reflect participants' self-efficacy and confidence in implementing MI conversations with an unstructured format, similar to the second practice activity from the feedback sessions. Statements about participants' comfort level and ease with unstructured MI activities should be included here.

Example (141): I guess the unstructured conversation, like implementing MI in that felt like a little bit more natural to me, um compared to like the values activity

Non-Example (128): I feel like stuff like change talk might be difficult for me to identify in an unstructured conversation

29. Barriers to Implementing Structured MI in After-School

This category includes units that discuss barriers to implementing a structured MI conversation in participants' after-school work settings, including aspects of the participants' role, the activities they do with students, or the nature of students at their site that would make a structured conversations difficult.

Example (124): 'cause sometimes they're [students] sort of overwhelmed when they get off of school, and they don't want to do like a structured activity

Non-Example (133): Yeah, way more confident [How confident do you feel about implementing MI in an unstructured conversation (like the second practice activity)?]

30. Specific MI Skills are Useful

This category includes units that describe specific MI skills (e.g., affirmations, attending to change talk) that participants found useful generally, and in specific situations.

Example (170): I feel like the reflections, the reflections and the affirmations for me, I use them all the time

Non-Example (151): so being able to sort of sit down and talk to them about being able to practice in the future, that [MI] will be a really good skill for that

31. MI Perceived as Useful in Professional Life

This category includes units in which participants discuss the general utility of MI in their professional life, including in after-school settings, other work environments, and future careers. Statements that discuss the utility of specific skills should be categorized as "Specific MI Skills are Useful."

Example (150): Yes, so eventually I'd like to be a band director, and I feel like I want to sort of encourage students to practice in the future, which might be sort of hard [Do you see motivational interviewing as useful in your professional life?]

Non-Example (168): and like figuring out what type of open-ended questions I want to be asking people as well, in order to guide the conversation in a way where I feel like they'll feel a strong resonance with like an ask that I might have for somebody

32. No Modifications Necessary

This category includes units that reflect participants' opinions that no modifications were necessary, both with regard to the training model as a whole and but also the specific activities included in the training (e.g., practice activities).

Example (231): But again not to take away from the value of longer stuff [MI conversations].

Non-Example (220): I know I personally would have benefitted from, like shorter, but more workshop sessions

33. Weaknesses of Training Model

Units in this category describe aspects of the training model that participants identified as weaknesses of the training model, including negative consequences of making participants' proposed modifications.

Example (219): but [the longer you make it] then potentially the less accessible it will be, and you want it to be as accessible as possible

Non-Example (199): I'm not sure if this is necessarily a weakness, but we had sort of small groups for our feedback sessions, so it might have been nice to have a few more people to practice with

34. No Category

This category includes units that cannot be included in other categories, and are generally not relevant to the topic of the MI training provided through this study and participants' experience with the training. Units that express gratitude for the training or the opportunity to participate should also be included here.

Example (166): So like a lot of the conversations I have with volunteers are, they're telling me about what they're passionate about, and then my job is to find, like, like connect them with the needs of the like activism group that I work with

Non-Example (179): like it's harder for me to like imagine um using MI like effectively with students for like the more long-term sort of like social and emotional, like learning that we're like, really trying to foster

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