Overcoming societal addictions: What can we learn from individual therapies?

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ARTICLE INFO

ABSTRACT

Societies, like individuals, can get trapped in patterns of behavior called social traps or "societal addictions" that provide short-term rewards but are detrimental and unsustainable in the long run. Examples include our societal addiction to inequitable over-consumption fueled by fossil energy and a "growth at all costs" economic model. This paper explores the potential to learn from successful therapies at the individual level. In particular, Motivational Interviewing (MI) is one of the most effective therapies. It is based on engaging addicts in a positive discussion of their goals, motives, and futures. We suggest that one analogy to MI at the societal level is a modified version of scenario planning (SP) that has been extended to engage the entire community (CSP) in thinking about goals and alternative futures via public opinion surveys and forums. Both MI and CSP are about exploring alternative futures in positive, non-confrontational ways and building commitment or consensus about preferred futures. We conclude that effective therapies for societal addictions may be possible, but, as we learn from MI, they will require a rebalancing of effort away from only pointing out the dire consequences of current behavior (without denying those consequences) and toward building a shared vision of a positive future and the means to get there.

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1. Introduction

The need for human society to rapidly deal with climate change, limit population and material consumption growth, transition to a renewable energy path, distribute wealth more equitably, and deal with a host of other interrelated problems is widely accepted in the scientific community and, increasingly, in the policy community (Costanza et al., 2014). However, movement in this direction has been slow. To many, this lack of movement is hard to understand. Given the increasingly obvious warning signs, why has society still not taken appropriate action and changed its behavior accordingly?

In this paper, we draw the analogy between defensive denial at the society level and defensive denial from drug or alcohol addicts when warned about the long-run implications of their behavior. It is well known in addiction therapy that it is rarely effective to directly confront addicts concerning the damage they are causing to themselves and others. Rather than motivating addicts to change, such interventions often result in a reactive denial on the part of the addict and lack of

progress toward overcoming the addiction. Yet, such a confrontational approach is typical of the strategies used by scientists and activists who try to effect change at the societal level regarding climate change, overconsumption, overpopulation, inequality, and many other issues. From a psychological perspective, then, the lack of progress in ameliorating these issues is to be expected as long as these topics continue to be approached in a mainly confrontational, judgmental way. Like with individual addictions, taking a less confrontational approach does not deny the reality of the dire consequences. It merely recognizes that knowledge and communication of those dire consequences is often not enough to motivate change, and can even have the effect of prolonging the destructive behavior. Perhaps more progress would be made with a different way of framing and discussing the issues that is more analogous with the practices that help people overcome individual addictions.

We first define addiction at the individual level and then explore how entire societies might also be thought of as addicted to specific modes of behavior. We then consider some of the characteristics of therapeutic approaches that have been successful for treating addictions at the individual level. We concentrate on one particular approach (motivational interviewing or MI) since this approach seems especially successful at the individual level and amenable to scaling up to the

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societal level. However, we acknowledge that a range of approaches may be brought to bear on this problem. Finally, we propose an approach to societal therapy for problems facing contemporary society and conclude with suggestions for how this approach might be facilitated.

2. What Is Addiction?

Addiction is typically understood as encompassing several features (American Psychiatric Association, 2013; Sussman and Sussman, 2011). For example, the most recent edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-V*) specifies that people suffering from substance-use disorders often experience a lack of control (manifest in cravings and in failed attempts to quit or regulate intake of the substance), negative consequences (such as problems in work and relationships), and a failure to quit using the substance despite negative consequences (like physical and psychological problems). Addiction to drugs (and apparently to gambling as well) occurs because short-term rewards provided by the ingestion of the substance have become so powerful and enticing that an addict's life becomes increasingly oriented around the substance, such that other, healthier behaviors diminish in frequency and substance use behavior persists even in the face of (sometimes dire) negative consequences.

3. How Can a Society Be Thought of as 'Addicted'?

Unfortunately, many 21st century social institutions and incentive structures parallel those found in addicted individuals, in that short-term rewards are sometimes so powerful that other, more adaptive actions are diminished and damaging activities continue despite evidence of longer-term negative consequences. Individuals (or firms or communities or countries) pursuing their own narrow self-interests in the absence of mechanisms that account for community and global interests frequently run afoul of these more adaptive long-term goals and can often drive themselves, and the communities of which they are a part, to less desirable ends.

The inconsistencies of these short-term rewarding goals for individuals and incentives with long-term adaptation for the community have been described many times before. Perhaps the most often cited is Hardin's (1968) classic paper on the tragedy of the commons (more accurately, the tragedy of open-access resources) and continuing through work on "social traps" (Beddoe et al., 2009; Carpenter and Brock, 2008; Costanza, 1987; Cross and Guyer, 1980; Platt, 1973). Social traps occur when local or individual incentives that guide individual behavior are inconsistent with the overall goals of the society or system. Cigarette and drug addiction are parallel examples at the individual level. As has been noted, addicts often know full well the harmful effects of their substance use but they nonetheless continue to use the drug. Similar examples at the societal level include: Overuse of pesticides, fetishization of economic growth, over-consumption, privatization of information, fossil fuel consumption leading to climate change, and overfishing. In the example of overfishing in an open-access fishery, by following the short-run economic incentives, fishers are led to exploit the resource to the point of collapse. Because social traps are essentially societal addictions, providing immediate gratification accompanied by hurdles to sufficient regard for future costs, we will use the terms interchangeably in what follows.

Social traps, or addictions, are also amenable to experimental research on how individuals behave in trap-like situations and how to avoid and escape these traps (Brockner and Rubin, 1985; Costanza and Shrum, 1988; Edney and Harper, 1978; Rothstein and Uslaner, 2005). The bottom line is that, in cases where social traps exist, the system is not inherently sustainable and special steps must be taken to harmonize goals and incentives between local, national, and global scales, and between individual and community scales. In economic jargon, private costs and benefits must reflect social costs and benefits. Local and

short-term goals must be made incumbent on and consistent with global and long-term goals and incentives.

It is worth pointing out that most of this research has been about how individuals respond to entrapping incentives, rules and norms. In essence, to remove the trap, one has to change the rules and incentives that set the trap in the first place. In this paper we are concerned with how societies can go about changing these entrapping rules and incentives, rather than changing individual behaviors in spite of the entrapping rules and incentives.

It is also true that it is not easy to predict individual behavior in response to different societal incentive structures from simple "rational" models of human behavior prevalent in conventional economic thinking. The experimental facts indicate the need to develop more realistic models of human behavior under uncertainty, acknowledging the complexity of real-world decisions and our species' limited information processing capabilities (Heiner, 1983; Kahneman, 2011). The limitations of the current economic approach have been recognised by some economists, and there is growing academic and government interest in behavioral and experimental economics approaches that seek to understand how people actually behave, rather than how an idealized "rational" individual should behave (Ariely, 2009; Low, 2012; Lunn, 2014; Courtney et al., 2014).

What has not been adequately addressed in the social trap or behavioral economics literatures is the question of the methods that can be most effective for escaping these traps. "Traps" are obviously best avoided, and strategies that help avoid traps and prevent addictions are preferred. But little has been done to design effective escapes or "therapies" once the societal trap has been entered. Fortunately, much has been done to help individuals escape their own traps or addictions. We now turn to a discussion of one of the most effective of these therapies before discussing how to apply these results at the societal level.

4. Therapies that Work to Treat Addiction at the Individual Level

One of the most successful treatments for addictions is motivational interviewing (MI; Miller and Rollnick, 2012). Unlike many other forms of therapy, MI is rated by Division 12 (The Society for Clinical Psychology) of the American Psychological Association as having strong research support for mixed addictions (see http://www.div12.org/psychological-treatments/disorders/mixed-substance-abusedependence/). MI is a therapeutic approach designed as a collaborative conversation aimed at strengthening the client's motivation for change. We focus here on MI because it is explicitly designed to increase motivation for change in situations where people are ambivalent about changing. A comprehensive definition of MI offered by Miller and Rollnick (2012) is:

> "Motivational interviewing is a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion."

MI is a technique that helps clients to explore and resolve sources of ambivalence regarding change and to build intrinsic motivation to change. MI draws from a client-centered tradition (a la Rogers, 1951, 1961), meaning that it is based on principles of warmth, empathy and an egalitarian relationship between therapist and client that involves reflective listening and questioning. That said, MI is also somewhat directive in that the therapist contributes to identifying workable goals for treatment and to suggesting effective techniques for behavioral change.

MI was first developed in response to Miller's findings in some of his studies that the best predictor of positive therapeutic outcomes was not the form of treatment per se but the degree of empathy of the therapist. This finding has now been replicated many times and demonstrates that

a key element of effective therapy is the "therapeutic alliance" between the therapist and the client.

Miller and Rollnick (2012) propose four key processes underpinning motivational interviewing:

1. *Engaging* is about creating a working alliance between the therapist and client. It necessarily involves building trust and reciprocity. Engaging is the process of establishing a helpful connection and working relationship.
2. *Focusing* is about setting an agenda for the engagement. While for some clients, it may be premature to plan specific goals (see below), the focusing phase is about helping clients identify their own broad agenda for change in the context of the therapist's expertise. For example, if the therapist thinks that a particular goal is either inappropriate or excessively ambitious, the therapist might express that view. Client and therapist may bring different agendas, but if MI is to work, it is essential that clients are given the freedom to speak about the need for change in their own words and on their own time-frame.
3. *Evoking* is the core of motivational interviewing — it is where the therapist works with clients to help elicit their own motivation for change. The goal in this process is to watch for and support statements by the client suggesting a desire to change. Evocation refers to an implicit assumption in MI that working with a client's strengths and resources will be more useful than diagnosing deficits: clients already have much of what they need to change, and the task of the therapist is to evoke those change processes. This is a very different approach from a therapist who assumes a knowledge deficit in the client and seeks to fill that knowledge gap.
4. *Planning* is about both increasing clients' level of commitment to change and the development of a specific, concrete plan of action for making actual changes.

Some key elements of MI relevant to the current paper include:

1. **MI targets and reinforces 'change talk,'** where clients spontaneously offer up change-oriented statements, such as reasons or strategies for change.
2. **MI supports the client's own autonomy and choice.** While MI therapists can contribute their own perspectives, ultimately clients must be supported in coming to a place where they themselves wish to change behavior. Like many other therapies, MI relies upon the principle that engaging in a dialogue, not "telling," is essential to evoke change. Practically, MI enacts this principle and supports clients' autonomy via five key communication skills: *asking open questions, affirming, reflecting, summarizing, and providing information and advice with permission.*
3. **The essential spirit of MI is partnership**. Ambivalence is a normal part of preparing for change, but it is also a position where a person can remain stuck for some time. When therapists use a directing style rather than a partnership style, and when they argue for change with a person who is ambivalent about changing, the typical result is that the ambivalent person will deny the need to change and argue against changing. *People are more likely to be persuaded by what they hear themselves say* than by what their friends, loved ones, or therapists argue for. MI recognizes this and therefore tries to encourage the client to make change statements in the context of a dialogue between equals.
4. **MI is strengths and values focused.** Ultimately MI aims to appeal to people's deepest needs. MI is about setting goals to increase the likelihood of something positive happening rather than to decrease the likelihood of something negative occurring. This is crucial for addictions, since a good deal of addictive behavior is motivated by seeking to avoid unpleasant experience. For example, a person may drink in order to diminish the pain of conflict with a loved one or feelings of inadequacy. MI seeks to help people feel able (or self-efficacious) to engage in approach-oriented behavior. It does this, in part, by trying

to foster a capacity to be in the presence of difficult experiences and not engage in a quick fix (i.e., the addictive behavior), but rather to help the person move in the direction of his/her own long term values and goals (i.e., psychological flexibility). Such solutions involve: a) not engaging in the addictive behavior; and b) engaging in some alternative, more satisfying (values-wise) behavior. Such a solution stands in contrast to the life-limiting ways that people often react to pain, such as by withdrawal or denial (i.e., experiential avoidance), reactions that typically limit the possibilities for positive change.

Other therapies, such as Acceptance and Commitment Therapy (ACT) make the issue of experiential avoidance even more central. ACT is similar to MI in that it is values-focused but it has a particular emphasis on developing acceptance and mindfulness in the presence of difficult experiences that may be encountered during change. Such mindfulness may be critical for changes that require some discomfort or some uncertainty as change occurs. The societal changes we need certainly fit into this category. There is good evidence that ACT is also effective in reducing addictive behavior (Hayes et al., 2004; Lanza et al., 2014; Smout et al., 2010).

5. **Therapists must embody and express acceptance and compassion:** Dialogue needs to be non-judgmental. Making people feel badly about themselves or punishing them is rarely effective for motivating change; when it is effective, it is rarely effective for long, as these types of approaches simply lead to either momentary compliance or to reactance and resistance to change. For example, victim impact processes where offenders are forced to see the harm they have caused are surprisingly ineffective, having, in some cases, been associated with increased offending (Wheeler et al., 2002). Acceptance does not mean that the therapist necessarily agrees with or approves of a client's choices, but Miller and Rollnick (2012) highlight the importance of interacting with clients in ways that recognize their worth, empathise with their perspective, support their autonomy and affirm their strengths and endeavors

To get a better idea of the fundamental differences between the confrontational and the MI approach we direct the reader to these two YouTube videos, which show application of the two approaches to helping someone feel motivated to quit smoking:

Confrontational approach: https://www.youtube.com/watch?v=80XyNE89eCs
MI approach: https://www.youtube.com/watch?v=URiKA7CKtfc

5. Scaling up from the Individual to the Societal Level

How might the principles behind MI scale up to a societal level? Societies certainly seem ambivalent about changing their current behaviors that result in climate change, etc., even though the scientific consensus is that change is imperative if humanity is to avoid massive problems in the future. However, confronting society with this problem directly, as the scientific and activist communities have often done thus far, does not appear to have been an effective intervention – instead, it seems to have often evoked denial and resistance. Drawing on the MI metaphor, we propose that it would be more effective to engage society in positive change talk in empathic and supportive ways, focus on shared goals, evoke and motivate positive change, and plan effective pathways to change.

Of course, for this metaphor to be apt, one must ask "Who is the addict and who is the therapist?" Society is more than just the sum of individuals, and there are many distinct sub-groups, interest groups, and behavioral outliers within it. Some of these groups are more ambivalent about change than others. Probably the closest analogy is that the scientific and activist communities play the role of therapist, able to take a more detached view of the implications of current behavior for the future. Just as an MD would not support a client's goal to continue

smoking given the overwhelming evidence of the health costs down the road, there is an overwhelming amount of scientific evidence that changes in societal behavior are needed. But, as the two YouTube videos mentioned above clearly show, how this information is conveyed can make a huge difference in whether the people feel motivated to change their behaviors. Part of the problem may be that the scientific and activist communities have not been employing an effective therapy to encourage positive change, leading in some cases to a breakdown of trust with other parts of society. But there is no way to step around the idea that change is needed, and something more analogous to MI might be more effective.

6. A Few Examples at the Societal Scale

Here we note a few selected historical examples of societal therapies that did work and point out the features of these examples that mirror the MI approach.

6.1. Gandhi and Overcoming Colonialism

Rather than confront British colonialism in India directly via an armed rebellion, Gandhi famously employed "passive, non-violent resistance." Gandhi was able to mobilize a large segment of the population around a shared positive vision of an independent India. He also realized that reforms within the British system would never be enough. Like an addict who realizes that "cutting back" will never work, Gandhi knew that a major transformation of the system was necessary. He facilitated a shared vision of the goal (an independent India), broad civic engagement and support, clear tactics, and a positive framing of the intended result. As can be expected with any therapy to a recalcitrant addiction, success did not come overnight, but it did eventually come.

6.2. Emancipation and the Civil Rights Movement

Slavery had become ingrained in the economic systems of several New World countries, notably the US South. The South was in a very real sense "addicted" to slavery, and all the rules, norms, institutions and culture surrounding and supporting it. Breaking out of that pattern required a civil war – not the best or most effective kind of therapy. In addition, the addiction to "slavery" did not end with emancipation. The institutions of slavery persisted under different names with the continued segregation of blacks and their relegation to second-class citizen status, and the denial of full voting and other rights. It was not until the Civil Rights movement of the 1960′s that the full rights of black Americans were restored. This movement was analogous to MI in its use of empathy, engagement, non-violence, and a focus on positive change with clear goals. Martin Luther King's famous "I have a dream" speech articulated those goals in a very compelling way. The process was certainly not painless, but the Civil Rights movement ultimately succeeded in achieving the majority of its goals.

6.3. Cigarette Smoking

Rates of smoking have declined from over 50% of men and 34% of women in 1965, to just 23.5% of men and 17.9% of women in 2010 (CDC, 2011). Biglan (2015) argues that "the tobacco control movement is probably the most significant science-driven behavioral change our culture has ever seen". A major element of the success of this change was the fact that smoking is clearly measurable and obviously harmful. This meant that goals for change could be clearly stated, and effectiveness of interventions could be easily assessed against the clear and simple goal of reducing rates of smoking.

Other key elements of the tobacco control movement included public advocacy, good science (e.g., epidemiology identifying incidence and prevalence), good ongoing measurement and reporting, and excellent programs, policies and practices designed to both educate and make smoking less attractive than alternatives. In summarizing the effectiveness of these interventions, Biglan (2015), a noted expert in the tobacco control movement, argued: "I have to confess that policies, public advocacy, and education have been far more important than programs in reducing smoking." This provides an interesting counterpoint to the other examples of social change mentioned in this article and the problem of reducing societal addiction to consumption. Unlike these more complex situations, smoking is an example where the goals are exceedingly clear, the behavior is directly under human control, most of the people engaged in the behavior are intrinsically motivated to want to change (most smokers would prefer not to be smokers), there is strong empathy for smokers (generally speaking) and there is clear and agreed-upon evidence for the need to change. Despite this, it still took fifty years for smoking rates to halve in the face of tobacco companies seeking to lobby governments and muddy the waters of scientific evidence. Advocacy, policies and education can work but in the face of determined opposition, it can take a long time.

7. Therapies that might Work at the Societal Level

To review, MI suggests that there are four basic principles that underlie successful therapies. Applied to a societal context, these basic MI principles could be summarized as:

1. ***Engaging:*** *building relationships with diverse stakeholders to encourage change talk*
2. ***Focusing***: *setting shared goals among those stakeholders*
3. ***Evoking:*** *helping stakeholders identify motivations for positive change*
4. ***Planning:*** *helping stakeholders move from goals to actual change*

How might these ideas be applied to whole communities and societies to enable them to engage in thinking about their goals and alternative futures in a way that will allow positive change? Next we discuss in detail one example of a process that may be a good analog to MI at the societal level. We do not wish to imply that this is the only possible approach to societal therapy. There are a range of methodologies employed in fields like participatory action research and participatory planning that could be brought to bear. We mention some of these further on.

7.1. Community Scenario Planning

Scenario planning (SP) is one technique that could be used at larger community, national, and even global levels to discuss goals, motives, and futures. Scenario planning provides an opportunity to discuss and develop consensus about what social groups want (Peterson et al., 2003). Accurately predicting the future is difficult, if not impossible, for complex socio-ecological systems due to the number of interacting and irreducible uncertainties involved. What people can do is to lay out a series of plausible scenarios that help to better understand future possibilities and the uncertainties surrounding them. Put in terms of MI principles, laying out plausible future scenarios is analogous to encouraging people to engage in change talk. Scenario planning differs from forecasting, projections, and predictions in that it explores plausible possible futures rather than probable futures, and it lays out the choices facing society in whole systems terms. We hasten to add that SP has only rarely been used to engage the broader public in thinking about alternative futures for the whole community. To be effective as a societal therapy, it needs to be extended and modified to do so. With appropriate extensions to engage the public via, for example, opinion surveys and deliberative dialogs, "Community Scenario Planning" (CSP) can be seen as incorporating the key MI principles. It first engages participation in a broad discussion of change (plausible futures) and in focusing on shared goals revealed by preferences via surveys for particular futures. CSP can then focus and evoke positive change toward preferred futures and motivate planning for effective change.

Several scenario planning exercises have been conducted at a range of geographic scales and for a range of purposes, including: global futures (Costanza, 2000; Millennium Ecosystem Assessment (MEA), 2005; Nakićenović and Swart, 2000; Raskin et al., 2002), regional futures (European Environmental Agency, 2009; Bohensky et al., 2011), corporate strategy (Wack, 1985), political transition (Kahane, 2004) and community-based natural resource management (Wollenberg et al., 2000). For example, the carbon emissions scenarios developed by the IPCC (Nakićenović and Swart, 2000) have been widely used to study their potential impacts on future climates.

One of the most compelling examples of the application of SP was during the transition in South Africa after apartheid. Adam Kahane convened a scenario planning workshop that involved leaders from both white and black political parties (Kahane, 2004). They decided as a group to go beyond recriminations and to create together four possible future scenarios for the country (i.e., the MI principle of engaging in change talk), only one of which – the "flight of the flamingos" – envisioned a shared country with everyone rising together with truth and reconciliation (i.e., the MI principle of focusing on shared goals). The adoption of this scenario by all parties as the preferred future (i.e., the MI principle of planning from goals to actual change) enabled a relatively smooth transition in a situation that could have been much worse had this important consensus about a vision for the country not been reached (i.e., the MI principle of evoking positive change).

CSP can be seen as a way to engage the broader public directly in a positive discussion of societal goals, motives, and futures in a way that is very analogous to MI, as discussed above. However, to date, as in the South Africa example, scenario planning has largely been used by small groups of planners, policy makers, and strategists and has yet to be effectively extended to stimulate discussion of alternative futures and goals among the broader public.

Some small steps in this direction include Costanza (2000) and Landcare (2007). Both of these studies included limited surveys of opinions and ranking of the scenarios. The results were intriguing. For example, in the Landcare case, respondents were asked which of four scenarios they thought New Zealand was headed toward and which of the four scenarios they preferred for themselves and the country. There was very little overlap in the results to these two questions. The scenario most respondents said they preferred was "Independent Aotearoa" – a sustainable well-being scenario, but the scenario they thought they were headed toward was "Fruits for a Few" – a business as usual scenario with increased inequality.

To broaden participation, Costanza et al. (2015) proposed a country-wide survey of scenarios for Australia. They reviewed a broad range of scenarios of the future developed for Australia and globally in a range of participatory processes and developed a synthesis set of four scenarios for Australia. These four synthesis scenarios were structured around two axes: (1) individual vs. community orientation and (2) continued focus on GDP growth or shift of focus to broader well-being. This created four distinct futures labeled: (1) Free Enterprise; (2) Strong Individualism; (3) Coordinated Action; and (4) Community Well-Being. For each scenario a narrative and other descriptions of the scenario were created. A country-wide opinion survey of the scenarios was carried out in May and June of 2016. Preliminary results showed that 71% of a randomly selected sample of over 2000 participants preferred the Community Wellbeing future - the opposite of the emphasis on short-term, individualistic goals that perpetuate our current societal addiction. However people also thought the Community Wellbeing future was Australia's least likely future, with just 17% believing this is where Australia is heading. The most likely future people saw for Australia was a continuation of Free Enterprise, which is based on economic growth at the expense of equity and environmental quality. These results showed the significant difference between where Australians felt Australia was heading and where they wanted it to go. Follow-on activities to further engage the public in thinking about the kind of future they really want

and sharing their opinions with others is planned to continue the "therapy."

In a related exercise, the Australian Academy of Science led the 'Australia 2050' project, which embarked on activities to support widespread, inclusive national conversations on the country's future (see video and reports at https://www.science.org.au/publications/australia-2050). One of the Australia 2050 events gave participants from diverse sectors of society the opportunity to explore 'growth', 'collapse', 'restraint' and 'transformation' futures (Cork et al., 2015). They were not expected to agree with one another, and instead encouraged to listen with curiosity and respect for others' perspectives in the spirit of MI "engaging in change talk."

These kinds of examples point to the kind of societal therapy that might work in a manner analogous to MI. Scenarios by definition focus on "change talk", although skill is required to encourage participants to think beyond business as usual. Well-facilitated scenarios can be autonomy supportive by encouraging participants to identify aspects of the future they wish to encourage and other aspects they would like to avoid. This can both create a wish to be involved in making the future and generate ideas about how this can be done in partnership with others. CSP processes that encourage empathy, compassion, and acceptance through listening and understanding before debate and action, can help participants see their own strengths and weaknesses and reveal strengths and weaknesses in others that can give participants more hope about creating and implementing sustainable and desirable futures.

7.2. Cultural Evolution and Scenario Planning

One famous psychology joke asks, "How many psychologists does it take to change a light bulb? Answer: Only one – but the light bulb has to *really want to change*." This joke indicates the centrality of the idea that in therapy, a therapist cannot force people to change their thoughts, feelings, attitudes and preferences. So how can we facilitate a process by which a whole *society* both explores its desires for change and comes to some agreement about what that change should look like?

Recent research on organisations and societies that have shown high capacity to adapt or transform in the face of challenges has revealed the importance of recognizing, not only the likelihood of challenges, but also that current approaches to dealing with those challenges might be ineffective (Walker et al., 2004; Folke et al., 2010). Getting a society to accept the reality of challenges like climate change, for example, might not be enough to get it to want to change if the people in that society think its institutions and other resources will not be able to cope with the challenge.

It is important to note here the differences between getting individuals within society to change their behavior and getting society as a whole to change. Society is not just a collection of individuals. It also includes all the formal and informal rules, norms, laws, and institutions that make up the society and culture (i.e., social capital) within which individuals operate and cooperate. Getting people to change their individual behavior without changing the culture is like swimming upstream against a very strong current. But cultures do evolve and change as new rules, norms, laws and institutions develop and become widespread. So, what we are really talking about is how to accelerate cultural evolution in the direction of a more sustainable and desirable future (Costanza, 2014).

However, like other evolutionary processes, cultural evolution is prone to path dependence, multiple equilibria, lock-in, traps and societal addictions (Costanza, 1987; Arthur, 1988; Costanza et al., 1993). Many historical civilizations have collapsed due to their inability to escape these processes (Tainter, 1988; Costanza et al., 2007; Diamond, 2005). For example, the ancient Maya developed elaborate trade networks, elites, and cities that lost resilience to recurring drought cycles and eventually collapsed (Diamond, 2005; Heckbert et al., 2014). On the other hand, one unique feature of cultural evolution compared to

biological evolution is that it is "reflexive," in the sense that goals and foresight can affect the process. As Beddoe et al. (2009) put it:

"To a certain extent, we can design the future that we want by creating new cultural variants for evolution to act upon and by modifying the goals that drive cultural selection. If our societal goals shift from maximizing growth of the market economy to maximizing sustainable human well-being, different institutions will be better adapted to achieve these goals. As we learn more about the process of cultural evolution, we can better anticipate the required changes and can more efficiently design new institutional variants for selection to work on".

CSP is one way to do this at the societal level. By constructing a set of plausible alternative future scenarios, the community can see how current choices might play out, without pre-judging the alternatives. One can then ask the equivalent of "How is our current behavior working?" given the possible consequences that scenario planning can lay out. What is our preferred future and what changes will move us toward that preferred future? CSP, extended to include public opinion surveys about the scenarios, can be seen to embody the four key processes underpinning MI: (1) *Engaging* in a broad discussion of the possibilities for change by developing alternative future scenarios; (2) *focusing* on shared goals by developing preferences for futures with specific qualities; (3) *evoking* and motivating positive change toward preferred futures; and (4) *planning* for actions and policies that could help achieve this future.

As we have stressed, society is more than the sum of individuals and to change societal behavior we need to change social goals, norms, rules, incentives, etc. - i.e. culture. Societal therapy is ultimately aimed at doing just that. For example, a carbon tax will be more acceptable in a society that has embraced the goals embedded in the "community wellbeing" scenario than in one addicted to the "free enterprise" scenario.

7.3. Other Relevant Approaches

We do not mean to imply that scenario planning is the only possible therapy at the societal level. The climate change adaptation research community and other research communities involved in tackling common pool resource and sustainability issues are increasingly drawing on participatory approaches that emphasize inclusive, respectful listening aimed at eliciting values and goals, exploring potential change and co-developing plans for change without prescribing predetermined solutions. These include adaptation pathways approaches (e.g., Wise et al., 2014, Fazey et al., 2010), approaches for assessing social-ecological resilience (e.g., Walker and Salt, 2012), and calls for wise stewardship of Earth's ecosystems (e.g. Fischer et al., 2012). There are diverse tools and methods for facilitating such inclusive participation. For example, mathematical modeling can be used as a form of consensus building (e.g., Costanza and Ruth, 1998) and fostering respectful dialogue and engagement with diverse stakeholders (e.g., mediated modeling, van den Belt, 2004, companion modeling, Étienne, 2014, or multi-model approaches, Fulton et al., 2015).

Like therapists working with addicts, researchers involved in these approaches perceive that change is beneficial, and choose methods that enable and support change. This is different from researchers seeking to be impartial observers, who see their role as reporting the facts and leaving others to act on those findings. In this way, these approaches require some care to ensure that any decisions to change are owned by the stakeholders and not imposed by the scientist or activist. Just as it is in MI, clients' autonomy must be respected. To quote Miller and Rollnick (2009):

"MI is not a sleight of hand for end-running, outwitting, or hijacking an individual's motivation. It is about eliciting the person's own inherent arguments for change, not imposing someone else's."

That said, MI is also not about seeking to explore all perspectives, nor does it involve focusing on reasons not to change. The MI agenda is to inspire and foster change, and it is only change talk that is reflected back to the client and strengthened: 'it makes little sense to intentionally elicit and give equal air time and attention to the counter-change arguments'.

Similarly, climate adaptation research accepts the inevitability of climate change, and works to understand and build effective strategies for adapting in the face of change. Like a therapist employing MI with an addict, the researcher has already made a judgment about the benefits of change, but that judgment is not one to be imposed on the client. Rather, researchers seek to build relationships and learning processes that strengthen awareness, autonomy and well-informed decision-making among stakeholders. Methods to do this include highlighting adaptation pathways that identify options that do not lock in maladaptive futures. Similarly, resilience researchers recognize the inevitability of a changing world, and when asking questions about resilience (e.g., 'resilience of what to what'?) they are not seeking to keep everything the same, but instead to work with stakeholders to identify what is valued in their system and what changes stakeholders are prepared to make, including options to adapt or transform their activities.

Perhaps the most important current global change process relevant to this discussion is the United Nations Sustainable Development Goals (UN, 2015). These 17 global goals were agreed to by all UN member states in September 2015. They embody an essential recognition that we live in a finite and interconnected world where we must integrate prosperity, equity, and sustainability. They cover poverty, inequality, economy, environment, and more. Taken together they represent a positive global scenario meant to apply to all countries. While the SDG's have been agreed to by all UN member states, converting that agreement into a shared vision among the world's people that can drive change is another matter that will require significant additional work. We suggest that a version of CSP might be useful in this regard. The SDG's represent a vision of a positive future not unlike several others that have been put forward in the context of scenario planning (Costanza, 2000; Raskin et al., 2002; MEA, 2005; Landcare, 2007). The 17 SDG's in their present form (with 169 targets and over 300 indicators) will be difficult to communicate to the global public, but a narrative description of the sustainable and desirable SDG vision as one possible future scenario would likely be more compelling to more people. Global surveys of people's preferences for the SDG's scenario in contrast to other scenarios would begin the broader engagement and discussion of the future we want among the global population in the spirit of MI.

Our point is that there are parallels between MI therapy aimed at fostering change in individuals and a range of approaches that are working to support change in social-ecological systems. These parallels suggest the potential to learn more from MI research experience. Interdisciplinary and transdisciplinary research initiatives aimed at better understanding of cultural evolution are central to all of these advances in better navigating complex social-ecological futures. There is certainly much room for further development, and consideration of what works at the individual scale may help to guide these societal processes in more productive directions.

8. Conclusions

MI is successful at the individual level because of its balanced combination of client-centered attitudes and goal-oriented processes. It helps individuals to recognize and articulate what is not working for them in their current behavior, without being too confrontational or directing. On the other hand it is goal-oriented and helps individuals to envision and create more positive futures for themselves.

If an individual does not want to change, then MI would suggest allowing that to be the case and reflecting it back to the person. That is the only way to maintain rapport with the client. This can be followed up with an exploration of whether or not the person's current behavior is working well for him/her and matching his/her values and goals. As such, if a client says "I don't want to change," rather than just letting it

go at that, the therapist can say "OK, I hear that you don't want to change. I wonder if we could talk about how you see your current behavior now in the context of your values and goals, so that I can understand why you feel like your current behavior is working well for you." That conversation might lead the individual to provide a strong rationale for the status quo, or it might lead the individual to recognize that there are some mismatches between his/her current behaviors and values. If the latter occurs, it is an excellent opportunity for an MI therapist to help evoke some change talk and begin the process of positive change.

At the societal level, making the transition to a sustainable and desirable future will not be easy and will require a more nuanced conversation and consensus building about societal goals than has so far been the case. In many ways humans are locked-in, trapped, and in a very real sense "addicted" to the current regime. Growing knowledge of how to overcome individual addictions may help if that knowledge can be scaled up to the societal level. Evidence suggests that directly confronting addicts with their problems in an effort to scare them into changing often leads to denial and reactance, and is therefore often counterproductive. Yet this is exactly what many scientists and activists currently do at the societal level regarding issues like climate change, overpopulation, overconsumption, and inequality. Presenting evidence about risks is important, but how that evidence is presented and contrasted with values and positive goals is critical if we hope to change behavior at either the individual or societal levels.

At the individual level, MI techniques engage with addicts in a non-judgmental way to help them overcome ambivalence and develop a positive vision of a better life that is based in their deepest values. Such a vision can often motivate substantial change. This is what a strategy of what we have labeled CSP (scenario planning and envisioning extended to include public opinion surveys and broad societal dialogue about alternative futures) could provide at the societal level. What is necessary to implement this strategy is to fully engage the larger society in discussing and sharing alternative futures and building consensus on preferred futures. Putting future scenarios out to the public in the form of public opinion surveys (Costanza et al., 2015), dialogs, media events, and other approaches can do this, but this is a largely unexplored area. There is ample room for creative design and testing of a range of societal therapies. Scaling up what works at the individual level may be an important path to more effective societal therapies that will allow humans to build a sustainable and desirable future together.

Acknowledgements

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