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MOTIVATIONAL INTERVIEWING AND SELF–DETERMINATION THEORY

DAVID MARKLAND
University of Wales, Bangor

RICHARD M. RYAN
University of Rochester, NY

VANNESSA JAYNE TOBIN
University of Wales, Bangor

STEPHEN ROLLNICK
University of Wales College of Medicine

Motivational interviewing has become widely adopted as a counseling style for promoting behavior change; however, as yet it lacks a coherent theoretical framework for understanding its processes and efficacy. This article proposes that self–determination theory (SDT) can offer such a framework. The principles of motivational interviewing and SDT are outlined and the parallels between them are drawn out. We show how both motivational interviewing and SDT are based on the assumption that humans have an innate tendency for personal growth toward psychological integration, and that motivational interviewing provides the social–environmental facilitating factors suggested by SDT to promote this tendency. We propose that adopting an SDT perspective could help in furthering our understanding of the psychological processes involved in motivational interviewing.

Motivational interviewing has become widely adopted as a counseling style for facilitating behavior change. Having evolved originally from clinical experience in the treatment of problem drinking, motivational interviewing was first described by Miller (1983). Its principles and clinical procedures were expanded upon by Miller and Rollnick (1991, 2002). Motivational interviewing and adaptations of motivational interviewing

Please address correspondence to David Markland, PhD, C. Psychol., University of Wales, Bangor; School of Sport, Health and Exercise Sciences; George Building; Holyhead Road; Bangor, Gwynedd, UK; LL57 2PZ; E–mail: d.a.markland@bangor.ac.uk.

(AMIs) have been extended to a wide range of behavior change contexts, including other drugs of misuse (e.g., van Bilsen, 1991; Saunders, Wilkinson, & Allsop, 1991; Stephens, Roffman, & Curtin, 2000), HIV prevention among drug users (Baker, Kochan, Dixon, Heather, & Wodak, 1994), smoking cessation (e.g., Rollnick, Butler, & Stott, 1997; Butler et al., 1999), sex offending (Garland & Dougher, 1991), and a variety of other health behaviors, particularly in medical settings (e.g., Jensen, 1996; Rollnick, Kinnersley, & Stott, 1993; Rollnick, Mason, & Butler, 1999; Stott, Rollnick, Rees, & Pill, 1995). Systematic reviews of the efficacy of motivational interviewing and AMIs (Burke, Arkowitz, & Dunn, 2002; Dunn, DeRoo, & Rivara, 2001; Noonan & Moyers, 1997; Resnicow et al., 2002) have concluded that, despite methodological problems in many of the studies, the literature provides converging evidence for reasonably consistent and robust effects of AMIs across a variety of behavioral domains, particularly those involving alcohol and other drugs.

Miller (1983) described motivational interviewing as being based on the principles of experimental social psychology, drawing on the concepts of causal attributions, cognitive dissonance, and self–efficacy. Motivational interviewing has been also closely aligned with Prochaska and DiClemente's (1983) transtheoretical model of behavior change (DiClemente & Velasquez, 2002; Miller & Rollnick, 1991) and the concept of readiness to change (Rollnick & Miller, 1995). However, while various aspects of the principles and practice of motivational interviewing have been linked to a variety of social psychological and social cognitive models, this has been largely on a piecemeal and descriptive basis. Motivational interviewing has been criticized for being essentially atheoretical (Draycott & Dabbs, 1998). Indeed, Miller (1994, 1996, 1999) has acknowledged that so far little attention has been paid to developing a theoretical underpinning to motivational interviewing and that as yet there is no satisfactory explanation as to how and why it can be effective. More recently, Foote et al. (1999) and Ginsberg, Mann, Rotgers, and Weekes (2002) proposed that motivational interviewing can be conceptualized and informed by self–determination theory (SDT; Deci & Ryan, 1985, 1991). The aim of this paper is to expand on their suggestions and argue that SDT offers the possibility of providing a useful theoretical framework for understanding motivational interviewing's efficacy. Furthermore, it is proposed that a consideration of motivational interviewing from a self–determination theory perspective will help in reaching a better understanding of the processes involved, which could inform future developments and research into its methods and applications.

THE PRINCIPLES OF MOTIVATIONAL INTERVIEWING

Motivational interviewing is defined as a "client–centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence" (Miller & Rollnick, 2002, p. 25). Thus the recognition of client ambivalence plays a central role in motivational interviewing. It is assumed that most clients entering counseling will hold conflicting motivations. On the one hand they have good reasons to change their current behaviors but on the other hand they are aware that there are benefits and costs associated with both changing and staying the same. This decisional conflict can result in the client being stuck in a state in which they are unable to change despite there being incentives to do so, or to alternate between engaging in a new behavior pattern and relapsing to old behaviors. It is claimed that attempting to directly persuade a client to change will be ineffective because it entails taking one side of the conflict which the client is already experiencing. The result is that the client may adopt the opposite stance, arguing against the need for change, thereby resulting in increased resistance and a reduction in the likelihood of change (Miller & Rollnick, 1991; Miller, Benefield & Tonigan, 1993; Rollnick & Miller, 1995). Instead, motivational interviewing allows the client to overtly express their ambivalence in order to guide them to a satisfactory resolution of their conflicting motivations with the aim of triggering appropriate behavioral changes (Rollnick & Miller, 1995).

A key assumption underlying motivational interviewing, then, is that it is not the counselor's function to directly persuade or coerce the client to change. Rather it is the client's responsibility to decide for themselves whether or not to change and how best to go about it. The counselor's role in the process is to help the client locate and clarify their motivation for change, providing information and support and offering alternative perspectives on the problem behavior and potential ways of changing (Miller, 1983).

It follows that motivational interviewing is by definition a client–centered counseling style, and Miller and Rollnick (1991, 2002) acknowledge the debt it owes to Carl Rogers' person–centered psychotherapy. Motivational interviewing differs, however, from the traditional Rogerian approach in that it is also intentionally directive (Miller and Rollnick, 1991, 2002; Resnicow et al., 2002; Resnicow, Baskin, Rahetop, Periasamy, & Rollnick, 2004). The aim of motivational interviewing is to guide the client toward a resolution of ambivalence and inconsistencies in their behaviors in order to build motivation for change, usually in a particular direction.

Miller and Rollnick (2002) described four general principles of motivational interviewing which underpin its specific techniques and strate-

gies: the expression of empathy, the development of discrepancy, rolling with resistance, and support for self–efficacy. Although by no means exclusive to motivational interviewing, an emphasis on the importance of the expression of empathy by a counselor is a fundamental and defining feature of the method (Miller & Rollnick, 1991, 2002). Drawing explicitly on the work of Rogers (e.g., Rogers, 1957, 1959, 1964) and Carkhuff (1969), and extensive research that indicates that therapist empathy is predictive of treatment success (e.g., Davies, 1981; Miller & Baca, 1983; Miller, Taylor, & West, 1980; Swenson, 1971; Truax & Carkhuff, 1967; Truax & Mitchell, 1971; Valle, 1981), motivational interviewing is centered on the position that behavior change is only possible when the client feels personally accepted and valued. Thus counselor empathy is seen as crucial in providing the conditions necessary for a successful exploration of change to take place (Miller & Rollnick, 1991, 2002).

The directiveness of motivational interviewing is evident in its second principle, the development of discrepancy. This involves exploring the pros and cons of the client's current behaviors and of changes to current behaviors, within a supportive and accepting atmosphere, in order to generate or intensify an awareness of the discrepancy between the client's current behaviors and his or her broader goals and values. Miller (1994) describes this process as the active ingredient underlying motivational interviewing's efficacy and argues that developing discrepancy elicits movement toward consistency between the client's behaviors and their core values. This process was originally couched within the framework of Festinger's (1957) cognitive dissonance theory (Miller, 1983). Draycott and Dabbs (1998) have also discussed the principles and practice of motivational interviewing from a dissonance arousal perspective; however, Miller (1999) and Miller and Rollnick (2002) have since argued that this is an unnecessarily narrow conception of discrepancy development in motivational interviewing. Instead, discrepancy development is seen as an aspect of the more general strategy of aiding the client in clarifying conflicts concerning change and his or her potential choices.

While motivational interviewing is directive, in the sense that it aims to help the client become aware of the discrepancies inherent in their current behaviors and to lead them toward considering change, the avoidance of arguing for change is seen as critical in successful counseling (Miller & Rollnick, 1991). Miller and Rollnick (1991, 2002) describe the process of not engaging in conflict or trying to counter a client's arguments against change as "rolling with resistance," the third general principle of motivational interviewing. It is proposed that direct argumentation for change will provoke reactance in the client and a tendency to exhibit greater resistance, which will further reduce the likelihood of change. Instead, ambivalence and resistance are accepted as normal and

respected by the counselor. Rather than imposing goals or strategies, the counselor encourages the client to consider alternative perspectives on the problem. Clients may actively dispute the need for change but the aim is not to try to subdue the client and render him or her a passive recipient of the counselor's point of view through the force of argument. The intention is to transfer the responsibility for arguing for change to the client by eliciting what is termed *change talk* (formerly referred to as self–motivating statements; Miller & Rollnick, 1991). These are overt declarations by the client that demonstrate recognition of the need for change, concern for their current position, intention to change, or the belief that change is possible. There is evidence to support the view that an increase in change talk during the course of counseling is predictive of successful treatment outcomes (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2000).

The final general principle, again not unique to motivational interviewing and hardly controversial, is the need to support self–efficacy for change. It is recognized that even if the client is motivated to modify their behaviors, change will not occur unless the client believes that they have the resources and capabilities to overcome barriers and successfully implement new ways of behaving.

SELF–DETERMINATION THEORY

Self–determination theory (SDT) is a theory of personality development and self–motivated behavior change. Fundamental to the theory is the principle that people have an innate organizational tendency toward growth, integration of the self, and the resolution of psychological inconsistency (Ryan, 1995; Ryan & Deci, 2000). SDT developed initially out of experimental and field investigations of the effects of environmental events such as rewards, praise, or directives on intrinsic motivation (Deci & Ryan, 1980). The interest in factors that facilitate or undermine intrinsic motivation subsequently led to theoretical and empirical investigations of volitional behavior more generally. Of particular interest is the question of how people internalize and integrate extrinsic motivations and come to self–regulate their behaviors in order to engage autonomously in actions in their daily life (Deci & Ryan, 1985; Ryan & Deci, 2000). SDT proposes that all behaviors can be understood as lying along a continuum ranging from heteronomy, or external regulation, to autonomy, or true self–regulation. SDT hypothesizes a variety of consequences associated with more controlled versus autonomous behavioral regulation, including effort, persistence, the quality of performance, and the quality of subjective experience. Autonomous regulation of behavior is held to be both more stable and enduring, and to have more posi-

tive effects on human well being than controlled regulation (Ryan & Deci, 2000). SDT also specifies a number of factors that foster or undermine more autonomous styles of behavior regulation, including how parents, teachers, managers and clinicians can either foster or forestall self–motivation for new behaviors.

THE CONTINUUM OF AUTONOMY

To elaborate, SDT proposes that all behaviors can be described as lying along a continuum of relative autonomy, reflecting the extent to which the person fully endorses and is committed to what they are doing. At the heteronomous and more controlled end of this continuum is behavior that is motivated by *external regulations*, such as the rewards and punishments that others might control. An example of external regulation would be a client engaging in a behavior because they were pressured or mandated to do so by a counselor. According to SDT, external regulation may temporarily control behavior, but because the motivation is dependent on external controls, the person will be compliant only when the controls are in operation. In addition, people who are externally regulated are likely to show minimal effort and poor performance quality, as they are not invested or caring about the behavior per se. Somewhat more autonomous is *introjected regulation*, when a person is motivated not by external controls, but by internalized, self–esteem related contingencies. A person who is introjected concerning a behavior imposes pressure on themselves to act, feeling self–disparagement and shame when they fail at the behavior, and pride and self–approval when they succeed. Introjection reflects a partial internalization of the behavior's value, but it remains an ambivalent and unstable form of motivation. Such partially internalized regulation is considered to be more likely to lead to maintenance of a behavior than externally regulated actions (Deci & Ryan, 2000; Koestner, Losier, Vallerand, & Carducci, 1996). However, introjected regulation is accompanied by a negative emotional tone, tension, and an inner conflict between the self–imposed demands to engage in the behavior and the failure to truly value it (Ryan & Connell, 1989; Ryan, Rigby, & King, 1993). *Identification* is a much more self–determined form of regulation. It involves a conscious acceptance of the behavior as being important in order to achieve personally valued outcomes. The valued outcomes provide a strong incentive that can override difficulties in maintaining the behavior. Ryan (1995) and Vallerand (2001) have suggested that identified regulation is likely to be more relevant than intrinsic motivation to the maintenance of behaviors that are not inherently interesting or enjoyable. Studies indicate that identification is a stable and persistent form of motivation, and when

acting in accord with identifications individuals report effort, commitment, and positive experiences (e.g., Ryan & Connell, 1989). The most autonomous form of extrinsic motivation is *integrated regulation*. Here the person not only identifies with the regulation but also has co–ordinated that identification with their other core values and beliefs. Integrated regulation is thus stable and persistent, being a fully self–endorsed basis for acting. Finally, SDT argues that some behaviors are *intrinsically motivated* and these are behaviors which are interesting and exciting in their own right. Intrinsic motivation and integrated regulation are similar in that the behavior is engaged in willingly, with no sense of coercion, and is therefore fully self–determined. When the regulation is integrated, however, the behavior is engaged in for separable outcomes, rather than for the satisfaction inherent in engaging in the activity itself. It bears highlighting that most clinical endeavours concern not intrinsic motivation per se, but rather the internalization and integration of nonintrinsically motivated behaviors (Ryan, 1995; Williams, Deci & Ryan, 1998).

A considerable body of research has supported the view that more autonomously regulated behaviors, as measured using this continuum of autonomy framework, are more stable, done with greater care and quality, and accompanied by more positive experiences (Ryan & Deci, 2000). For example, Ryan and Connell (1989) showed that children whose motivation for schoolwork was more autonomous were rated by teachers as more self–motivated, they evidenced more positive coping in school, and they experienced less anxiety and conflict. More autonomous students have been shown to study more persistently, to achieve better grades, to be less problematic for teachers, and to be less likely to drop-out (see Ryan & LaGuardia, 1999, for a review). Similarly Ryan et al. (1993) showed that among religious practitioners, those motivated by identification were more adherent and more psychologically adjusted than those who were introjected in their religious motivations. Indeed, differences in relative autonomy have predicted both motivational persistence, quality of behavior and learning, and well-being outcomes in many domains including education, work, sports, exercise, and environmental behaviors, to name but a few (see Deci & Ryan, 2000; Ryan and Deci, 2000, for reviews).

The importance of the relative autonomy of motivation has been directly related to treatment participation and outcomes in health care and psychotherapy. For example, Williams, Rodin, Ryan, Grolnick, & Deci (1998) have shown that patients expressing more autonomy for following a medication regimen were more likely to accurately and persistently take their prescribed medications. Furthermore, those who experienced their prescribing physician as autonomy–supportive rather than

controlling were more likely to espouse autonomous reasons for taking medications. Williams, Grow, Freedman, Ryan, and Deci (1996) found that long–term weight loss among morbidly obese individuals was predicted by more autonomous reasons for treatment participation, which was in turn facilitated by autonomy–supportive counselors. Williams, McGregor, Zeldman, Freedman, and Deci (2004) showed that autonomous motivation for adaptive self–management behaviors (diet, exercise, and medication compliance) predicted greater glycemic control among people with diabetes. Zeldman, Ryan and Fiscella (2004) showed that perceived autonomy support and internalized motives for methadone maintenance treatment predicted both therapist rated participation and chemically verified adherence outcomes, whereas external motivation, when not accompanied by internalized motivation, was associated with a high degree of noncompliance. Zeldman et al.'s results built upon earlier work by Ryan, Plant, and O'Malley (1995), who showed that internalized motivation for treatment facilitated greater attendance and engagement among alcohol dependent patients. Thus it appears that more autonomous motivations for change result in greater treatment adherence and long–term maintenance of change and, indeed, medical outcomes.

THE FACILITATING ENVIRONMENT

SDT specifies the conditions that foster or maintain more autonomous forms of motivation, and those that undermine autonomy and self–regulation. SDT posits the existence of three fundamental psychological needs as the basis for self–motivation and personality integration (Ryan & Deci, 2000). The first of these is the need for competence. This concerns the psychological need to experience confidence in one's abilities and the capacity to effect outcomes (Harter, 1978; White, 1963). The need to feel autonomous in one's actions rather than feeling controlled or compelled to act is the second basic need (deCharms, 1968; Deci, 1975). The third is the need to feel related. This involves the need to experience connectedness with others and to have satisfying and supportive social relationships (Baumeister & Leary, 1995; Reis, 1994).

According to SDT, the process of integrating new regulations over behavior can be facilitated or obstructed by the person's social environment. To the extent that the social environment provides for the nurturance of perceptions of competence, autonomy, and relatedness, the person will move toward integration and a unified sense of self, and develop the personal resources for engaging in adaptive and autonomous self–regulation of behavior (Deci & Ryan, 1991, 2000). Conversely, an environment that frustrates the satisfaction of needs by being control-

ling, over–challenging, or rejecting of one's needs will forestall internalization and self–motivation, often leading to defensive behaviors and psychological withdrawal, and will negatively impact mental health (Deci & Ryan, 2000; Ryan, Deci, & Grolnick, 1995).

Past SDT research has examined three dimensions of the social environment that can promote satisfaction of the psychological needs for competence, autonomy, and relatedness: structure, autonomy support and involvement (Deci & Ryan, 1991; Ryan et al., 1995). With regard to the structural dimension, competence is facilitated when individuals are helped to develop clear and realistic expectations about what behavior change could do for them, they are helped to formulate realistically achievable goals, they are encouraged to believe that they are capable of engaging in the appropriate behaviors, and positive feedback regarding progress is provided.

According to SDT, however, simply feeling competent to engage in a behavior is not enough to promote optimal motivation (Deci & Ryan, 2000; Markland, 1999; Ryan, 1995). One can feel competent about performing a behavior while still not feeling inclined to do so. An increase in perceived competence will only lead to optimal motivation to act when it takes place within a context of some degree of self–determination (Deci & Ryan, 1985). Thus a motivationally supportive environment will provide support for autonomy as well as for competence.

Autonomy support is concerned with helping individuals recognize that they can exercise choice regarding their behavior. Based on Deci and Ryan (1985), Reeve (1998, 2002) has both theoretically and empirically examined the specific behaviors associated with autonomy support. They include (a) developing a personally meaningful rationale for engaging in a behavior; (b) minimizing external controls such as contingent rewards and punishments; (c) providing opportunities for participation and choice; and (d) acknowledging negative feelings associated with engaging in difficult tasks. In autonomy supporting contexts pressure to engage in specific behaviors is minimized, and individuals are encouraged to initiate actions themselves and base their actions on their own reasons and values. Thus autonomy for behavior is facilitated when the actor is helped to be clear about their own reasons for changing their behavior, and does not feel pressured or manipulated toward certain outcomes. In fact, the more the person "owns" the reasons for changing, the more autonomous and therefore more likely to succeed is the behavior change.

An example of this comes from a study of morbidly obese patients who were undergoing treatment (Williams et al., 1996). In this study people who sought treatment for less autonomous reasons (e.g., in order to please others rather than because it was personally important to them) were less likely to persist in treatment, and showed poorer treatment

outcomes. Importantly, however, those patients who were assigned to therapists with a more autonomy–supportive style were more likely to develop or identify more autonomous reasons for change. Furthermore, those who developed such autonomous motivations for change were, in turn, shown to be more likely to make initial changes in their behavior that led to successful weight loss and, crucially, they were better able to maintain their weight loss over time. Thus those individuals who were able to more fully internalize a new approach to eating and exercise were able to carry through with this for a longer period of time.

An important distinction within SDT concerns the difference between autonomy and either independence or freedom from external influence. According to the theory (see e.g., Ryan, 1995) a person can be autonomously dependent, as when they willingly receive care or guidance from others. Similarly, a person can give advice and direction without undermining autonomy, provided the person receiving the advice can concur with it, and therefore willingly enact it. This is particularly important in health care settings where competence to make changes often requires that caregivers supply helpful guidance, advice, or strategies to promote change.

Finally, the involvement dimension of the supportive environment is primarily concerned with the quality of the relationships between individuals (Reeve, 2002). Involvement describes the extent to which individuals perceive that significant others are genuinely invested in them and their well–being, understand the difficulties they are facing, and can be trusted to dedicate psychological and emotional resources that the individuals can draw on for support (Connell & Wellborn, 1991; Deci & Ryan, 1991; Grolnick & Ryan, 1987). In SDT the role of supports for relatedness has received rather less attention than supports for autonomy and competence. This is perhaps because of an emphasis in early SDT research on the promotion of intrinsic motivation. Individuals can often be intrinsically motivated to engage in solitary activities where relating to others is not an immediate issue (Koestner & Losier, 2002; Ryan & Deci, 2002). SDT holds that in interpersonal contexts, however, the satisfaction of the need for relatedness is essential for the process of internalization (Deci & Ryan, 2000). People are not inclined to internalize values or regulations from those to whom they do not feel connected or see as caring for them (Ryan & Deci, 2003).

SELF–DETERMINATION THEORY AND MOTIVATIONAL INTERVIEWING

From the preceding discussion the parallels between the social–environmental factors that are considered in SDT to facilitate integration and

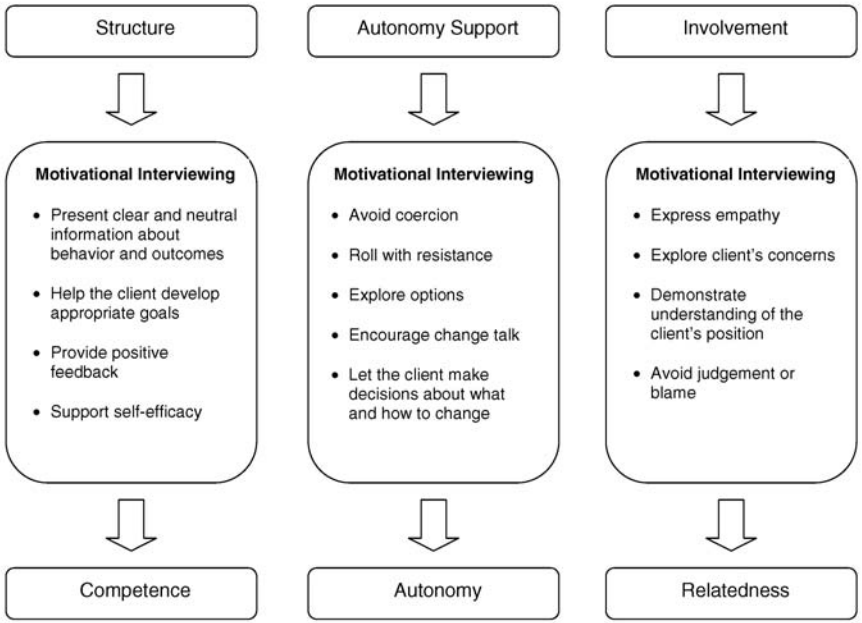

FIGURE 1. Self-determination theory and motivational interviewing.

self–determined functioning, and the principles and practice of motivational interviewing are striking (see Figure 1). As Foote et al. (1999) and Ginsberg et al. (2002) have also pointed out, SDT can provide a theoretical framework for understanding how change occurs in motivational interviewing. More specifically, we contend that motivational interviewing can foster self–motivated behavior change by promoting the internalization and integration of the regulation of a new behavior so that it is engaged in more willingly and more in accord with the person's broader goals, values, and sense of self. This process is facilitated by both the style of motivational interviewing and its specific strategies that provide ambient supports for the needs for competence, autonomy, and relatedness.

Support for the need for competence is accommodated in motivational interviewing by the provision of clear information about behavior–outcome contingencies, by helping the client to embrace realistic expectations and to set appropriate self–selected goals, and by giving positive, nonjudgemental feedback. Autonomy support is inherent in all the principles of motivational interviewing. Autonomy is promoted by avoiding confrontation and coercion, by exploring behavioral options, by developing the discrepancy between the client's current behavior and how they would like to be so that they present the arguments for change themselves, and by encouraging clients to choose their preferred courses of action. Indeed, a common element in both motivational interviewing and SDT frameworks is an emphasis on having the motivation for change emerge from within the person rather than attempting to coerce the person to change. Finally, the need for relatedness is facilitated in motivational interviewing by the genuine interest and warmth demonstrated by the counselor, the expression of empathy and noncontingent support, and by the avoidance of criticism or blame.

At a deeper level, the motivational interviewing process can be seen to be closely aligned with SDT's fundamental position concerning the human propensity for personal growth toward integration and cohesion. Miller (1994) has discussed motivational interviewing in almost identical terms, describing it as a process of movement toward integration and internal harmony whereby the client's behaviors, attitudes, and beliefs become consistent with those values that are core to their personal identity. According to Miller, this process arises from within the individual when they recognize the incompatibility of a problem behavior with those things that are more central and more valued. This cannot be imposed on the client but rather emerges when the counselor helps the client to become consciously aware of this inconsistency within a safe and supportive atmosphere. Similarly, the SDT position is that the tendency toward integration cannot be forced but is facilitated by an environment

that provides ambient supports for the needs for autonomy, competence, and relatedness.

As stated earlier, Miller and Rollnick (2002) defined motivational interviewing in terms of the enhancement of intrinsic motivation to change. They go on to contrast intrinsic motivation, where the motivation arises from within the person, with motivation by extrinsic means, where the motivation to change is imposed by others. Miller (1994) also associated internally derived motivation with intrinsic motivation; however, within SDT the terms *intrinsic* and *extrinsic* are not wholly isomorphic with the concepts of autonomous versus heteronomous regulation of behavior. According to the SDT framework, intrinsic motivation represents an important form of autonomous motivation, but extrinsic motivations also can be autonomous, as when they are regulated through identified or integrated regulations (Ryan & Deci, 2000). This is important because in the behavior change contexts typically encountered in counseling, it is often unrealistic to expect clients to become truly intrinsically motivated to engage in a new behavior. While some health–related behaviors, such as exercise, are more likely to be maintained when individuals are motivated by the intrinsic pleasure of participating, initial motivations are nevertheless more likely to be concerned with extrinsic outcomes (Ingledew, Markland & Medley, 1998; Markland & Hardy, 1993; Mullan & Markland, 1997). Behaviors such as adopting and maintaining a diabetic treatment regimen, however, are unlikely to ever be experienced as intrinsically satisfying or inherently enjoyable. Cessation behaviors, such as giving up alcohol, drugs, or smoking, which have been the principle focus of motivational interviewing, are even less likely to be intrinsically motivated. Indeed, Ryan (1995) has argued that "the lion's share of social development concerns the assimilation of culturally transmitted behavioral regulations and valuations that are neither spontaneous nor inherently interesting" (p. 405). Thus in SDT the critical distinction is between controlling regulation of behavior, where the individual is pressured to act either by externally imposed pressures or by internally controlling, introjected forces on the one hand, and autonomous regulations, that can be based either on well internalized identifications or intrinsic motivation, on the other hand. In these latter cases, the individual experiences a sense of choice and freedom from pressure and coercion and is thus more likely to engage with and maintain the behavior (Deci & Ryan, 1985; Ryan, Deci, & Grolnick, 1995). Considered from this perspective, motivational interviewing can be defined more accurately as a method of promoting autonomous motivation for change, rather than intrinsic motivation.

DEVELOPING DISCREPANCY: A DOUBLE–EDGED SWORD?

A consideration of motivational interviewing from the SDT perspective of the distinction between internally controlling and autonomous regulation highlights a potential danger in implementing its key principle of developing discrepancy. Ideally, developing discrepancy will promote change by helping the client to become aware of inconsistencies between their current behaviors and their core values and sense of self, thus providing the momentum to move along the continuum of relative autonomy toward greater integration. Yet a recognition of such a discrepancy could lead the individual into the partially internalized and self–controlling regulatory state represented by introjection, whereby they are pressurising themselves to change. In this respect, the broader therapeutic aim, that of helping the individual to move toward integration and internal harmony (Miller, 1994), would be forestalled.

According to SDT, all three ambient supports are necessary to promote optimal internalization of behavioral regulation and integration into the self (Ryan, Deci, & Grolnick, 1995). The provision of structure and involvement in the absence of autonomy support is likely to promote introjected regulation and its accompanying feelings of pressure to act. There is empirical support for this proposition. For example, Deci, Eghrari, Patrick, and Leone (1994), in a laboratory study where three aspects of support were manipulated (providing a meaningful rationale for engaging in the task, acknowledging the participants' perspectives, and emphasizing choice), found that in the presence of only one of these factors full integration was forestalled and behavioral regulation was introjected. Similarly, Weiss and Grolnick (1991) examined the effects of adolescents' perceptions of parental involvement and support for autonomy on their symptomatology. It was found that involvement and autonomy support interacted such that high levels of involvement accompanied by low levels of autonomy support led to a higher level of symptoms. Other studies have suggested that controlling forms of relatedness, such as contingent regard, are associated with the formation of introjected motives, and interfere with autonomous functioning (Assor, Roth & Deci, 2004; Ryan, Deci, & Grolnick, 1995), a point congruent with both Rogerian and motivational interviewing perspectives.

This is not to say that motivational interviewing inherently carries the danger of leading individuals into introjected regulation. Indeed, one could argue that if it did so, it would not be motivational interviewing. It does, however, highlight the risks of adopting a mechanical approach to the implementation of its principles and strategies. Rollnick and Miller (1995) have warned that it is vital that clinicians do not become overly focused on the technical components of motivational interviewing.

Rather, the emphasis should be on motivational interviewing as an interpersonal style, especially with regard to helping clients to articulate the case for change themselves (Emmons & Rollnick, 2001). Thus merely developing discrepancy by exploring the pros and cons of behavior change, even in an empathic context, but without an emphasis on personal choice, might well promote an initial motivation to change. However, seen from the SDT perspective, it is unlikely to foster the best conditions for long–term persistence and integration of the behavior so that it is consistent with a client's sense of self, and it could have detrimental effects on the person's well-being. This illustrates how using SDT as a guiding theoretical framework could inform the practice of motivational interviewing and help practitioners avoid the pitfalls of adopting a "cookbook" approach to its implementation.

CONCLUSION AND FUTURE DIRECTIONS

In this article we have expanded on Foote et al.'s (1999) and Ginsberg et al.'s suggestions that self–determination theory can offer a comprehensive theoretical rationale for understanding the efficacy of motivational interviewing. The parallels between motivational interviewing and the SDT understanding of human motivation have been discussed. It was argued that both motivational interviewing and SDT are predicated on the fundamental assumption that humans have an innate propensity for personal growth toward cohesion and integration. This integrative tendency can be fostered or thwarted by ambient supports for autonomy, competence, and relatedness. We have focused on the importance of autonomy support because this is a feature that is relatively unique to both SDT as a contemporary theory of motivation and to motivational interviewing as a clinical approach. The principles of motivational interviewing match closely those social–environmental factors proposed in SDT to promote optimal motivation and healthy psychological functioning. In addition, we have discussed how the tenets of SDT can inform the practice of motivational interviewing by emphasizing the need to avoid a blind application of its strategies without a consideration of the motivational importance of the need to feel free from pressure and control, regardless of whether that pressure arises from within the person or is imposed by others.

Burke et al. (2002) have pointed out that while considerable attention has been paid to examining the efficacy of motivational interviewing in terms of therapeutic outcomes, as yet we are still a long way from understanding the processes involved, and indeed that there is little direct empirical evidence that motivational interviewing actually impacts motivational variables. If our analysis is correct, adopting the SDT

perspective offers the opportunity to explore pertinent psychological and motivational processes that might mediate the effects of motivational interviewing on successful treatment outcomes. Thus, one could determine whether motivational interviewing impacts on perceptions of support for autonomy, competence, and relatedness; actual satisfaction of these needs; autonomous motivation for change; and subsequently on behavior change and maintenance. Moreover, we could then move on to refine motivational interviewing by exploring the extent to which its various strategies are more or less effective in modifying these motivational processes across different populations and presenting problems.

Indeed such work is already in hand. Foote et al. (1999) have shown that individuals randomly assigned to a group motivational interviewing treatment for chemical dependency, informed by SDT, perceived the environment to be significantly more autonomy–supportive than those assigned to a treatment as usual group. Furthermore, perceptions of autonomy support were significantly related to frequency of attendance during the initial phase of treatment. More recently Williams et al. (2002) designed a clinical trial to test a self–determination theory-based model of tobacco dependence treatment. Patients were recruited for this smoker's health study regardless of whether or not they were interested in quitting smoking. In one–on–one interviews with counselors the focus was on encouraging exploration of smoking related issues, clarifying values and decisions regarding change, amplifying existing discrepancies, and acknowledging and accepting patients' choices. Thus the clinical approach used some techniques similar to motivational interviewing, as well as additional ones focused on autonomy, relatedness, and competence support. Outcome analyses (Williams et al., 2004) of data from 6 months post treatment showed significant enhancement of autonomy and competence for change as well as chemically verified continuous smoking cessation that was mediated by increases in perceived autonomy and competence. These mediators were, in turn, facilitated by the experience of autonomy–supportive counseling. It is hoped that this paper will help to stimulate further research along these lines.

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