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Motivational Interviewing and the Transtheoretical Model of Change: Under-Explored Resources for Suicide Intervention

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Abstract Motivational interviewing (MI) is a robust evidence-based intervention that has been used to evoke intrinsic motivation to change behaviors. MI as an intervention focuses on facilitating movement through the stages of the transtheoretical model of change. A study by Coombs et al. (Substance abuse treatment and the stages of change: Selecting and planning interventions, Guilford Press, New York, 2001) demonstrated that suicidal individuals move through such stages toward suicidal behavior, yet research and applications of MI for suicide have been minimal. In hopes of generating increased exploration of MI for suicidality, this article reviews the theoretical rationale and existing empirical research on applications of MI with suicidal individuals. Potential uses of MI in suicide risk assessment/crisis intervention, as well as an adjunct to longer-term treatment, are discussed.

Keywords Suicide · Motivational interviewing · Trans-theoretical model of change · Crisis intervention

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Background and Significance

Suicide is a preventable cause of death, and is considered a major public health concern. According to the World Health Organization (WHO 2012), suicide mortality is a significant and preventable detriment to longevity in many industrial and post-industrial countries, and one of the three leading causes of death worldwide among individuals from 15 to 44 years of age. Older adults are also at a disproportionately high risk of suicide in many countries (WHO 2014). Risk and protective factors for suicide have been widely investigated, and such factors are integral to suicide risk assessments. If an individual reveals s/he is feeling suicidal to a medical or mental health professional, a suicide risk assessment is typically the next step taken by the professional. In assessing risk for suicide, one of the most common risk factors is mental health problems (c.f. Henriksson et al. 1993). Protective factors identified in a suicide risk assessment may include non-malleable factors such as age, race or gender, as well as malleable factors such as attachment to children and not wanting to leave them behind, or strongly held spiritual beliefs against selfinflicted death (WHO 2014). Certain protective factors could be construed as motivations to stay alive, and while routinely elicited in risk assessment (Suicide Prevention Resource Center 2014), such motivations to stay alive may or may not be maximally utilized to engage with a suicidal

Motivational interviewing (MI) is a robust evidencebased practice with extensive empirical support in engaging individuals in various health change behaviors such as smoking cessation, weight loss, and sobriety from a given addiction (Burke et al. 2003). MI is informed by Prochaska's transtheoretical model of change, which delineates the various stages of change as follows: pre-



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contemplation, contemplation, planning, action, and maintenance of a given behavior (Connors et al. 2001). Like the transtheoretical model of change, levels of risk for suicide are conceptualized as stepped or staged: no risk, low risk, moderate risk, or high risk of attempting suicide (Berman and Silverman 2014). In conducting suicide risk assessments, mental health professionals typically query a potentially at-risk person about presence or absence of suicidal ideation, plan, intent to act upon the plan, and availability of means to carry out the plan. If a person is judged to be at high and imminent risk of suicide, an immediate intervention is warranted. One potential intervention is MI. MI entails utilizing particular interviewing skills to facilitate a person's movement through these stages of change toward a desired health change behavior, via engaging with the client, focusing work on a particular behavior, evoking the person's motivation for change, developing a change plan, and strengthening commitment to change (Miller and Rollnick 2013). Despite the alignment between stages of risk for suicide and the stages of change, minimal work has been done to explore whether MI could be adapted and utilized to reduce suicide risk. Indeed, there have been calls for increased research on practical interventions such as MI for people at high risk of suicide (Olfson et al. 2014a). Given the devastation of suicide as preventable leading cause of death, it is worth considering whether and how MI as a robust evidencebased practice might be applicable in reducing suicide risk. The purpose of this exploratory conceptual paper is to offer a rationale summarizing and building upon the existing scarce literature on MI and suicidality, in hopes of stimulating increased dialogue and empirical exploration of MI as a potential intervention in working with individuals who are suicidal.

Overview of Prochaska's Transtheoretical Model of Change

The transtheoretical model of change, which informs MI, describes five stages of change that people move through in changing a given behavior: precontemplation, contemplation, preparation, action and maintenance (Connors et al. 2001). Termination of this process has been posited to occur when the person is secure in his/her maintenance of change. Each stage of change, according to Prochaska and DiClemente (1992), represents both a period of time and a set of tasks needed for movement to the next stage. Apart from these stages of change, the other constructs of the transtheoretical model include ten processes of change, decisional balance (pros and cons of change), and principles that need to be applied to help clients progress from stage to stage (Prochaska 1999).



According to Prochaska and DiClemente (1992), individuals in the precontemplation stage do not show any signs of wanting to change the problem behavior in the near future, defined as the next 6 months. People in this stage may be uninformed or under-informed about the consequences of their behavior. Some do not view the behavior as problematic; that is, the behavior has more positives than negatives for them. Alternately, they may not be considering changing the problem behavior because, having previously tried to change the behavior, they are discouraged about their abilities to do so. Finally, they may be resistant to change, denying there is a problem and avoiding reading, talking, or thinking about their high-risk situation. If they do think about changing, they believe that the costs of changing far outweigh the benefits.

The contemplation stage is when a person starts to consider changing the behavior by weighing the pros and cons of changing (Prochaska and DiClemente 1992). Contemplators may seek information about the problem behavior and the change process. Their ambivalence about changing is very high, and they tend to be more visibly distressed about their problem behaviors than are precontemplators. Although some people contemplate change for a long time before making the decision to change (DiClemente and Velasquez 2002), people late in the contemplation stage typically intend to change their behavior in the next 6 months.

During the preparation stage, people are ready to change and begin planning to change the behavior (DiClemente and Velasquez 2002). They intend to change soon—usually in terms of "next month"—and have incorporated any previous experiences of attempting to change. The task of the preparation stage is to create a concrete plan of action such as going to a counselor for help, buying a self-help book, or engaging the support of peers. Note, however, that although preparers have committed to change, nonetheless their ambivalence about the change may not be completely resolved (DiClemente and Velasquez 2002).

In the action stage, the person puts into practice the change plan s/he created in the preparation stage. The goal of this stage is to effectively make the change for which s/he has been preparing. Some people may be well-prepared to effect change in their behavior, but others may continue to need to build skills necessary to implement specific behavior change methods. It is not uncommon to face unexpected barriers to change at this stage; for instance, Connors et al. (2001) noted that psychological (cognitive, behavioral, or emotional) events may work against their efforts at behavior change. For instance, as people make changes they might find themselves missing their old lives and feeling somewhat

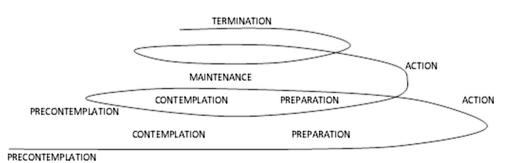


ambivalent about the change in process (DiClemente and Velasquez 2002). There is also a need to learn ways to prevent and/or cope effectively with relapses to the old behavior patterns.

Maintenance is the last stage, where a person strengthens and sustains behavioral changes made in the action stage. Even after some time has passed, the changes may not be well established, taking a few years to be secure. This process may involve relapses or recycling through the stages of change a number of times (DiClemente and Velasquez 2002). Once a person is secure in the new behavior, they have completed the stages of change and are no longer considered to be in the maintenance stage.

Although the stages of change are presented above as occurring in a particular order, people do not necessarily go through the stages of change in a linear fashion. Rather, people in one stage may still be working on tasks of the previous stage(s). For instance, somebody in the action stage may unexpectedly need to continue to build new skills to carry out the desired change, and missing the old behavior may bring up new ambivalence about the change, tasks more typical of the preparation and contemplation stages. In addition, a person who relapses may then find that s/he is back in a previous stage (DiClemente and Velasquez 2002). S/he may feel that change is impossible (precontemplation), hope change is possible but not be sure how to manage it (contemplation), go back to build new skills and shore up the change plan (preparation), or redouble their efforts to make the change (action). Finally, changes to problem behaviors may be made in stages: a chain smoker may first attempt to go a few minutes between cigarettes, then switch goals to only smoking a pack a day, then designate a few times of day when it is appropriate to smoke, then finally attempt to quit smoking altogether. Thus, a person may cycle through the stages of change multiple times. Prochaska et al. (1992) illustrate the nonlinear nature of the stages of change as shown in Fig. 1. Here, change is conceptualized as occurring on a spiral, where relapses or difficulties may require a return to a stage previously visited, or a series of small change goals may involve multiple cycles of change.

Fig. 1 The spiral model of change (from Prochaska et al. 1992, p. 1104)



Decisional Balance in Stages of Change

As a person moves through stages of change, his/her subjective weighing of the importance of pros and cons of a potential behavioral change typically evolves (Prochaska et al. 1994). In the precontemplation stage, individuals consider the pros of the problem behavior to outweigh the cons; in the action and maintenance stages the cons are judged as outweighing the pros of the problem behavior. In the contemplation and preparation stages, the difference between the importance of pros and cons would be much smaller, as is evidenced by the ambivalence typically experienced in these stages. This evolving importance of the pros and cons of change is called decisional balance (Janis and Mann 1968, 1977), and is a core concept of the transtheoretical model of change.

Rationale for Using the Transtheoretical Stages of Change Model to Understand Suicidal Ideation and Behavior

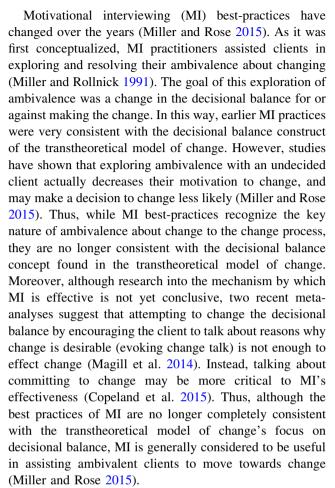
The transtheoretical model of change is typically applied to behavioral changes required to improve health and wellbeing, not to the development and maintenance of behaviors that are detrimental to well-being (such as suicide). However, there is some evidence that the journey from not even considering suicide (precontemplation) to attempting or completing suicide (action) also aligns with the stages outlined in the transtheoretical model of change. In a retrospective descriptive study of 42 formerly suicidal individuals (Coombs et al. 2001), most of the participants reported progressing through the stages of change (precontemplation, contemplation, preparation, and action) and related processes as articulated within the transtheoretical model of change. That is, a person who is facing serious mental or physical health, financial, relationship, family, or other life difficulties, may initially not even consider suicide (precontemplation). As other ways to solve the problem are considered and rejected, however, the person may begin to consider suicide (contemplation). Then, if other solutions are attempted and failed and the problem begins to appear insurmountable, suicide may become a viable problem-solving option (late contemplation stage) and the person may start a suicide plan (preparation). The action stage would coincide with a suicide attempt.

It may be useful from a clinical standpoint to consider the similarities between the process of becoming suicidal and the transtheoretical model of change. For instance, ambivalence about a potential change does not cease once the action stage has been reached; instead, it persists, albeit perhaps at lower levels (DiClemente and Velasquez 2002). This ambivalence could be exploited in a crisis intervention to encourage those at risk for suicide to remain safe, at least in the short term. In the long term, however, increased ambivalence about suicide does not solve the mental health or other problems that contributed to the person's becoming suicidal in the first place. To this end, treatment that assists a person in solving their problems and encourages them to move towards a decision to live—or at least to give treatment a try-would be necessary. MI is one intervention that may be helpful in both crisis interventions and longer-term treatment for people with suicidal ideation. Moreover, MI has been noted as an intervention that may mesh well with the transtheoretical model of change (Corcoran 2002; DiClemente and Velasquez 2002; Kress and Hoffman 2008).

Motivational Interviewing: A Theoretically Informed Intervention with Potential to Address Suicidality

Overview of Motivational Interviewing

Motivational interviewing (MI) is a counseling technique that strategically focuses on "evoking clients' change talk—their pro-change arguments—and responding to any expressed cons of change (sustain talk) in a way that respects but does not strengthen them". (Miller and Rose 2015, p. 134). Specifically, MI techniques focus explicitly on helping individuals move through the stages of change articulated by the transtheoretical model of change toward a desired behavior. MI techniques focus on elicitation of intrinsic motivation for change (Rosengren 2009). This is critical because "motivation is what provides the impetus for the focus, effort, and energy needed to move through the entire process of change" (DiClemente and Velasquez 2002, p. 202). Mental health practitioners of MI first engage with clients, then focus on an issue or goal for their work together. The third step is evoking clients' own motivation to change. Once a decision to change has been made, practitioners assist clients in making plans to change, strengthening their commitment to change, and in carrying out their change plans (Miller and Rollnick 2013).



There is extensive empirical evidence for the effectiveness of MI in assisting children (Gayes and Steele 2014), adolescents (Cushing et al. 2014), and adults (VanBuskirk and Wetherell 2014) to change a variety of health behaviors. MI has been used with clients with addictive disorders including substance use disorders (Burke et al. 2003; Hettema et al. 2005; Huh et al. 2015; Kohler and Hofmann 2015; Lundahl et al. 2013), disordered gambling (Yakovenko et al. 2015), and comorbid depression and alcohol use disorders (Riper et al. 2013), although effect sizes for these interventions have not always been large (Hettema et al. 2005; Huh et al. 2015; Riper et al. 2013). It has also been effective in helping clients with varied issues such as HIV viral load, dental health, weight and diet (Burke et al. 2003; Lundahl et al. 2013) and physical activity (Burke et al. 2003; Lundahl et al. 2013; O'Halloran et al. 2014). MI may be especially effective when paired with other interventions such as cognitive-behavioral therapy (Hettema et al. 2005; Riper et al. 2013).

Motivational interviewing (MI) entails substantive clinician training prior to and during implementation to ensure fidelity to the intervention model (Miller and Rollnick 2014). However, certain components of MI may be



particularly salient in facilitating change across the stages. Rollnick et al. (1992) have identified particular components of MI that could be adapted and used for brief MI interventions. Such brief interventions have been more common in assisting clients with addressing problematic drinking (Huh et al. 2015; Kohler and Hofmann 2015; McCambridge and Rollnick 2013). Indeed, experts have suggested a need for brief interventions (such as those that could be delivered in the emergency department) for clients at imminent risk of suicide (Hoyer 2014; Olfson et al. 2014b).

Applications of Motivational Interviewing to Suicide Risk Assessment

Despite the potential applicability of the stages of change with suicidal individuals as demonstrated by Coombs et al. (2001), research on applications of MI—an intervention theoretically grounded in the stages of change—with suicidal individuals has been sparse, sometimes consisting of case studies (c.f. Higgins 2014). However, three interventions have undergone initial studies. Britton et al. (2008) have actively considered how MI may benefit individuals with suicidal ideations. They created an adaptation of MI— MI-SI-for people with suicidal ideation. Britton et al. (2011) noted that the purpose of MI-SI was to increase motivation to live in those contemplating suicide, so that they might then engage in cognitive-behavioral treatment for their depression. Britton et al. posit that "increasing the motivation to live may be critical to reducing engagement in life-threatening behavior, and may also increase engagement in life-sustaining behavior such as treatment". They piloted MI-SI within a psychiatric emergency department in Rochester, New York (Britton et al. 2008) and later conducted a small open clinical trial of MI-SI with psychiatrically hospitalized veterans with suicidal ideation (Britton et al. 2012). Participating veterans experienced a large reduction in suicidal ideation at posttreatment and follow-up sessions.

Another intervention for people contemplating suicide was piloted by King et al. (2015). Conducted with college students, this online intervention consisted of screening for depression and suicide and, for those who screened positive for suicidal ideation, random assignment to personalized feedback about the screening and an invitation to link directly with a counselor, or a control group. King et al. stated that this brief intervention was consistent with MI principles. Participants in the brief intervention group were more likely to consider and engage in mental health treatment than were those in the control group.

Zerler (2009) adapted MI for use with people at high risk for suicide (those in the preparation or action stages) by infusing MI scaling into an existing suicide risk assessment instrument and protocol known as the

Collaborative Assessment and Management of Suicidality (CAMS). As stated by Zerler (2009), "the measurable goal of the intervention is to promote change, specifically from a state of ambivalence or uncertainty, to a state of reasonable readiness to maintain a patient safety plan" (p. 1209). Zerler presented transcripts from a case study in which scaling on the CAMS was utilized with MI techniques to elicit a patient's participation, to support her autonomy and self- efficacy, and to increase her willingness to agree to a safety plan. The patient in this case study reportedly experienced a decrease in reported suicidal ideation following the CAMS/MI intervention, and worked with emergency department staff-members to create a safety plan. Zerler summarized his clinical experiences with CAMS/MI integration as follows:

Over the past 3 years, I have completed more than 100 assessments of suicidal patients using the combination of MI with CAMS. An informal review of discharge data reflects reduced rates of involuntary commitment, inpatient psychiatric hospitalization, and utilization of emergency room services as compared with patients receiving treatment as usual (p. 1216).

A different intervention for people in the preparation or action stages (those at imminent risk for suicide) was outlined by Britton and Bryan (2014). The ultimate goal of the intervention would be for at-risk patients to agree to suicide means restriction (e.g., eliminating their access to firearms). Britton and Bryan stated that the use of MI was meant to evoke ambivalent or reluctant patients' own reasons to limit access to firearms, with the ultimate goal of creating and implementing a plan for restricting firearm access. No empirical research has been conducted on this intervention to date.

A Practical Example of a Possible MI Technique Adaptation for Suicide Intervention: The "Readiness Ruler"

While MI as a package intervention requires extensive clinician training and supervision and hence considerable resources, particular MI tasks and techniques are utilized and adapted for brief MI interventions (Rollnick et al. 1992). Each stage of change a person passes through is associated with particular MI tasks and techniques geared toward helping the person pass through the given stage toward the desired health change behavior. For example, with a person who is in the pre-contemplation stage, MI techniques focus simply raising awareness of a given health concern so that a person begins to consider the issues and moves into the contemplation stage. A person in the contemplation stage is supported by MI techniques that



evoke change talk (declarative statements indicating readiness for planning and action). Once change talk is occurring, a person moves into the planning phase, and then carries out the plan (a.k.a. the action phase) to engage in the desired health change behavior (Rosengren 2009).

Rollnick et al. (1992) identified particular components of MI, such as using scaling to assess desire for and confidence in making a behavior change then subsequently eliciting change talk, that could be adapted and used for brief MI interventions. While intentionally soliciting feedback for a particular course of action is a primary purpose of a simple scaling question, as with all aspects of MI, care must be made to avoid evoking resistance to change by focusing upon the reasons for the desired behavior change. In MI, scaling questions are used as a technique/tool to facilitate such change talk. A scale of 1–10, with 1 being low and 10 being high, is typically used for such scaling questions. For instance, the MI-trained clinician may ask a person "on a scale of 1–10, how important is the [desired health change] behavior to you?" When a person responds with a number, the clinician follows up with an inquiry designed to evoke from the person his/her motivations for engaging in the behavior change. For instance, if a person reports the import of a given behavior change to be a 6 the follow up inquiry would be "why a 6 and not a 3?" Such an inquiry is intentionally framed so that a person will respond with the reason(s) why the desired behavior is important and desirable to him/her. In the case of somebody who is contemplating suicide but does not have imminent plans, such scaling questions could be used to increase motivation to live.

Consider if such scaling technique questions were reversed; such MI scaling principles could be readily be applied with the goal of increasing ambivalence about suicide and thus decreasing immediate motivation to attempt suicide. For instance, if the person stated that the importance of suicide to them was a 7, the clinician would respond "why a 7 and not a 10?" In answering this question, the person would be speaking about their reasons to not commit suicide. As a follow-up question, the clinician might ask what the person thought would be necessary for them to move from a 7 to a 6 (on importance of suicide to them). This question is designed to elicit the person's own ideas about how suicide might become less important to them. Focusing the brief MI encounter on such protective factors may lower the person's immediate motivation to attempt suicide or even help them to move from the action stage (with an impending suicide attempt) to the preparation or contemplation stages (with a decision to put off suicide until another day, or perhaps to rethink the decision entirely). In this way, MI techniques could take advantage of the parallel between the transtheoretical stages of change and development of suicidality to promote temporary safety for people in imminent danger of a suicide attempt.

The readiness ruler (Moyers et al. 2009) is a simple tool (see Fig. 2) used in MI to ask scaling questions, with the purpose of eliciting discussion of the person's reasons to engage in health behavior changes (or to not engage in selfdestructive behaviors), and increasing motivation for healthy choices. A readiness ruler has a 0-to-10 scale on both sides, with each side devoted to a different question. The first question is how important the behavior is to the person. In addition to the typical scaling questions listed above, a clinician can listen for statements about the reasons the change is important to them, their need to make the change, their desire for the change, and their ability to make the change (Case Western Reserve University Center for Evidence-Based Practice 2010). Follow-up questions or reflections may be used to elicit more discussion about the importance of the change to the person. The question on the back side of the readiness ruler focuses on people's confidence that they could make the desired behavior change. In addition to the typical scaling questions, the clinician would listen for statements about the person's intentions to change, readiness to start making the change, their willingness to do the work necessary for the change, and their commitment to taking action and working on the change. For clients already in the preparation or action stages, the clinician may also listen for statements about what the client is already doing to prepare for or to make the change.

Use of the readiness ruler MI scaling technique could be simply adapted to assess degree of intent to act on a suicide plan, and readily implemented into existing suicide risk assessment protocols, with minimal resources and additional staffing required. To illustrate, using the "Readiness Ruler", a clinician could inquire "on a scale of 1–10, how likely are you to act on your suicide plan?" If the person reports suicidal intent to be a 6, the follow up inquiry would be "why a 6 and not a 10?" Such an inquiry is designed to evoke statements about the person's reasons why s/he is still alive and has not yet acted on the suicidal thoughts/plan. In speaking about and focusing on their reasons to live, a person's ambivalence about suicide may be increased to the extent where s/he becomes willing to put off suicide. Having secured a moratorium on immediate suicide, the intervention could then turn to creating an action plan for staying alive (e.g., a safety plan). In this way, a simple MI technique such as the readiness ruler could assist clinicians in the assessment of suicidal intent and in intervening with the person to prevent suicide.

For people not at risk of an imminent suicide attempt, the readiness ruler or other MI techniques could be used in a more traditional way (e.g., focusing on a person's interest in living or confidence that s/he can create a life worth living) to increase his/her motivation to engage in treatment or other interventions. Pairing MI with another



Fig. 2 Readiness ruler (from http://www.centerforebp.case.edu/client-files/pdf/readinessruler.pdf)



intervention could thus increase engagement in interventions and solidify a person's decision to do the hard work necessary to cope with severe problems in a more healthful way.

Conclusion

The transtheoretical model of change describes the stages a person typically goes through when making a change. MI, a robust evidence-based intervention to increase motivation and commitment to change, is informed by the transtheoretical model of change and can be adapted for use in brief interventions with people at high risk of attempting suicide. Such adaptations of MI techniques offer simultaneous utility as both a simple way to assess suicide risk and to evoke motivations and protective factors in the process of risk assessment; using a readiness ruler or other MI adaptation within a suicide risk assessment would, in effect, embed a simple MI technique as a suicide risk reduction intervention within the risk assessment process. Such an adaptation allows opportunities for potentially reaping benefits of a component of MI, even when a clinician fully trained in MI may not be conducting the suicide risk assessment. As previously stated, training in MI is a highly intensive and lengthy process and requires a significant investment of time and resources; community mental health settings may not be able to widely offer such trainings on an ongoing basis. Such workforce scarcity issues in medicine have been addressed with "task shifting" in low resource areas; the World Health Organization (2008) described task shifting as shifting—when feasible—particular healthcare tasks from higher-trained health staff to less highly trained health staff in order to maximize the benefits of existing (and often scare) healthcare workforce resources.

Moreover, MI techniques could also be utilized in a more traditional way to increase motivation to live and stimulate commitment to make positive health-related changes such as engaging in mental health treatment. MI has shown particular promise when paired with other interventions (Hettema et al. 2005), and should become a routine precursor to already-offered interventions. Given the versatility and robust empirical support of MI as an intervention across a wide range of behavior concerns and settings, and the promise of recent brief adaptations of MI to address suicidal ideation and attempts, continued research on adaptations of MI for suicide intervention are justified and needed. Adapting simple MI tools (such as the readiness ruler example) for use in routine suicide assessments may yield positive gains even if utilized by clinicians not formally trained in MI. Pairing brief MI with mental health treatment or other interventions has the potential to increase client engagement in the interventions, with subsequent long-term gains for formerly suicidal people.

Given the pain and devastation created by suicide as a public health issue, and the existing empirical support of



the potential of MI to both evoke intrinsic motivation to live and ultimately facilitate movement away from suicidal intent and action, additional research on both more complex MI–SI applications and task shifting adaptations of simple MI techniques (for use by non-MI trained clinicians) in suicide intervention are justified and urgently needed.

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