

Chapter 1

Theories of Motivation and Addictive Behavior

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A word after a word after a word is power.
—MARGARET ATWOOD, “Spelling”

For a detective, the easiest crimes to solve are those with an apparent motive: *He wanted her money, and so he killed her for it.* The crime makes sense. Crimes with no apparent motive are more difficult, such as when a person is attacked by someone unknown to him or her. But perhaps there are clues—a hair follicle, a scrap of clothing, or an eyewitness. The most difficult crimes of all are those that occur despite apparent countermotives: *He had spent his life savings to protect her, so why would he have killed her?* In this case, even the best detective is at a loss to explain why it happened.

Treatment providers can encounter similar puzzles when trying to explain the motivation behind substance abuse. Some people, particularly those in the early stages of addiction, seem to have clear motives for use. Perhaps they enjoy the pleasurable effects or use to minimize negative effects. However, people in later stages of addiction are more puzzling since they seem to use despite the effects. In fact, it's not uncommon for persons in later-stage addiction to say that they use drugs *despite* the effects rather than *because* of them. At the same time, people may feel that they *like* the drug less but *need* it more.

This chapter discusses motivational theories of addiction. Our goal is to explain why people use substances (sometimes despite their best interests) and the conditions under which people are more likely to make changes. The chapter begins with a review of motivational theories of addiction, in particular those that help explain the paradox of drug use despite an array of problems. We then discuss theories of motivational change, in particular focusing on factors that may make change more likely to “stick.” Finally, we discuss the way that motivation connects to language, and how counselor and client words can shift the balance toward change.

Motivation and Addiction

There are many different ways to explain the acquisition and maintenance of addictive disorders. Berridge, Robinson, and colleagues (Berridge, 2009; Berridge, Robinson, & Aldridge, 2009; Robinson & Berridge, 2001, 2008) draw a distinction between two motivational factors: “liking” and “wanting.” “Liking” refers to the immediate pleasure one gets from contact with a stimuli, such as with a pleasant taste or smell. “Wanting” refers to the “magnet quality” of something that makes it desirable. Wanting goes beyond our mere sensory experience and causes us to pay attention to something and seek it out. Furthermore, Robinson and Berridge (2001) argue that there are explicit and implicit factors that influence both liking and wanting. For instance, when people learn to expect a certain effect from a drug, this results in explicit learning about the effect one might reliably expect from use. However, there may also be implicit factors that are outside a person’s immediate awareness, such as habit strength or environmental cues. Once started, drug use may play out automatically in much the same way as driving a car or tying a shoe. The distinction between liking and wanting, and explicit and implicit factors, can help us see why people might feel compelled to engage in behavior despite their best interests, or even outside their awareness.

Theories of liking are more straightforward, in part because they seem more rational. “Explicit liking” refers to the affective valence of an activity. Our bodies come programmed to seek reinforcement and avoid punishment. As such, theories of liking have focused both on the role that pleasure (positive reinforcement) and the avoidance of displeasure (negative reinforcement) play in acquiring and maintaining addictions.

Negative Reinforcement

People make choices, in part, to minimize undesirable effects. “Negative reinforcement” refers to the removal of an unpleasant state. For instance, aspirin is negatively reinforcing because it removes headache pain. The

opponent process model, which combines Berridge's (2009) explicit affect dimension with classical conditioning, provides one explanation for opiate and alcohol dependence. In short, the model suggests that emotions are paired. When one emotion is experienced, another is suppressed. For instance, in a study of skydivers, Solomon and Corbit (1974) found that early skydivers had greater levels of fear upon jumping and less pleasure upon landing when compared to more experienced skydivers. In this instance, the opponent process was a shift from fear to pleasure after repeated jumps. Alcohol and opiates seem to function similarly. After a period of use, most individuals develop pharmacodynamic tolerance to the positive effects of the drug; their bodies adjust to the presence of the drug in order to maintain a homeostatic state. When the drug blood level drops, the person experiences unpleasant withdrawal symptoms, making him or her want to use again. The opponent process model of motivation suggests that drug use is rewarding because it decreases these noxious withdrawal symptoms. In other words, it is negatively reinforcing. This is the classic explanation for why people continue to use opiates. Although this commonsense explanation fits with the folklore that experienced drug users continue to use to feel "normal," observations of actual drug use patterns do not support the tenets of this model (Lyvers, 1998, 2000). Barring the existence of other medical disorders, opiate withdrawal is neither life-threatening nor markedly discomforting for most people. Moreover, many relapses seem to occur "out of the blue" long after any withdrawal symptoms have ceased. Because of this, there are likely to be other factors that motivate addictive behavior in addition to withdrawal relief (Lyvers, 1998).

Another negative reinforcement model suggests that people are motivated to use alcohol and other drugs to reduce stress. With particular application to alcohol abuse, the theory proposes that alcohol is negatively reinforcing because of the stress reduction that accompanies intoxication. Indeed, reduction in physiological stress is one clear effect of alcohol's action on the GABA neurotransmitter. Furthermore, this stress reduction response is one of a small number of genetically linked predictors of vulnerability to alcohol dependence (Schuckit, 1988, 1994). However, the stress reduction hypothesis does not adequately explain the intense craving of those with severe alcohol dependence, nor does it provide us with a cogent explanation of drug-seeking behavior in other varieties of drug abuse.

Positive Reinforcement

People also use substances for their rewarding effects. In his operant model of learning, Skinner (2002) observed that positive reinforcement increased the probability that people would engage in similar behavior. Cognitive behavioral and social learning models later emphasized the importance of beliefs and expectations (in addition to actual consequences) in the operant

response–reinforcement paradigm. Such real and perceived positive consequences do explain the initiation of drinking and may be a principal motivator for nondependent “problem” drinkers. For instance, positive expectancies of alcohol, tobacco, and other drugs serve as powerful moderators of initiation of substance abuse, especially during adolescence and young adulthood (Miller, Smith, & Goldman, 1990). Most children have developed firm positive expectancies about alcohol by age 6 and the intensity of these beliefs predicts age of onset of alcohol use. In addition, people who present with mild-to-moderate levels of substance abuse often report that they continue to use for the sake of the consequent positive physiological and mental states. Interestingly, in the case of alcohol and some drug use, many of these reported positive consequences may be a function of positive expectancies rather than the actual pharmacological effects of the drug (Marlatt & Rohsenow, 1980). In studies where drinkers were given placebo beverages, but told that they contained alcohol, they experienced many of the same rewarding effects.

“Wanting” and “Liking”

The limitation of the positive and negative reinforcement models lies in the assumed connection between liking and wanting. But it is more complicated to explain the behavior of people with advanced alcoholism and drug addiction, where intense cravings are sometimes experienced in the absence of any positive appraisals. That is, more experienced users may use *despite* the consequences rather than *because* of them.

Berridge et al. (2009) suggest that affective response (“liking”) and motivational salience (“wanting”) are mediated by different brain systems. During the early stages of addiction, there is a clear connection between affect (pleasure experienced and pain relieved) and urges to use. Much of this evaluative and motivational process is clearly understood by the individual (i.e., is explicit). As the addiction progresses, something interesting happens: First, the pleasure component of the drug experience tends to become less important, even as the emotional valence increases; users may *like* the drug less but feel that they *need* it more. Second, the motivational component changes from explicit to implicit; the cognitive representation of the drug effect decreases at the same time that users experience increased urges to use. People with advanced addiction may feel like their actions are simply beyond their control. These changes begin in the midstages of the addiction process, when alcohol and drug use is only loosely associated with the anticipation of pleasure, and are most salient during the advanced stages of addiction, when urges to use are experienced apart from any clear cognitive attributions of desire or pleasure. Advanced-stage addicts frequently report simply being overwhelmed by an “irresistible urge” to use without any strong positive or negative outcome expectancies. In the

language of Berridge and colleagues (2009), their motivation is determined by implicit motivational processes closely tied to the neurophysiology of drug abuse, a process they call “incentive sensitization.”

Incentive Sensitization

One of the major drawbacks of the opponent process model was its failure to explain addiction to stimulants such as cocaine. Whereas users of opiates, alcohol, or barbiturates might indeed continue to abuse these substances to avoid withdrawal symptoms, this is less true with stimulant abuse because users of these drugs rarely develop the classic symptoms of pharmacodynamic tolerance and withdrawal. Rather, the symptoms of tolerance to cocaine are more related to changes in metabolism and the symptoms of withdrawal are more likely to be a consequence of changes in levels of neurotransmitters rather than a physiological accommodative process. This inadequacy of the opponent process model, in the face of rampant cocaine addiction, led to the development of the incentive sensitization model of addiction, a theory broad enough to explain the motivational processes of all major classes of addictive drugs.

The incentive sensitization model asserts that although drugs of abuse vary considerably with regard to their impact on the neurobiological system, they all elevate levels of the neurotransmitter dopamine in the midbrain and prefrontal cortex. Dopamine functions as a neurochemical marker of motivational salience; it tells the brain that something is important. Dopamine is elevated by natural processes essential to survival, including satiation of hunger and thirst, procreation, and other survival activities. Many drugs of abuse, including cocaine, alcohol, opiates, and amphetamines, have a neurochemical footprint that is similar to these survival processes, and thus literally can fake the brain into thinking that it needs the drug to survive. Importantly, substances that elevate dopamine trigger cravings that are independent of sensations of pleasure. These urges to use often lack any cognitive labeling, that is, they are “implicit.” This cognitive “invisibility” is a function of the site of dopamine neurotransmission in the brain, which is outside the cerebral cortex and therefore unaccompanied by higher order mental processes.

Drugs use dopamine to get the brain’s attention. The degree of sensitivity to this effect varies across individuals and likely has a genetic component, resulting in differing degrees of susceptibility to addiction that are only loosely related to quantity and frequency of use. However, once the process begins it tends to snowball because the brain becomes sensitized to the drug reward effect. Essentially the opposite of tolerance, this suggests that with continued use, the reward value of the substance increases; smaller doses yield higher reward value, with consequent increases in urges to use. This process of incentive sensitization often develops quickly and is slow to

extinguish after a person has stopped using. This is why many long-term abstinent cocaine-, amphetamine-, alcohol-, opiate-, or nicotine-dependent individuals experience “out of the blue” relapses. Cross-sensitization also occurs, such that individuals who have been addicted to one substance are at risk of rapid dependence upon another addictive substance or behavior. Thus, the connection between substances of abuse and behavioral addictions may be through this common pathway.

The incentive sensitization model helps to clarify the role of motivation in addiction. It provides a common neurobiological pathway for substances of abuse and addictive behaviors; explains the phenomenon of craving and relapse absent any cognitive or affective appraisals; provides a rationale for long-term treatment and support, particularly for those who have abused cocaine and amphetamines; and opens up new avenues for the investigation of psychopharmacological treatments for addictive disorders.

Motivation and Change

The first part of this chapter has covered theories of motivation related to the acquisition and maintenance of addictive behaviors. We now turn to motivational theories of behavior change. In examining motivation to change, it's fair to say that the “currency” of motivation is not fixed. Although it may seem to people that they make choices as a result of a rational decision-making process, social psychologists find that choice can be readily affected by changing characteristics of the message or messenger. Thus, the currency of motivation depends not only on the product, but also on what other things are for sale, how one perceives the marketplace, and what one thinks of the seller.

Decision Making

There is a long history of explaining motivation in terms of decision-making strategies. Benjamin Franklin made difficult decisions by listing his competing motivations in a sort of algebraic equation. After listing the likely pros and cons of an outcome and giving weights to the importance of each item, he added up the two lists and acted accordingly. Thus, Franklin had developed a comparative model of decision making in which it was not the total number of gains or losses but the value of gains and losses *in relation to each other* that influenced his decisions.

During the early stages of addiction, decisions to use a substance are often associated with a weighing of the pros and cons of use, relative to other available options (Herrnstein & Prelec, 1992). As addiction develops, rational decision making seems to take a back seat to neurobiological processes. However, there is still a clear role for decision making with regard

to the pros and cons of committing to treatment. Janis and Mann (1968, 1977) introduced the use of the decisional balance in modern psychology as a means of structuring the decision maker's "vigilant" consideration of the pros and cons of each available alternative. Asserting that attention needed to be given to both the utilitarian and the core value-based gains and losses to the self and to others, Janis and Mann designed an eight-cell table to be used in the examination of each possible decisional choice. If one considers two alternatives, such as continuing to use a drug versus quitting, then the table expands to 16 cells, quite an eyeeful of information.

Velicer, DiClemente, Prochaska, and Brandenburg (1985) presented a simplified four-cell decisional balance that queried the pros and cons of the status quo versus the pros and cons of change. This four-cell matrix has become the conventional means of graphically representing the decisional balance sheet in addictions treatment protocols such as motivational interviewing (MI; Miller & Rollnick, 1991) and guided self-change (Sobell & Sobell, 1993).

Miller and Rollnick (2002) use the decisional balance to both clarify the issues at stake and to help the person resolve ambivalence toward change. By carefully querying the client about the "good and not so good" aspects of both options, they are able to use decisional conflict to "tip" the balance towards change. For a drinker considering abstinence, the conflict might be thus: "If I continue to drink, I will continue to enjoy the benefits of being with friends [benefit of staying the same]. However, my family relationships and health will continue to deteriorate [costs of staying the same]. On the other hand, if I quit drinking, I will feel better physically [benefit of change], but I won't be able to spend the evenings with my friends and will probably feel more stressed [costs of change]."

The decisional balance points to the complex nature of decision-making processes and the intricate interplay of forces for and against change. However, decision making rarely occurs in a vacuum; it is most often part of an interpersonal process and, as such, requires a thorough understanding of the social factors that impede or facilitate motivation.

Self-Determination Theory

We have all experienced teachers and coaches whose students give them every inch of performance and mentors of all type who inspire confidence and creativity in their protégés. What do these individuals have in common? What is the secret to their success as motivators of others?

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000; Ryan, Sheldon, Kasser, & Deci, 1996) is a broad-based theory of motivation that specifies the causes, processes, and outcomes of "optimal" thriving. SDT grew out of work examining the relative contributions of intrinsic and extrinsic motivation to human performance. Research

using the SDT framework has found that two factors—the degree of self-determined motivation and the perceived locus of causality (the extent to which an individual believes that he or she is the active agent in the change process)—determine the extent to which an individual will persist in a target behavior. Comparisons between people whose motivation is self-determined and those who have been externally coerced generally show that those in the former group are more excited and confident about their behavior, which translates into enhanced performance, more creativity, and better overall well-being. Because of the large functional differences between internal and external motivators on behavioral outcome, SDT first asks *what kind* of motivation is operating at any particular time.

Organismic integration theory (Ryan et al., 1996) identifies four modes of self-regulation, varying in the degree to which behavior is regulated from the outside versus the inside. At the extreme end of the continuum, the *externally regulated* individual behaves only to gain reward or avoid penalty. There is very little generalization of effort when these contingencies are delayed or removed. For example, people may avoid alcohol or drug use while being monitored by breathalyzer or urine test; however, the old behavior usually returns in full force once the external monitoring ceases. *Introjected regulation*, the next point on the continuum, refers to motivation that is based on the affective or evaluative responses of others and, as such, is still an example of externally derived regulation. Behavior that is motivated to please a spouse, parent, or employer tends to be fraught with anxiety, and is quite unstable over time.

Identified regulation describes people who execute the desirable behavior or curtail the undesirable behavior because they appreciate the rationale for the behavior change and sincerely want the outcome. A smoker who ceases smoking following a heart attack because of the connection between tobacco and heart disease is displaying the identified level of regulation. This type of internal motivation is generally sufficient to explain most health behavior changes that are easy to implement, do not entail the giving up of pleasurable activities, and where persistence over time is not a big challenge. Unfortunately, when it comes to addictive behaviors, the initiation of change is often difficult, the addictive substance is still reinforcing, and the maintenance of change may be quite challenging. For most people, this requires *integrated regulation*, the highest level of internal motivation. At this level of regulation, the reasons for change are not only clearly understood and embraced by the individual, but, in addition, they reflect an instantiation of the person's core values and sense of personal identity. The individual who abstains from alcohol because it helps him or her move closer to strongly held personal values is embracing change at this deep level. Approaches to addictions treatment as disparate as Alcoholics Anonymous (AA), motivational interviewing, and humanistic psychotherapies all promote the integrated level of regulation.

Although the four modes of self-regulation are in part determined by the nature of the behavior change at hand, they are also influenced by the individual's ability to satisfy basic psychological needs. When making choices, people attempt to satisfy three basic psychological needs: *autonomy*, *competence*, and *relatedness*. These three factors are the nutrients that predict what things people will choose and which changes will flourish. The first basic need, *autonomy*, involves the perception that what one does is by one's own choice. Autonomy is closely related to self-efficacy (Bandura, 1994). However, "self-efficacy" refers to outcome expectations, whereas "autonomy" is more connected to an individual's perception of him- or herself as the determining agent of an action (Ryan & Connell, 1989). In this theory, threats, deadlines, punitive evaluations, and imposed goals all undermine self-determination because they communicate that the change is out of the person's hands. An individual's perception of his or her behavior as freely chosen also affects the way he or she perceives external contingencies. For instance, an individual who perceives his or her recovery behaviors (e.g., attending support meetings, avoiding alcohol, reducing stress) as freely chosen is more likely to report that he or she engages in those behaviors because they "feel right" rather than for the external rewards they provide (e.g., family support, continued employment, avoiding legal difficulties).

The second basic need is for *competence*, the perception that one is a capable, effective person. Like self-efficacy, competence is enhanced by positive feedback and "optimal" challenges. Individuals who receive positive feedback enjoy the behavior and try harder because they believe that they are good at the behavior.

Finally, SDT postulates a need for *relatedness*, a feeling of belonging and participation in social groups. Because much behavior is not, strictly speaking, internally motivated, it is also important to understand how autonomy and competence are promoted within the context of *externally* motivated behavior. One reason people engage in externally motivated behavior is because the behaviors are modeled or prompted by others to whom they feel attached. Thus, a woman might work two jobs, save money, or give up drinking because it is meaningful to her sister or makes a better life for her children. Autonomy is supported in social contexts when people in the environment "take that person's perspective, provide choice, encourage self-initiation, and minimize controls" (Ryan et al., 1996, p. 14). People judge their attitudes, in part, through the social context, which may explain why people are more likely to respond favorably to difficult messages if delivered by a trusted partner or friend, and more likely to buy a product from a salesman they view as likeable (Dennis, 2006; Homans, 1958).

In sum, SDT proposes that individuals who are internally motivated, who feel that they have freely chosen their behaviors, and who are immersed

in contexts that support feelings of competence will demonstrate persistently healthy, self-determined behaviors. Conversely, for those individuals who are externally motivated, feel that they are not the determining agent in their behavior, and encounter an environment that is controlling, change will be brief, and relapse to old behaviors will occur rapidly once the external contingencies are removed.

SDT shows promise as a theoretical base for clinical techniques such as MI (Markland, Ryan, Tobin, & Rollnick, 2005; Vansteenkiste & Sheldon, 2006) (see Figure 1.1). From the SDT framework, MI is effective because it increases the client's perception of choice, enhances feelings of competence, and stresses a positive working relationship between the client and the counselor. In this way, MI is thought to enhance the quality, and not just the quantity, of client motivation. For example, Miller and Rollnick (2002) state that motivation is best when there is a high intrinsic value to the change (willingness), the individual feels capable of making the change (ability), and values the immediacy of change over other priorities (readiness). MI supports the need for competence by presenting clear information about outcomes contingencies, by helping clients to develop their own realistic goals, and by providing positive feedback. Autonomy support is

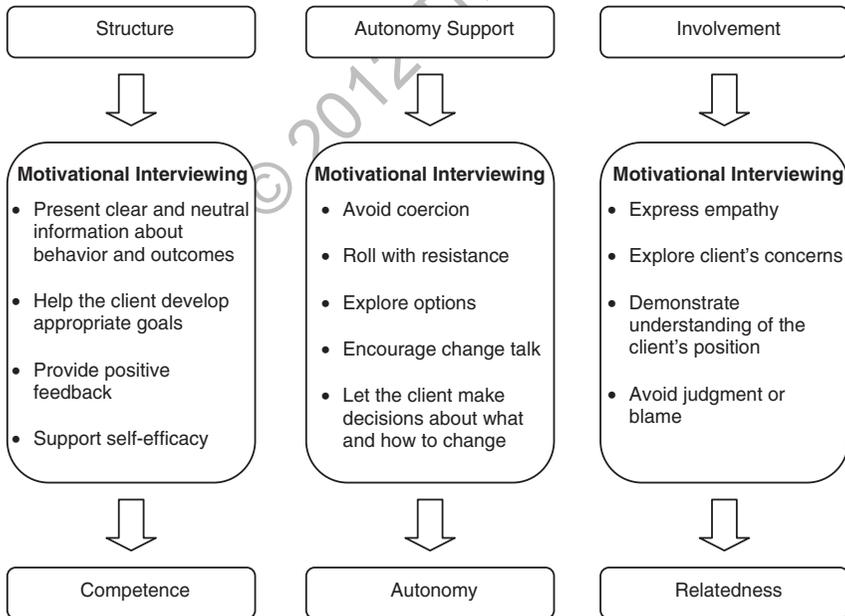


FIGURE 1.1. Self-determination theory and motivational interviewing. From Markland, Ryan, Tobin, and Rollnick (2005). Copyright 2005 by the Guilford Press. Reprinted by permission.

evident through MI techniques such as the avoidance of confrontation, encouraging change talk, and allowing clients to come to their own conclusions. Finally, relatedness is enhanced by a specific emphasis on rapport building and careful empathic listening.

Reactance

Self-determination can be undermined by interpersonal reactance, a troubling consequence of poorly executed attempts at persuasion. In his theory of psychological reactance, Brehm (1966, 1968) asserted that, at any point in time, people have an array of “free behaviors” that they take for granted; when loss of these freedoms is threatened, their value to the individual increases. For example, in a series of studies by Worchel, Lee, and Adewole (1975), people were asked to rate the taste and quality of cookies pulled from a jar. Cookies that were pulled from a jar that contained just a few were rated as significantly more tasty than cookies pulled from a full jar. The finding was even more pronounced when participants saw the experimenter pull out scarce cookies to give to other participants. Those cookies were rated the tastiest of all.

From cookies to cars, there is strong evidence that the desirability of a product can be influenced by perceptions of diminished personal choice. Retail stores commonly use message-framing strategies like this to increase the desirability of a product: “For a limited time only!” “Only three left at this price!” When considering political attitudes, Worchel and Brehm (1970) found that people reported a greater desire to hear a speech, and more attitude change after hearing it, when told that it had been previously censored. Studying consumer behavior, Bushman (1998) observed that warning labels regarding the fat content of cream cheese were associated with *increased* frequency of choosing high-fat products. This kind of reactance can be an unintended consequence of strongly worded messages that ask people to give up a high-risk behavior (e.g., “Just say no!” “Tobacco is killing you!”). If not carefully phrased, such messages can be understood as limiting personal choice. Such messages not only impinge on personal perceptions of autonomy, but also may inadvertently communicate that the behavior is more desirable because it is being prohibited. Indeed, many theorists suggest that self-destructive behaviors, such as severe eating disorders and self-mutilation, are maintained because they allow a person to assert autonomy and control. If you take away freedom of choice, those behaviors may become more important to the individual.

Recently, reactance considerations have been incorporated into the design and evaluation of health communications. Quick (2005) notes that public health messages can vary on three important dimensions: threat to choice (e.g., “Just say no!”), vividness (e.g., “Unprotected exposure to the sun results in severe skin blisters that ooze and become crusty”), and

explicitness (e.g., “No more than three drinks per day”). Although each of these three dimensions impacts reactance, the most important variable seems, once again, to be threat to choice (Quick & Stephenson, 2007, 2008). For instance, health care messages that include high threat-to-choice language tend to increase anger and other negative thoughts, and lead to lower rates of medication adherence (Levav & Zhu, 2009; Quick & Kim, 2009; Quick & Stephenson, 2007).

Reactance has clear implications for conversations about alcohol and drug abuse. Communications that have high threat value, are confrontational and controlling, or that limit client choices are likely to engender a motivational state that defends against change, regardless of whether the change might actually be beneficial. Conversely, approaches that support autonomy, offer a menu of choices, and acknowledge the short-term losses associated with change are likely to engender a motivational state conducive to behavior change.

The Language of Motivation

The use of reactance theory to guide message framing is an example of the importance of language in interpersonal relations. Philosophers, linguists, and social scientists have for many years studied the role that language plays in an individual’s understanding of him- or herself and his or her social world (Chomsky, 1979; Mead, 1934; Sullivan, 1953). The interplay between language, beliefs, intentions, and actions is particularly important when considering substance abuse counseling, which by in large uses a language-driven approach. Early on, psychology theory emphasized language as a way to gain insight, to discover something about oneself. However, more recent theory has focused on the way that language can change one’s internal state rather than simply describe it.

Heider (1958) spent the better part of 50 years studying the language of motivation. He began by categorizing language during ordinary interactions. In doing so, Heider observed that humans have an innate capacity to interpret social relations through the lens of linguistically based categories. That is, language not only communicates motivation and intent, but also helps people to understand and predict social interactions (Malle, 2004). Moreover, because people use similar rules for categorizing people as they do for categorizing objects, many of the rules-of-thumb and errors people make in object perception (e.g., optical illusions) also apply to social perception (e.g., making inappropriate attributions about the causes of behavior). According to Heider, *intentionality* is one of the most important attributions people make: Are an individual’s actions intentional or unintentional? If deemed intentional, then the perceiver searches for an internal explanation, such as the beliefs or values of the person (Malle, 2004). On

the other hand, if the behavior is deemed unintentional, then the perceiver looks to situational factors, such as external pressure, accidents, or random chance to explain the behavior. Malle and Knobe (1997) found that people judged that a behavior was intentional if the agent (1) desired the outcome, (2) believed that his or her action would lead to the outcome, (3) intended to perform the action, (4) had the skill to perform the action, and (5) was aware that he or she was performing it. The first two factors (belief and desire) reflect intention, while the factors that follow (skill and awareness) reflect intentionality. Thus, intentionality includes desire, awareness, and action.

Interestingly, the words we use to describe our own intent can also change behavior. The linguist J. L. Austin (1962) said that language is not just used to describe reality, but can also be used to *create* reality. In his aptly titled book, *How to Do Things with Words*, he refutes the view that the primary use of language is to describe reality in terms of being “true” or “false.” In fact, he argues that “truth value” utterances actually constitute a very small part of ordinary language. In his most striking example, he describes performative utterances that actually complete an action. For instance, if I say, “I promise to love you” or “I’ll bet you a dollar it rains tomorrow,” I am not describing something, but rather doing a kind of action with my words.

There is evidence that language can affect other behaviors as well. Self-perception theory (Bem, 1967, 1972) suggests that people form attitudes by carefully observing their own behavior, including the language they use to describe reality. Rather than attitude informing behavior, Bem holds that people use behavior to generate conclusions about their own attitudes. That is, people make guesses about their own internal states by watching their own behavior. Although the theory is counterintuitive, there is evidence to suggest that emotions and attitudes do in fact follow behavior, particularly when people are less certain about how they feel about something (Laird, 2007). In fact, self-perception theory is the basis for marketing techniques such as the “foot-in-the-door,” which suggests that a person is more likely to comply with a large request (e.g., to donate money) if he or she has first complied with a small request (e.g., fill out a short questionnaire). The idea is that the initial behavior changes the person’s perception of him- or herself (e.g., “I am altruistic. I care about this cause.”), which in turn increases the likelihood that he or she will act consistently with this perception in submitting to the second request. To a great extent, this process happens outside explicit awareness. People are more likely to attribute their decisions to their newfound altruism than to any characteristic of the salesman, which is why it is such an effective sales technique. Self-perception is also a key, if poorly understood, component of AA and the other 12-step programs. The many AA slogans are often chanted aloud, allowing the words that are uttered to sink into the speaker’s head. Furthermore, beliefs such

as “fake it ‘til you make it” suggest that behavior change often precedes attitude change.

As a logical extension of Heider’s theory of intentionality, self-perception theory suggests that not only must we carefully listen to words used by our clients, but we must also provide opportunities for them to utter words that are valenced toward change. If clients talk about problem recognition, confidence, or the benefits of change, they are more likely to commit to and adhere to a plan of action. Clients are describing themselves both to the therapist and to themselves. (The opposite also holds true. If clients hear themselves voice reasons against change or pessimism about change, they are more likely to commit to remaining in the status quo.) In either case, “change talk” and “sustain talk” are more likely to be followed by similar statements, in part because they change a person’s implicit perception of him- or herself.

Heider’s ideas have spawned programs of research on the nature of intentionality (Knobe, 2006; Malle, 2004) and behavioral commitment (Amrhein, 2004; Searle, 1989). Building upon Heider’s initial focus on the parsing of intentionality, psycholinguists have developed different lexicons of self-motivational utterances (Gale, 1991; Russell, 1987; Siegfried, 1995). However, most of these systems have been limited to describing the nature of language within the therapy session; most have failed to reliably predict client outcome.

One promising exception to this trend is the work of Amrhein and colleagues (Amrhein, 2004; Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Moyers et al., 2007). Amrhein (Amrhein et al., 2003) parsed self-motivational language into five categories: *Desire, Ability, Reasons, Need,* and *Commitment* (DARN-C). The first four categories (DARN) signify preparation, while the last category (C) indicates commitment to change. (More recent versions have added “Taking Steps” as a separate category; see Table 1.1). Within each of these categories, Amrhein proposed that

TABLE 1.1. Linguistic Categories from the Motivational Interviewing Skills Code 2.1

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- Desire: Affective valence in support of change. *Want, Desire, Like*
 - Ability: Efficacy related to change. *Can, Possible, Willpower*
 - Reasons: Benefits of, or rationale for, change. *If, Then*
 - Need: Strong desire in the absence of any particular reason. *Need, Must*
 - Taking Steps: Specific steps that the client has already taken toward change. *I did, I went, I worked*
 - Commitment: Agreement, intention, or obligation to change. *I will, I swear, I’m going to*
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Note. Data from Miller, Moyers, Ernst, and Amrhein (2008).

language varies by strength. Thus, “I’ll definitely stop using” expresses stronger commitment than “I’ll probably stop using.”

Statements of desire, ability, reasons, and need may reflect *intention* to change. They also may provide a way to try out motivational ideas, without having to commit to a course of action. Commitment statements indicate *intentionality*, the conjoining of intention and opportunity. Commitment statements *obligate* the speaker to take an action, such as when a person says something he or she has to “live up” to. Self-determination theory suggests that, once a person has made a verbal obligation, he or she is more likely to follow through with the action in order to assert his or her autonomy and competence. At the same time, self-perception theory suggests that commitment statements will become more likely as a person hears him- or herself voice the reasons, benefits, and optimism for change.

In their analysis of treatment sessions for drug-using clients, Amrhein and colleagues (2003) found support for this language chain. The strength of client commitment language (but not the other categories) directly predicted drug use at 12 months. The other categories predicted commitment language, and thus were *indirectly* related to change. Moreover, the strongest predictor of behavior change was client speech at the end of the counseling session, when clients were asked to discuss a change plan. Commitment language at the beginning of the session, when clients were discussing their reasons for presenting to treatment, did not predict behavior change. Some subsequent research (Moyers, Martin, Houck, Christopher, & Tonigan, 2009; Vader, Walters, Prabhu, Houck, & Field, 2010) has found that the overall strength of change language (rather than just commitment) predicts outcome, but this pattern from preparatory to commitment speech remains a guide for MI interactions. It may be that all kinds of “change talk” predict outcome, but DARN talk probably influences behavior directly, as well as indirectly through commitment talk.

Conclusion

Every crime has a motive if you know where to look. On the surface, addicted persons act despite countermotives. However, looking closely we see that substances of abuse are powerful short-term reinforcers that eventually “hijack” brain reward systems, often generating a seemingly blind compulsion that is matched only by survival drives such as fight-or-flight, hunger, and procreation. This is the paradoxical situation in which addicted persons find themselves: engaging in destructive behavior despite their best interests. This also explains why experienced users may *like* the drug less, but feel that they *need* it more.

But people with addictive disorders are people first and, as such, are privy to all the usual processes of influence that increase or decrease

motivation. As change agents, we can facilitate or hinder this process. If we undermine autonomy, relatedness, and competence, the consequent behavior change will be unstable and ungrounded in the individual's core sense of self. If we argue too passionately for change, offer few choices, and nag clients about the likely negative consequences, the individual is likely to dig in his or her heels, defending the "priceless" freedom of personal choice.

Furthermore, there are the complexities of the language of motivation. People use language to make sense of their own behavior and the behavior of others. Words give motivational significance to behavior: "He relapsed because his disease took over"; "She drinks to self-medicate"; "He's just an old stoner who lives and breathes for weed." These sentences not only describe behavior, but attribute causality and responsibility, which in turn changes our behavior.

How can clinicians become better wordsmiths for change? We must appreciate that verbal behavior not only predicts behavior change, but also is the in-session proxy for change. Words not only precurse change, they *are* change. They carry behavioral significance in and of themselves because they are the in-session component of the targeted change. Counseling that supports self-determination and invites clients to voice their reasons for and optimism about change creates a conversation that sequences from intention to planning to commitment. In-session commitment, when paired with postsession opportunity, yields change. Words lead to action, and action over time changes addictive behaviors.

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