Motivation and the Goal Theory of Current Concerns

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Synopsis.—Behavior and experience are organized around the pursuit and enjoyment of goals. Accordingly, this chapter first discusses basic motivational concepts that address the processes involved in choosing and pursuing goals, and places goal pursuit within the framework of the theory of current concerns. It examines how people choose goals and traces the effects of having a goal and of the way the goal pursuit ends, in goal attainment or relinquishment. It integrates applicable neuroscientific findings that shed light on these processes. Goal choice depends on the value and costs assigned by the chooser to each alternative (incentive) and its perceived attainability, subject to such complicating factors as forecasting biases and time frame. Commitment to a goal pursuit launches a latent, time-binding brain process (a current concern) that sensitizes the individual to respond emotionally and to notice, recall, think about, dream about, and act on cues associated with the goal pursuit. These processes affect one another and are subject to implicit (nonconscious) as well as explicit influences. Goal pursuits vary according to whether the goal is an approach or avoidance goal, the time frame for action, the anticipation of the details and difficulties of the goal pursuit, and the degree of conflict with other goals. Emotional responses determine incentive values, serve as evaluative feedback during goal pursuits, and accompany consummation of or disengagement from the goal. The process of disengagement normally entails a sequence of emotional changes: invigoration, anger, depression, and recovery. Each of these components of goal choice and pursuit can go awry, leading to a variety of difficulties that become reflected in anxiety, depression, alienation, interpersonal and occupational problems, substance abuse, suicide, and other forms of psychological disturbance. Motivational structure (an individual’s pattern of goal striving) is an important determinant of well-being, the sense that one’s life is meaningful, and self-regulation. The chapter briefly considers the implications of the findings for counseling interventions for motivational problems that deter clients from choosing and pursuing the goals that can potentially bring them happiness and fulfillment, considerations that are discussed at length in the book’s remaining chapters.

All living organisms must meet life’s challenges of obtaining nutrients, excreting toxic substances, locating hospitable places, and reproducing themselves. Plants and animals
evolved quite different strategies for addressing these challenges. Plants depend on their immediate environments to supply their needs. In contrast, animals evolved the capacity to move around and thus gained a degree of freedom from the not-too-tender mercies of their most immediate environments. However, this freedom from total dependency also carries a price: the imperative to find, pursue, and consummate the substances and conditions that satisfy their needs – to pursue and attain goals.

Human goals may be small or large, trivial or important – from a few moments of amusement or organizing a closet to finding a mate, having and successfully rearing children, succeeding in a vocation, or achieving spiritual fulfillment. They may be positive (appetitive), such as those just described, or negative (aversive), such as avoiding disease, a bully, or a bad reputation. Some more obviously bear on individual survival than others, and some may become perverted in ways that jeopardize survival.

In psychology, the processes that drive goal striving are collectively called motivation. This book and the approaches it contains are built around the notion that, to be effective, any psychological intervention must address the client’s set of personal goals, whether large or small, and the ways in which the client relates to those goals. Taken altogether, a client’s goals and ways of relating to them are what this book refers to as the client’s motivational structure. The approaches described in the chapters that follow focus on understanding, assessing, and intervening to modify clients’ motivational structure. First, however, this chapter introduces some motivational definitions and concepts and maps out some of what scientific research has established about motivational systems – their nature; their influences on what people notice, recall, think about, feel, and do; and their implications for well-being, psychopathology, and treatment.

MOTIVATION FORMALLY DEFINED

Different psychologists define what they mean by motivation somewhat differently. Ferguson (1994) reflected a long tradition when he defined motivation as “the internal states of the organism that lead to the instigation, persistence, energy, and direction of behavior” (p. 429). Thus, Ferguson’s definition includes the effects of drives such as hunger, emotional states such as anxiety and anger, and many other variations of inner states. Second, the definition lists the main qualities of behavior that motivation is defined to influence: its initiation, persistence, vigor, and direction.

Yet this definition leaves out mention of a crucial component, which Chaplin (1968) put in when he defined motivation as a concept “to account for factors within the organism which arouse, maintain, and channel behavior toward a goal” (p. 303). That is, motivated behavior is also goal-directed behavior. One could thus combine the two definitions of motivation: “the internal states of the organism that lead to the instigation, persistence, energy, and direction of behavior toward a goal.” It is this combined definition that informs this chapter and most of the book.

THE CENTRALITY OF MOTIVATION IN BRAIN AND MIND

If animals evolved with a motile strategy to go after the substances and conditions they need, the most basic requirement for their survival is successful goal striving. It follows that
all animal evolution, right up to humans, must have centered on natural selection of whatever facilitated attaining goals. Everything about humans must have evolved in the service of successful goal striving – including human anatomy, physiology, cognition, and emotion. These must therefore be understood in terms of their relationship to goal striving and the motivational systems that make it possible.

In recent decades, neuroscientists have turned up dramatic evidence of the close connections between virtually all psychological processes and those associated with emotion and goal striving. LeDoux (e.g., 1995) showed that in the brain sensory pathways bifurcate, some leading from sense organs to the cerebral cortex, and others from sense organs to the limbic system, which is heavily implicated in emotion. This suggests that sensory signals begin to trigger emotional reactions at least as quickly as they trigger cognitive processes that analyze the signals so as to make more detailed sense of them. There are also pathways from the limbic system to the cortex and from the cortex to the limbic system, which provides a system by which emotional and cognitive responses to the signal can alert, refine, and correct each other. Thus, brain anatomy indicates that emotional response and closely related motivational processes are a central part of responding to something.

The centrality of emotional and motivational processes is also apparent in the work of Antonio and Hanna Damasio and their colleagues. They have, for example, shown that destruction of specific brain areas, such as the medial prefrontal cortex, leaves people unable to stay on course toward their goals, substantially crippling their ability to lead normal, satisfying lives (Damasio, 1994). The ventromedial prefrontal cortex appears to integrate emotion-related signals from the limbic system with signals from various cortical areas, including some that are necessary for planning and volition. Without this integration, people become impulsive, make unrealistic plans, and are easily distracted from their goals. Along similar lines, a controlled experiment showed that, unlike intact individuals, patients with ventromedial prefrontal brain damage could not learn to avoid risky or nonoptimal strategies such as betting in laboratory games (e.g., Bechara, Damasio, Tranel, & Damasio, 1997; Clark et al., 2008). Thus, the particular brain damage of these patients interfered with input from their emotional responses and correspondingly compromised their ability to make appropriate, goal-related decisions.

Mounting evidence such as this confirms the centrality of motivational and emotional processes in the organization of the brain. Correspondingly, it supports the parallel, older evidence of their centrality to psychological organization, and it underlines the importance for counselors and psychotherapists of understanding the interconnections with motivational processes and integrating applicable methods into treatment procedures.

**IMPORTANT DISTINCTIONS REGARDING MOTIVATION**

**Motivational States versus Motivational Traits**

There are also other important distinctions regarding motivation to keep in mind. The definitions introduced earlier suggest that motivation refers to short-lived internal states such as hunger or anger, but there is also in psychology a long history of conceptualizing and measuring motivational factors as relatively enduring dispositions or traits (e.g., Allport, 1937; Heckhausen, 1967, 1991; Jackson, Ahmed, & Heapy, 1976; McClelland, Atkinson, Clark, & Lowell, 1953; Murray, 1938). For example, an individual
not only may be trying hard to build a strong business, which could reflect achievement motivation, but also may place high value on and invest much effort into doing many things better than others and into improving on his or her previous performance. Then this individual may be described as broadly achievement motivated, which constitutes the enduring trait of high achievement motivation.

There are purposes for which conceiving motivation in terms of enduring dispositions is very useful. For example, as many search committees and search firms know, when one is selecting college professors or corporate executives, it would be helpful to ascertain what kinds of goals typically interest them, because that knowledge may shed light on their likely performance and fitness for the position. However, characterizing someone in terms of motivational traits can also blind one to the facts that these traits are broad generalizations about an individual’s goal pursuits but that each goal pursuit represents a decision that is influenced by a given set of factors, and that these factors, and the decisions they produce, are subject to change. Especially for counselors and therapists, the possibility of changing motivation and the methods for producing change are central to their enterprise. Thus, although motivational dispositions can be useful ways to describe individuals, they are not fixed quantities, but changeable.

Accordingly, this book is focused more on motivational states and conditions, which cumulatively may lead to traits, than on the motivational traits themselves. When one can change people’s decisions about the kinds of goals to pursue, one has by that fact also changed motivational traits.

**Motivation and Volition**

Some writers on motivation, especially in the German psychological tradition (e.g., Heckhausen, 1991; Kuhl, 2001), restrict the term *motivation* to the processes and factors that determine which goals an individual will pursue; they then classify as *volition* (from the Latin root for the will) the factors that regulate how the individual carries out the pursuit – its persistence, vigor, and efficiency. Thus, in this usage, the term *motivation* includes only the initial factors that determine an individual’s choice of goals, leaving the rest to volition. In contrast, in the American tradition the term *motivation* includes volition; volitional processes are simply a subset of motivation. This chapter and most of the other chapters in this volume abide by the broader American definition of *motivation*.

What is important here is to keep in mind the importance of volitional processes. They are part of motivational structure, and they are part of what may need to change in counseling. For example, when an individual gives up too easily in the face of difficulty or uses self-defeating coping strategies such as procrastinating or ruminating, addressing these is part of effective intervention. Thus, a comprehensive approach to motivational counseling must include both a person’s choices of goals and the volitional means of pursuing them.

**Intrinsic versus Extrinsic Motivation**

The field of motivational research distinguishes between *intrinsic* and *extrinsic* motivation (e.g., Ferguson, Hassin, & Bargh, 2008). Motivation is said to be intrinsic when an
individual pursues a goal that is valued for its own sake. That is, reaching the goal is not just a step in attaining some further goal. For example, eating an ice cream cone for pleasure or marrying for love are intrinsically motivated acts. Motivation is said to be extrinsic when a goal is a stepping stone toward some further goal. For example, eating an ice cream cone solely to gain weight or marrying solely to improve one’s social position are extrinsically motivated acts. Acts that are purely extrinsically motivated yield only one kind of satisfaction: the satisfaction of moving closer to attaining some other source of satisfaction.

In this sense, extrinsically valued goals are really subgoals or means leading to an ultimate goal. Consistent with this formulation, the emotions that a person feels toward a goal are transferred to some extent to the activities and social relationships that lead to the goal, at least until it has been reached (Fishbach, Shah, & Kruglanski, 2004); and they are also transferred to other cues that are relevant to the goal (Ferguson & Bargh, 2004).

Although the objectively same kind of act may be motivated intrinsically, extrinsically, or in both ways, some kinds of goals are generally more likely to be motivated intrinsically (e.g., visiting a national park) and others more likely to be motivated extrinsically (e.g., becoming rich). The balance of an individual’s motivational structure in this regard – that is, the extent to which the individual’s goals are more often intrinsically versus extrinsically valued – is associated with overall feelings of well-being and satisfaction with life and work (Kasser & Ryan, 2001; Niemiec, Ryan, & Deci, 2009; Ryan, Sheldon, Kasser, & Deci, 1996; Schmuck, 2001).

Nevertheless, it is important to keep in mind that any extrinsically motivated act, which is a step toward some other goal, is part of a chain of acts and subgoals that ultimately lead to an intrinsically valued goal. What may very well be more important than whether particular goals are intrinsically or extrinsically motivated is whether the intrinsically motivated goal at the end of the chain is appetitive (e.g., having a happy home) or aversive (e.g., avoiding arguments). People with more aversive goals are generally less satisfied with life and work than those with fewer aversive goals (Elliot & Sheldon, 1998; Roberson, 1989; Roberson & Sluss, Chapter 15, this volume). Satisfaction presumably also depends on whether the ultimate intrinsically motivated goal is worth all the bother of the extrinsically motivated activity leading up to it.

It is also important not to confuse the intrinsic-versus-extrinsic distinction with whether a goal was self-chosen or assigned by someone else. Similarly, the distinction is not to be confused with whether another person plays a role in the rewards of attaining a goal. Goals imposed on one by others, or perhaps even just suggested by others, are likely to be extrinsically motivated, in that pursuing the goal is likely to have the further purpose of keeping the person who imposed it happy. Thus, the child carries out the trash when asked to do so because of a desire to keep the parent’s emotional support. Keeping that support, however, may be in part intrinsically motivated, in that the child enjoys for its own sake relating to a supportive parent. Conversely, self-chosen goals may be extrinsically motivated (e.g., taking a difficult college course so as to upgrade one’s credentials for future employment).

In summary, it is a mistake to equate – as some current writers appear to do – intrinsic motivation with desirable motivation and extrinsic with undesirable. Both are important and necessary. However, the balance between them in an individual’s life and the concrete forms they take can affect overall happiness.
Other Motivational Constructs

This chapter is unable to review all of the many other motivational constructs. However, readers may wonder what happened to the traditional concepts that make up the main focus of conventional introductory textbooks, constructs such as drive (e.g., hunger, thirst, and sexual arousal), need or motive (e.g., for achievement or intimacy), and arousal.

**Drive**

The venerable concept of drive (e.g., Hull, 1953) remains an important source of motivation as an aroused internal state that both invigorates mental and motor activity and modulates the value of drive-related incentives. However, even Hull’s (1953) theory supplemented it with incentive as a determinant of motivation, and subsequent evidence (e.g., Black, 1965; Black & Cox, 1973; Klinger, 1971; Tomkins, 1962) has supported the need for factors in addition to drive for predicting everyday human behavior. Drive may be considered to perform two functions: to activate an organism and to modify the values of various incentives, even if only temporarily. Thus, both rats and people, when newly hungry, become more restless and give heightened priority to getting something to eat.

**Needs and Motives**

The concept of need (e.g., Heckhausen, 1991; McClelland et al., 1953; Murray, 1938) has evolved into a construct, which is today more commonly called motive rather than need, that summarizes the value that an individual typically places on a certain class of incentives (i.e., on potential goals). For example, an individual who generally places relatively high intrinsic value on achievement incentives, such as winning races or intellectual contests or doing well in one’s work, is said to have a high need or motive for achievement. Thus, like drive, motives predict the values of different incentives for an individual, which is a crucial component in the individual’s decision making regarding which goals to pursue (see below and also Alslselen & Kuhl, Chapter 5, this volume; Correia, Murphy, & Butler, Chapter 2, this volume).

**Explicit and Implicit Motives**

The two most common ways to assess people’s motives are to ask people about their motives through questionnaires or to infer the motive strengths from imaginative creations, such as stories that people make up about pictures. The first, direct method produces scores that represent explicit (i.e., self-attributed) motives, whereas the inferential method produces scores that are thought to represent implicit motives – motives that are often described as operating below the surface of an individual’s consciousness. It is well established that measures of nominally the same explicit and implicit motives of the same individuals are very poorly correlated (e.g., King, 1995), a fact that has cast doubts on their validity. However, research (beginning with McClelland, Koestner, &
Weinberger, 1989) has shown that both are valid measures of two legitimately different kinds of motives: those that an individual can articulate and that are responsive to social and situational demands, and those that are ingrained in an individual’s intuitive valuations of incentive outcomes.

These two motive types have rather different behavioral implications. People’s explicit, self-attributed motives are related to the strength of their self-attributed commitments to their goals, but emotional satisfaction is more likely to arise from attaining goals that are consistent with implicit motives (i.e., implicit values). Thus, people whose explicit goals are congruent with their implicit values experience a higher sense of well-being than individuals with little such congruence (Baumann, Kaschel, & Kuhl, 2005; Brunstein, Lautenschlager, Nawroth, Pöhlmann, & Schultheiss, 1995; Brunstein, Schultheiss, & Grässman, 1998). Progress toward goals is associated with positive feelings much more closely if the underlying implicit motives toward those goals are strong than if they are weak, even when accompanied by strong explicit commitment to these goals (Schultheiss, Jones, Davis, & Kley, 2008).

Although measures of nominally the same explicit and implicit motives are overall largely uncorrelated, they are actually well correlated in people who are perceptive of what is going on inside their bodies and who prefer to be consistent with themselves; they are uncorrelated for people who lack this perceptiveness or tailor their self-presentation to suit others (Thrash, Elliot, & Schultheiss, 2007). Interestingly, explicit achievement motivation is correlated with measures of positive affect and well-being, but only for people who express strong explicit commitment to their achievement goals (Job, Langens, & Brandstätter, 2009). Similarly, unpublished data indicate that positive affect is weakly (about .20) but statistically significantly correlated with the proportion of a person’s goals that are self-described as achievement or power goals (Stuchlíková & Klinger, 2010).

These findings suggest a further explanation for the varied correspondence between explicit and implicit measures of motives. It may be that when questionnaires focus on concrete particulars, such as goals and emotions, people are better able to reveal personal attributes that remain poorly expressed in the broad self-generalizations requested by most explicit trait measures of motives. This possibility has important implications for motivational assessment and provides support for the kinds of measures, such as the Motivational Structure Questionnaire and Personal Concerns Inventory, discussed in Chapters 7, 8, and 9 of this volume.

Of course, a person’s valuations of incentives, whether explicitly or implicitly valued, are subject to change. Many incentives, such as a job promotion, a romantic relationship, or a new house, carry multiple kinds of potential satisfactions. Mentally exploring incentives that initially hold little implicit appeal for someone may reveal ways in which they may, after all, satisfy the individual’s implicit values and thereby induce the person to pursue them as explicit goals (Schultheiss & Brunstein, 1999).

There are clear implications for counseling in these findings. It is important to explore clients’ implicit values, not just their explicit ones. There are classical picture-story methods for assessing implicit motives (e.g., McClelland et al., 1953) and many later variants, such as the Operant Motive Test (Alsleben & Kuhl, Chapter 5, this volume), but more direct methods also exist. Assessment tools such as the Motivational Structure Questionnaire and Personal Concerns Inventory (Chapters 7, 8, and 9, this volume) or the Personal Projects Analysis (Little, Chapter 3, this volume) obtain ratings of individuals’ affective responses to their goals, which are likely to reveal aspects of implicit values.
GOAL PURSUITs AND THE CONCEPT OF CURRENT CONCERN

Pursuing a goal imposes some complex requirements on an individual. The intent must be represented somehow in the brain from beginning to end – an example of prospective memory (Brandimonte, Einstein, & McDaniel, 1996). When the memory is explicit and conscious, Kuhl (2000, 2001) calls it intention memory. Moreover, goal pursuit requires more than a passive memory of the pursuit; it requires a continuing state of sensitization to stimuli relevant to the pursuit and a readiness to act – to seize opportunities for attaining the goal even while not consciously thinking about it. To pursue goals efficiently, this state of sensitization requires an implicit, latent process that we have dubbed a current concern – the state of an individual between two time points, the one of becoming committed to pursuing a particular goal and the other of either attaining the goal or giving up the pursuit. As a later section of this chapter shows, there is now ample evidence confirming that goal pursuits are accompanied by a pervasive biasing of cognitive processing – attention, recall, and thought content – toward information associated with an individual’s goal pursuits.

It is worth reiterating two other properties of current concerns. First, there is a separate such process – a separate concern – corresponding to each goal. Second, it is a latent process, meaning that in and of itself it is not conscious. It certainly affects consciousness, and individuals are probably conscious of most, if not all, of the goals undergirded by their current concerns, but the concern construct refers to the underlying process, not just its conscious representation. It labels the process of having a goal.

The construct of current concern as a latent brain process was first proposed as a scaffold for further development of the theory (Klinger, 1971, 1975, 1977). That it was labeled a latent brain process seemed a necessary assumption. Since then, brain-imaging studies of goal-related phenomena have begun to identify brain regions related to its functions (e.g., Berkman & Lieberman, 2009; Kouneiher, Charron, & Koechlin, 2009). Thus, goals assigned to one by others are probably represented by activity in lateral prefrontal and lateral parietal cortex, whereas self-chosen goals are probably represented by activity in medial prefrontal and medial parietal cortex. Short-term intentions, as represented by preparatory sets for taking action, appear to entail activity in dorsolateral prefrontal cortex and superior frontal gyrus. Monitoring progress and responding to conflicts and discrepancies appear to activate the anterior cingulate cortex (Berkman & Lieberman, 2009). Little is known about the loci for longer-term intentions or current concerns, but showing people pictures related to their probable current concerns (in contrast to showing neutral pictures) activates inferior frontal gyrus and precentral gyrus (Ihssen, Cox, Wiggett, Fadardi, & Linden, in press).

Before and since the coining of the concept of current concern, other theorists have offered other, somewhat similar time-binding concepts. The concepts of Einstellung, Ustanovka, or set (Ach, 1910; Uznadze, 1966); intention (e.g., Alsleben & Kuhl, Chapter 5, this volume; Gollwitzer, 1990; Heckhausen & Kuhl, 1985; Irwin, 1971; Kuhl, 2001); quasi-need (Lewin, 1928); force (Lewin, 1938); and personal project (Little, 1983, Chapter 3, this volume) are all constructs with time-binding properties and have more or less overlap with the construct of current concern, but with variations in their theoretical properties. This is not the place for a detailed comparison of these constructs. The important point is that initiating a goal pursuit instates a persistent psychological process that influences cognition, action, and emotional response in ways that give it special priority.

The concept of current concern provides a unifying framework for motivational processes in animal and human behavior and suggests important aspects of animal and
human behavioral evolution. It has generated empirically verified predictions regarding the contents of people’s attention, recall, thoughts, dreams, moods, sense of one’s life being meaningful, and substance use (see subsequent sections of this chapter and Chapter 6, this volume). It has also stimulated the development of new approaches to motivational assessment (Chapters 7, 8, and 9, this volume) and psychological intervention (Chapters 11 through 16, this volume).

GOALS AND EMOTIONS

Goal pursuits are pervasively intertwined with emotions. Emotions play crucial roles in choosing goals, monitoring their pursuit, steering cognitive processes within them, and reacting to their outcomes. Subsequent sections of this chapter explore these propositions. The purpose of this section is to lay out the terrain and to examine some emotion-related concepts. (In this chapter, the term emotion includes conscious affect and all of the many other implicit and physiological processes that are components of emotion.)

Emotions constitute states of organisms that directly or indirectly affect virtually every process, psychological or biological. Emotional responses constitute changes in organismic states. They have long been recognized as components of instinctive behavior (e.g., Darwin, 1872/1985; McDougall, 1921) and as preparing an individual to act in particular ways. For example, participants were asked to look at strings of letters on a screen and as quickly as possible either press a key (an approach response) or take their finger off a key (a withdrawal response) if the string was a word (Wentura, Rothermund, & Bak, 2000). Participants who were asked to press keys did so faster if the word was positively toned than if it was negatively toned, and those who were asked to withdraw their fingers did so faster if the word was negatively toned than if it was positively toned. The valences of the words presumably evoked incipient emotional responses, and these were evidently linked to a motor disposition to move accordingly – to approach positive things and withdraw from negative ones – that facilitated or interfered with the corresponding acts of pressing or releasing a key on a keyboard. (See also Cacioppo, Priester, & Berntson, 1993; Neumann & Strack, 2000.) Such studies thus demonstrate the connections between emotional response and physical movement. Extensive evidence has also linked emotions to a wide range of neurohumoral states and immune function (e.g., Fredrickson, 2009; Lewis, Haviland-Jones, & Barrett, 2008). Emotions are thus much more than just the subjective feelings or the bodily sensations that people usually associate with them.

There is a growing consensus among emotion researchers (e.g., Cacioppo, Gardner, & Berntson, 1999; Kuhl, 2001; Watson, Wiese, Vaidya, & Tellegen, 1999) that the different emotions people feel can be organized within two dimensions or categories, that is, as either positive or negative affect. There is good reason to believe that these two dimensions correspond to separate reaction systems in the brain (Cacioppo et al., 1999) with somewhat different functions and consequences, such as for accuracy of recall (Kensinger, 2009) and, certainly, subjective experience. When people experience positive affect, they feel pleasurably engaged with their environment; when they experience negative affect, they feel distressed and dissatisfied (Watson & Kendall, 1989).

An affective change is a change in affect from its previous state. The change may be desirable (an increase in positive affect or a decrease in negative affect) or undesirable (a decrease in positive affect or an increase in negative affect). Affective change is a central motivational concept, because it is ultimately the essence of what people are motivated to
achieve. As noted by innumerable writers from (at latest) Aristotle onward (Stocker, 1996), people strive for things that will make them feel better by either giving them pleasure or relieving their discomfort.

Beyond this truism, important as it is, research has uncovered a remarkable range of other ways in which changing from a positive to a negative affective state or vice versa influences basic psychological functions. The changes involve peripheral physiology, neurophysiology, types of cognitive processing, and even the ability to consult one’s own values and to learn from experience (e.g., Alsleben & Kuhl, Chapter 5, this volume; Kuhl, 2000, 2001).

The relation between emotion and goal striving has become progressively better documented. Affect (the conscious experience of emotion) constitutes a person’s basic system for recognizing the value of something, both of potential goals (or, negatively, of impediments and threats) and of progress toward goals (Damasio, 1994; Klinger, 1977; Pervin, 1983; see also Baumeister, Vohs, DeWall, & Zhang, 2007). When people are asked to rate the intensity of the emotions that words arouse in them and how closely the words are associated with their goal pursuits, the correlations tend to be about .60 (e.g., Bock & Klinger, 1986). Of course, the affective and broader emotional responses that lead to evaluative judgments are generally embedded in a more complex process that includes other components. Some emotional responses are innately hard-wired to certain schematic features of stimuli (e.g., revulsion at a foul odor) and hence require a perceptual process; others are responses to conditioned stimuli, which require a learning history; and still others depend on even more complex inferences about the significance of a stimulus, such as emotional reactions to a government policy. Nevertheless, the weight of evidence strongly suggests that it is the emotional response or an anticipated emotional response that determines the value that a person places on something. The chapter discusses this point at greater length in a later section.

Not everything to which an individual responds emotionally becomes a goal, but it does constitute a potential goal. To provide a term for this larger class of potential goals, the term incentive refers to an object or event that a person expects will bring about an affective change. Corresponding to the two broad kinds of affect, incentives can be either positive or negative. People would like to acquire positive incentives that would enhance their positive affect. They would like to avoid, escape, or get rid of negative incentives that would increase their negative affect.

A goal, then, is a particular incentive that a person decides to attain because of the expectation that it will cause desirable changes in affect. However, for various reasons, people do not strive to attain all of the incentives that could potentially bring them the changes that they would like. For example, they might (a) feel that they do not know how to go about attaining the goal that they want, (b) imagine that doing so would also bring them unhappiness, (c) believe that they are unlikely to succeed, or (d) find that time constraints force a choice among alternatives. Goals, therefore, constitute a limited selection from among a person’s incentives.

**HOW GOAL PURSUITS BEGIN**

**Commitment**

Goal pursuits generally have an identifiable beginning when the individual selects an incentive and forms an inner commitment to pursuing it as a goal. This commitment instates
a current concern about the goal and constitutes an irreversible change, in the sense that the goal cannot be relinquished without a psychological cost, such as disappointment or depression.

That commitments are discrete events is evident not only in the costs of relinquishment but also in that commitment to a goal produces several changes. First, it changes the initial effects of sudden impediments; before commitment to a goal, impediments make pursuing the incentive as a goal less attractive, but after a commitment impediments initially lead to invigorated pursuit and deepened commitment (Klinger, 1975). When people are firmly committed to a goal that they have not attained yet and are then reminded of all that remains left to do to attain the goal, their motivation toward the goal rises; if their commitment is weak, this kind of reminder does little to increase motivation (Koo & Fishbach, 2008). Likewise, making concrete plans regarding when, where, and how to pursue a goal (implementation intentions) helps people attain their goals only if they also have a clear commitment to attaining those goals (goal intentions; Sheeran, Webb, & Gollwitzer, 2005).

Second, commitments also change mind-sets (e.g., Gollwitzer, Heckhausen, & Steller, 1990). Before commitment, while the individual is still weighing alternatives and reserving the decision as to which incentive to pursue, the individual is in an evaluative mind-set, characterized by relative objectivity about the alternatives and openness to a wide range of information. After commitment, the individual enters an implemental mind-set characterized by partiality toward the chosen goal and a mental focus on the steps necessary to reach it. Third, as indicated in subsequent sections of this chapter, the current concerns instated by commitments sensitize the individual to respond to cues associated with the goal pursuit.

Determinants of Commitment: Expectancy × Value Approaches

In any given circumstance, people are generally faced with choices of which incentives they will pursue. They face choices of playmates, careers or jobs, partners with whom to spend a coffee break or a lifetime, items on a restaurant menu, vacation destinations, whether to talk in class, and so on. Often one alternative is so much more attractive than the others, or so much less unattractive, that the individual may not feel as if there is a choice, but the choice is generally there.

If there is a choice, what determines which incentive the individual will choose as a goal? A long theoretical tradition in psychology and economics, which may loosely be termed Value × Expectancy formulations (e.g., Feather, 1982; Van Eerde & Thierry, 1996), holds that two important variables determine this choice: the value that the person attributes to each alternative incentive and the person’s expectancy (subjective probability) of being able to attain it. In the simplest form of Value × Expectancy theory (which economists generally term subjective expected utility theory), one multiplies the value assigned by an individual to each alternative by the individual’s expectancy (perceived likelihood) of being able to attain it, and predicts that the individual will choose as a goal the alternative yielding the highest product.

There are many elaborations, modifications, and qualifications of this approach, but its general outlines have survived. Although attempts to empirically test the nature of the relationship between value and expectancy remain inconclusive because of unresolved
methodological problems (see Kuhl, 1986, pp. 409–410; Rustichini, 2009; Van Eerde & Thierry, 1996), the approach has proven useful in making concrete predictions of goal choice.

This section dwells on expected value theory for two principal reasons. First, it forms a useful framework for thinking about how people choose their goals, and, second, it suggests important features of goal pursuits, which can be incorporated into tools for assessing goals and motivational structure (Cox & Klinger, Chapter 7, this volume).

Value and Emotion

The notion that things have a certain amount of value assumes that the desirability of everything can be compared to that of everything else. But how does one compare an apple with an orange, a yacht, and a symphony? Economists might answer that everything would have to be measurable by some common currency, such as dollars. However, money was not always the metric for value, and, anyway, before one can decide how much money something is worth to oneself, one has to have a subjective sense of its value.

There does, in fact, appear to be such a subjective common metric, or common currency, and research is beginning to identify it both in subjective experience and in the brain (e.g., Rustichini, 2009; Winkielman, Knutson, Paulus, & Trujillo, 2007). To begin with the common currency in subjective experience (see further below for the brain processes), humans and many other species appear to have evolved an intuitive representation of value, and the likely code resides in anticipated emotion. That is, the value of each incentive – of each potential goal object – is the degree of affective change that the person expects to derive from it (Klinger, 1977; see also Loewenstein, Weber, Hsee, & Welch, 2001; Mellers, 2000). Insofar as an incentive has positive value, people expect that attaining it will increase their happiness more than their unhappiness, and they expect to experience sorrow if they fail to achieve it. In other words, people attribute value to their goal objects on the basis of the potential emotional payoffs for them.

Putting Value and Expectancy Together in Predicting Choice of Goals

According to the Value × Expectancy view, both value and expectancy (likelihood of attaining the goal) must be substantial for people to pursue a goal. Even if a person greatly values a particular incentive, there will be no motivation to pursue it if it seems unattainable or attainable only at an unreasonable cost in time, effort, and resources. Likewise, even if the chances of reaching particular goals are judged to be high, individuals will be unmotivated to pursue them unless they expect a suitable benefit. In the multiplicative relationship of Value × Expectancy, if either variable is zero there will be zero motivation to attain the goal, regardless of how high the other might be.

The most important point here is that expected emotional return is probably the prime determinant of whether a person becomes committed to pursuing a particular goal. However, there are some important qualifications to this generalization, which are discussed in subsequent sections.
Neuroscientific Support for Value × Expectancy Theory

Amid the many criticisms and qualifications of this theory, it may have seemed to be simply a useful abstraction, but recent studies with both monkeys (single-cell recordings) and humans (brain imaging) have indicated its concrete biological reality. That is, they have found either single neurons or brain sites whose activity varies in accordance with the value or expectancy of a reward.

For example, Tobler, Fiorillo, and Schultz (2005) conditioned macaque monkeys to associate different stimuli (visual patterns) with differing food values (amounts of juice) and differing probabilities of obtaining the juice. After the conditioning, particular individual dopamine neurons (mostly part of the substantia nigra and ventral tegmental area) showed higher activity levels that accorded with the reward value associated with the stimuli and also with expectancies of reward.

These reward-sensitive pathways are also linked to positive affect. Furthermore, if the reward was exactly what the monkey had been led to expect, neural activity in these pathways remained flat, as if to reflect lack of excitement; if reward was greater than expected, neural activity rose accordingly; and if reward was below expectation, neural activity showed suppression, which one might interpret as disappointment. There are similar findings with regard to expectancy. Thus, the activity of single monkey neurons in the anterior cingulate corresponded to the probability of reward (Shidara & Richmond, 2002).

Something as complex as value, preference, or choice is not, of course, localized in one brain site. Their representations are carried forward in the brain and integrated with other relevant information so as to foster choice and decision, most likely in various parts of the prefrontal cortex such as particular neurons in the orbitofrontal area (Padoa-Schioppa & Assad, 2006, 2008).

Working with humans, Knutson, Taylor, Kaufman, Peterson, and Glover (2005) found parallel results using functional magnetic resonance imaging (fMRI) to assess brain processes, and money rather than juice as the rewards. A number of brain structures were active in relation to expectations of winning or losing different amounts of money. Most clearly, activity in nucleus accumbens reflected the anticipated amount of reward; activity in medial prefrontal cortex reflected the probability of reward and most likely also integrated the anticipated amount of the reward (i.e., value) with the probability of receiving it (i.e., expectancy).

Knutson et al.’s (2005) participants also rated the valence of their emotions (positive or negative) and levels of emotional arousal, as well as their estimated probability of receiving a reward. The emotional arousal ratings correlated significantly with activity in nucleus accumbens. Probability ratings were correlated with activity in medial prefrontal cortex but not with activity in nucleus accumbens. Presumably, these different strands of information become integrated in prefrontal cortex, perhaps especially in its medial and orbitofrontal regions (Clark et al., 2008; Winkielman et al., 2007).

The division of brain loci between initial response to the value of a reward in dopaminergic pathways, such as ventral striatum, including nucleus accumbens, versus expectancies (probability of success and calculation of risk) in prefrontal cortical areas has been found repeatedly in other investigations (e.g., McClure, Ericson, Laibson, Loewenstein, & Cohen, 2007; Xue et al., 2009). For example, choosing between a smaller...
reward now versus a larger reward in the future activated regions of the lateral prefrontal cortex (McClure, Laibson, Loewenstein, & Cohen, 2004). Furthermore, the lateral and medial prefrontal cortex regions are themselves differentiated according to the kind of processing required of them. More anterior areas may have evolved later in evolution to handle more complex tasks (Kouneiher et al., 2009), perhaps such as judgments about the likelihood of success in pursuing an incentive as a goal.

The point here is that neuroscience is establishing a division in the processing of incentives: evaluating them, on one hand, in dopaminergic areas (which are linked to positive affect) as if they were immediately available, and, on the other hand, in the lateral prefrontal cortex, calculating the odds of obtaining them. Of course, the activity in dopaminergic pathways that are associated with imminent reward also eventually reaches the prefrontal cortex. Areas of the medial prefrontal cortex recur as a likely site for integrating these different sources of information to arrive at an individual’s final choices. Thus, when Haynes et al. (2007) asked people to choose between two tasks and to hold that intention for a few seconds before acting on it, the investigators were able to “read” which task these participants were choosing from differential fMRI patterns in the medial prefrontal cortex. (See also Egner, 2009; Seitz, Franz, & Azari, 2009.) Furthermore, a person’s decisions about which movement to make can be detected in prefrontal and parietal regions before the decision becomes conscious, sometimes up to 10 seconds beforehand (Soon, Brass, Heinz, & Haynes, 2008).

To return to the issue of value as anticipated emotional payoff, these neuroscientific findings link incentive value with emotional processes, consistent with current-concerns theory (e.g., Klinger, 1977) and a number of earlier theories, such as those of O. H. Mowrer, S. S. Tomkins, and P. T. Young. The new findings also support expected value theory, both in supporting the partial dissociation of processing of expectancy from processing of value and in indicating the integration of expectancy with value at higher cortical levels. They are also consistent with Epstein’s (e.g., 2003) cognitive-experiential self-theory.

### Complications in Applying the Expectancy × Value Approach

There are a number of complications in applying the Expectancy × Value approach.

**Balancing Value Against Costs**

In predicting whether a person will choose a goal, one must balance value against costs. For example, the incentive may be something of relatively low absolute value (e.g., going to see a particular film), but if the cost of pursuing this incentive is also modest and attaining it is likely to bring positive emotion, there is a good chance that the individual will pursue it. On the other hand, a person may place great intrinsic value on an incentive, such as taking a cruise around the world, and yet not choose this as a goal because of its likely costs. These costs may include opportunity costs, which are the incentives one would have to forgo, as when the world cruise might require losing a highly attractive job opportunity.
Extrinsic Consequences

The value of an incentive may depend on a variety of extrinsic components – ways in which it affects one’s ability to reach other goals. For example, becoming a physician may be a positive incentive for someone because the individual expects it to lead to high social status, respect, financial returns, and becoming more competitive in the search for a desirable mate, which are its extrinsic consequences, in addition to the intrinsic pleasure of feeling needed and making an important contribution to society.

Erroneous Affective Forecasting

People often miscalculate their future emotional reactions to a particular event, which should theoretically distort their valuations. Thus, one’s present mood state colors estimates of future emotion – such as estimating greater future joy if currently feeling good – although often in complex ways (Buehler, McFarland, Spyropoulos, & Lam, 2007), especially when one is cognitively overloaded or if the timing of the future event is not specified (Gilbert, Gill, & Wilson, 2002).

Furthermore, people underestimate their future liking for things if they believe that once they receive them, they will no longer be able to change their choice (Gilbert & Ebert, 2002). They tend to overestimate the intensity (Wilson, Meyers, & Gilbert, 2001) and duration (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000) of future emotional reactions to both positive and negative events. These distortions are reduced by having people consider in greater detail the context of their activities and lives at and after the time of the future event whose impact they are forecasting (Gilbert et al., 2002; Wilson et al., 2000), as well as reflecting on their inner emotional coping skills for reducing negative affect (Gilbert et al., 1998).

Individual and Situational Differences in the Relative Weighting of Value and Expectancy

The extent to which people take probability of success and incentive value into account varies, both from person to person (e.g., Shah & Higgins, 1997) and from time to time. Some people are more attracted by the emotional payoff of the likely reward, and others by the likelihood of succeeding in obtaining it. Moreover, people in general are more likely to pay attention to the incentive value (i.e., emotional payoff) of incentives that are reachable only in the distant future than of those in which success or failure is near in time, but are more likely to pay attention to their chances of obtaining the incentive if it is near in time rather than far off (Liberman & Trope, 1998). Finally, there may be situations in which people dispense with probabilistic thinking, such as situations that are very familiar or that other people partially control (Rottenstreich & Kivetz, 2006).

Delay Discounting

Imagine having to decide between two business propositions. In both instances, you have to perform a certain service, whether it is shoveling snow off a driveway or providing...
statistical consultation. One proposition will pay you immediately after you perform the service, and the other will pay you in 30 days. If both offer the same amount of money for the same service, most people would choose the one offering immediate payment. If the delayed-payment proposition were to offer an extra 5%, how many people would prefer waiting for it rather than taking the other offer of immediate payment of slightly less? Probably not very many. How much more would the proposition for payment in 30 days have to offer to make it fully competitive with the proposition for immediate payment? How much more for payment in six months? A year?

Research has repeatedly found that in making such intertemporal choices, people and animals alike discount the effective value of delayed rewards (e.g., Ainslie, 1975; Berns, Laibson, & Loewenstein, 2007; Loewenstein, 1996). The longer the delay, the greater is the discount – hence the term delay discounting. The drop-off for humans is much less steep than it is for other species, for some of whom reward value may drop to zero in a matter of seconds. For humans, future rewards may retain at least some value for decades, but some discounting remains in force.

Effective value falls more steeply at first and then ever more gradually, yielding something like a concave hyperbolic function. Thus, seemingly equal rewards – and perhaps even equal Value × Expectancy products – exert different degrees of influence on choices, depending on the anticipated delay for receiving the rewards.

Why should people place greater weight on an imminent reward than on the same reward offered later? One possibility is the greater risk that something unforeseen could interfere with actually collecting a farther-off reward, thereby lowering expectancy, but Loewenstein (1996) has another explanation: that value is determined by “visceral” influences, such as hunger, joy, and fear, which are stronger when a reward is imminent than when it is far off in time. In fact, when one remains in the presence of a reward but has seemingly decided for good reasons to put off enjoying it, one may experience a preference reversal, in which one changes one’s mind and succumbs to the temptation to enjoy it now rather than wait for the greater benefit (Ainslie, 1975; Berns et al., 2007; Loewenstein, 1996).

This process presumably plays an important role in dieters eating their whole dessert now; recovering alcoholics, at a bar with their friends, succumbing to drinking alcohol; shoppers making an unplanned impulse purchase; and so on. This is probably a process of the dopamine systems, especially the ventral striatum, which are activated strongly by present and imminent incentives, overwhelming the inhibitory processes that emanate from the prefrontal cortex (as described above).

There are important individual differences in the relative strengths of these brain systems, which presumably account for some of what makes some people more resistant than others to temptation. For example, Hariri et al. (2006) found that the strength of an individual’s activity in the ventral striatum correlated significantly with the amount of that person’s delay discounting of monetary rewards. (See also Correia, Butler, & Murphy, Chapter 2, this volume, for further discussion of delay discounting, especially in regard to individual differences.)

There are also some nonobvious situational influences. For example, after rating the attractiveness of attractive women’s faces shown in photos, men had a steeper delay discount for monetary incentives than before the rating task (Wilson & Daly, 2004). That is, after the ratings, their preference for receiving immediate but smaller amounts of money instead of later larger amounts increased. This effect was absent if they had been rating
photos of cars. Most likely, rating the faces stimulated the dopamine system, which remained strengthened while these men chose their monetary rewards.

There are also some other factors that affect the operation of delay discounting. Berns et al. (2007) propose two more of these: anticipation and representation.

Anticipation of a reward or punishment constitutes a mental state that may itself have positive or negative value. For example, the tension of waiting for something may be experienced as uncomfortable and could lead people to choose to receive it immediately rather than later. On the other hand, there is the phenomenon of the birthday gift sequence, in which people often prefer to receive the less valuable gifts first and the most valuable gift last, presumably because the reverse order would lead to a succession of let-down feelings as gift values diminish.

Representation – that is, how the delays are framed – also seems to affect the delay discount rate. For example, drawing special attention to the passage of time in a delay appears to steepen the discount rate (Berns et al., 2007).

**Resource Depletion**

Making choices and exercising self-control appear to draw on a common pool of mental resources, a pool that can be depleted in a way analogous to physical fatigue from continuous exertion (e.g., Vohs et al., 2008). Thus, having to make many choices in a short period of time, or having to exercise self-control, weakens the ability to muster the resources for subsequent choices or self-control, which degrades the quality of decision making and leaves people vulnerable to succumbing to temptations that are contrary to their long-term interests.

**Satisficing**

People are often willing to settle for good enough rather than insisting on getting the very best alternative. This is called *satisficing* (Schwartz et al., 2002; Simon, 1956). Nevertheless, despite all of these qualifications, expected emotional gain remains the most reliable determinant of goal choice.

**Implications of the Value × Expectancy Framework for Motivational Counseling**

The Value × Expectancy framework has a number of implications for motivational counseling. For example, a depressed or substance-abusing client may be forgoing potentially satisfying nonsubstance incentives because of pessimism about being able to attain them. Depression lowers incentive values (see Klinger, 1993, for a review), which makes most incentives less attractive; and conflicts among goals (Michalak, Heidenreich, & Hoyer, Chapter 4, this volume) reduce their attractiveness, which further discourages people from pursuing them. Substance use competes with nonsubstance incentives and may be chosen if the nonsubstance incentives are sufficiently unattractive (Cox & Klinger, Chapter 7, this volume; Correia, Chapter 2, this volume; Glasner, Chapter 13, this volume). Sufficient lack of interest in earthly satisfactions may dispose people toward suicide (e.g., King
Here, motivational interventions to revalue incentives and instill reality-based optimism can change the balance of motivational structure and hence clients’ behavior (Cox & Klinger, Chapter 11, this volume; de Jong-Meyer, Chapter 14, this volume; Jones & Young, Chapter 20, this volume; McMurran, Sellen, & Campbell, Chapter 10, this volume; Roberson & Sluss, Chapter 15, this volume; Schroer, Fuhrmann, & de Jong-Meyer, Chapter 12, this volume; Snyder, 1994; Willutzki & Koban, Chapter 18, this volume). The various factors described above that distort choices and other decisions, such as erroneous affective forecasting, delay discounting, and resource depletion, provide important considerations for counselors’ analyses of clients’ decisions and self-ratings.

**Hereditary, Environmental, and Developmental Influences on Goal Choices**

There are, of course, many influences on the goals that people choose to pursue – influences on what people come to value and expect. Learning experiences through exposure to various incentives codetermine the emotional payoff expected of them. Self-perceptions of physical and mental abilities, social status, and social support, as well as perceptions of opportunities and social norms, codetermine expectancies. Some of these factors are influenced by genetic endowment, and many of them change in the course of individual life span development.

Systematic research on these questions is still relatively new. Working with a Finnish sample of older female pairs of twin who listed their goals with the Personal Projects Analysis (Little, 1983; see also Chapter 3 this volume), Salmela-Aro et al. (2009) reported significant and substantial hereditary (additive genetic) effects – 44% to 53% of the variance – on goals grouped as “health and functioning,” “independent living-related,” and “close relationships.” Environmental influences predominated for goals grouped as “physical activity-related,” “care of others,” and “cultural activities.”

There are also clear-cut developmental influences on choices of goals. For example, in a 10-year longitudinal study, during which people who were initially Finnish university students characterized their goals on five occasions using the Personal Projects Analysis, Salmela-Aro, Aunola, and Nurmi (2007) reported changes in patterns of goal striving as the sample moved from emerging adulthood to young and middle adulthood, from being students to employment, marriage, and parenthood. As one might expect, there were declines in goals related to education, friendship, and travel, and increases in goals related to work, family, and health.

**HOW GOAL PURSUITS UNFOLD**

The course of a goal pursuit can be thought of in control theory terms (Carver & Scheier, 1998, 2009). There is a feedforward component, in that the goal sets up criteria for the priority the individual will place on processing various future stimuli, as well as some specifications as to how the individual will respond. Having decided to pursue a particular goal, a person becomes sensitized to respond to stimuli associated with that goal pursuit (Klinger, 1971, 1975, 1977, 1996). The stimuli – cues – may be external (e.g., words or pictures related to the goal pursuit) or internal (e.g., thoughts or mental images related to
the goal pursuit). Sensitization means that encountering one of these cues increases the likelihood of responding to them – with goal-directed actions if that seems appropriate or, more often, with mental activity such as the thoughts and mental images of mindwandering. People are more likely to recall such cues and to think about them than they are to recall and think about other cues. Response is often extremely fast, making it clear that goal-related cues receive high priority in cognitive processing.

There is also a feedback component to goal pursuits (e.g., Carver & Scheier, 1998, 2009; Klinger, 1977). People continuously monitor the extent to which their thoughts and actions are advancing them toward their goals. If the feedback is favorable, they proceed according to plan; if the feedback is unfavorable, indicating that what they are doing is not helping as much as planned, they may adjust their actions to obtain better results. An important part of this feedback process – its evaluative component – is emotional. Positive emotions in reaction to events signal that the goal pursuit is on course; negative emotions – especially fear and depression – signal imminent or actual failures. This emotional component may occur before or without the person consciously recognizing it (e.g., Winkielman & Berridge, 2004; Winkielman, Berridge, & Wilbarger, 2005).

**Effects on Attention, Memory, Recall, Dreams, and Action**

The evidence for the effects of current concerns – of having a goal – on cognition is by now very strong. Initial investigations of this model asked participants to listen to series of two different but similar, simultaneous, 15-minute narratives on audiotape, one narrative to each ear. At particular time points, they heard passages in one ear that were associated with their own concerns and, simultaneously, passages going to the other ear that were related to another’s concerns. Participants spent significantly more time listening to passages associated with their own concerns than to passages associated with others’ concerns, recalled those passages related to their own concerns much more often, and had thought content that (by ratings of judges who were blind to anything else about these participants) was much more often related to the passages associated with their own concerns than to the other passages (Klinger, 1978). Hearing words associated with one’s current concerns evokes electrodermal orienting responses (skin conductance changes in the palm of the hand that indicate attentional shifts), and spontaneous electrodermal activity is disproportionately accompanied by current-concern-related thoughts (Nikula, Klinger, & Larson-Gutman, 1993). For example, visual stimuli (human faces) that experimenters paired with different sizes of monetary rewards led to greater attention to the heavily rewarded faces (Raymond & O’Brien, 2009). Recent research using fMRI has shown much greater activation of certain brain regions when people were exposed to pictures related to common current concerns than when exposed to neutral pictures (see Figure 1.1; Ihssen, Cox, Wiggett, Fadardi, & Linden, in press). Further evidence is described in subsequent sections. These findings support the inference that having a goal, with its underlying current concern, sensitizes people to respond with special attention to cues, whether to externally encountered faces or words spoken, or to internal thoughts and images.

A side effect of focusing attention on goal-related cues is to narrow it at the expense of missing other cues. For example, associating large monetary rewards with particular nonsense-shaped stimuli, which presumably associates them with a goal of earning money, bent subsequent attention toward them and away from poorly rewarded shapes for days
Being in a positive mood associated with a desire for something may also narrow attention in a more general way. For example, showing people pictures of attractive desserts led them to focus more on the details of subsequent stimuli (Navon letters) than showing them more neutral pictures (Harmon-Jones & Gable, 2009).

**Automaticity of the Effects**

Subsequent studies of both waking and sleeping participants has indicated that the effects of current concerns on cognitive processes are apparently nonconscious and automatic rather than attributable to a conscious process, such as deliberately focusing on goal-related stimuli. In fact, goal-related stimuli seem to impose an extra cognitive-processing load even when they are peripheral and participants are consciously ignoring them; when asked to judge as quickly as possible whether a string of letters on a screen constitutes a word, goal-related distractor stimuli, even though supposedly irrelevant and unattended, slow the lexical decisions about the target words (Young, 1987).

Similar effects have been shown in yet another cognitive process, Stroop and quasi-Stroop procedures. In these procedures, people are presented with words on a screen and instructed to name the font color of the words as quickly as possible. Participants in these experiments name font colors more slowly when the words are related to one of their own concerns than when they are not. This reaction time difference between own-concern-related stimuli and neutral stimuli in naming font color is a measure of attentional bias toward the concern-related stimuli.

The Stroop studies varied widely in cues and populations. Some presented cues for concerns tailored to individual participants versus neutral material (Riemann, Amir, & Louro, 1995; Riemann & McNally, 1995; Williams, Mathews, & McLeod, 1996). Others
presented alcohol or other substance cues (versus neutral or general concern cues) to participant groups that differed in their substance consumption patterns (Bauer & Cox, 1998; Cox, Blount, & Rozak, 2000; Cox, Brown, & Rowlands, 2003; Cox, Fadardi, & Pothis, 2006; Cox, Hogan, Kristian, & Race, 2002; Cox, Yeates, & Regan, 1999; Fadardi, Ziaee, & Shamloo, 2009; Johnsen, Laberg, Cox, Vaksdal, & Hugdahl, 1994; Sharma, Albery, & Cook, 2001; Stetter, Ackermann, Bizer, & Straube, 1995; Stormark, Laberg, Nordby, & Hugdahl, 2000). One (Moskowitz, 2002) experimentally activated common goals (and replicated the effect using a non-Stroop method), and at least one presented food-related and neutral stimuli to obese or dieting individuals versus normal-weight or underweight people (Fadardi, Moghadaszadeh, & Rezazadeh, 2009).

In the visual probe method, participants are shown successive, briefly presented pairs of pictures, such as a picture of an alcoholic beverage on the left and another picture unrelated to alcohol on the right. On each trial, after the pictures vanish, there is a screen with a dot (or other, similar probe) in place of one of the pictures. The participant’s task is as quickly as possible to press one of two response buttons to indicate whether the probe was on the right or the left. Heavy drinkers, unlike light drinkers, pressed more quickly when the probe replaced an alcohol-related picture than when it replaced an alternative picture (e.g., Schoenmakers et al., in press; Townshend & Duka, 2001), indicating perceptual preference for the alcohol-related location. Opiate addicts displayed a similar probe bias toward the drug location; in contrast, successfully treated addicts displayed a negative bias (Constantinou et al., 2010).

Thus, results have been consistent in finding attentional biases toward concern-related content (or substance-related content in the case of heavy users). The slower color naming for concern-related Stroop stimuli than for neutral stimuli suggests that the brain gives processing priority to the concern-related features of the stimuli and processes other features such as color later.

Even when people are asleep, concern-related stimuli influence dream content much more reliably than do other stimuli (Hoelscher, Klinger, & Barta, 1981; Nikles, Brecht, Klinger, & Bursell, 1998). Taken together, these results confirm that the effects of concern-related cues on cognitive processing are substantially automatic and probably inexorable.

**Automatic Linkages of Goals to Action**

When a goal-related cue activates the goal pursuit, it also activates the course of action habitually associated with it. For example, after a reminder for attending a lecture, students who used bicycles to travel to lectures responded faster to bicycling-related cues than when not reminded of this goal (Aarts & Dijksterhuis, 2000). Chapter 6 (this volume) discusses some of the implications of the link between goals and actions (or cognitions about actions) for alcohol consumption in habitual drinkers.

Furthermore, just encountering something that is at odds with a goal potentiates ideas of acts to rectify the discrepancy. For example, if a person has the goal of looking neat, reading “The shoes you put on look dirty” makes the concept of “polish” much likelier to come to mind than does reading a similar sentence (“The shoes you put on have laces”) that is consistent with the goal (Custers & Aarts, 2007, p. 626). Evidence adduced in the next paragraph suggests that potentiating the cognitive representation of action also makes the action itself more likely to occur.
Implicit Effects on Goal Striving

Goal-related cues, even implicit, nonconscious ones, also appear to exert automatic effects on goal-directed actions. A series of investigations (Bargh, Gollwitzer, Lee-Chai, Band- dollar, & Trötschel, 2001; Chartrand & Bargh, 1996, 2002; Pessiglione et al., 2007) has shown that exposing participants to priming cues related to a particular goal influences how they perform on subsequent laboratory tasks. For example, when participants performed a first task that exposed them to unobtrusively embedded words related to achievement (versus receiving achievement-unrelated words), they performed better on a different second task, persisted longer, and were more likely to resume it if interrupted (Bargh et al., 2001). This was true even though no participant knew the true connection between the first and second tasks, meaning that the effect was probably nonconscious and in this sense automatic. Furthermore, the priming effect was even greater if acting on it was delayed for 5 minutes, which suggests that the effect was truly motivational rather than just associative (Bargh et al., 2001; Laran, 2010, Study 5). Priming cues related to cooperation had a similar effect on participants’ cooperative behavior (Chartrand & Bargh, 1996). Thus, nonconscious cues can affect performance in ways similar to the established effects of setting conscious performance goals for oneself (e.g., Locke, 1968, 2001).

Such implicit cues affect not only the probability of acting on a goal but also the amount of effort exerted on it. Pessiglione et al. (2007) exposed people to cues related to the amount of money they would receive for squeezing hard on a handgrip. As expected, priming larger rewards led to harder squeezes than priming smaller rewards, even when the reward information was subliminal. Using fMRI, these investigators found the brain’s ventral pallidum involved in motivating the force of the squeeze.

These kinds of effects appear to operate even when adoption of the goal was not entirely conscious (Ferguson et al., 2008 and Dijksterhuis & Aarts, 2010, recently reviewed the relationship of goal striving to consciousness). In fact, in the short term, goals can be created or enhanced by pairing an activity that was previously not a goal for a person, such as solving puzzles or squeezing a handgrip, with a stimulus that carries positive valence. Ordinarily, to prime a goal successfully requires that an appetitive (positive) goal already have an association with positive affect, but the associative pairing described by Aarts and colleagues (Aarts, Custers, & Holland, 2007; Aarts, Custers, & Marien, 2008; Aarts, Custers, & Veltkamp, 2008) instates a similar motivational tendency, at least until it is disrupted by some later mental activity. For example, pairing subliminally presented words related to “doing puzzles” with positively evaluated words leads people subsequently to overestimate the size of a picture of a puzzle (Aarts, Custers, & Veltkamp, 2008), which is one indication that the puzzle has just acquired enhanced value. When people are instructed to squeeze a handgrip after having been exposed to subliminal “force” stimuli, they squeeze harder if the stimuli are followed by supraliminal, positively evaluated words than if the subsequent words were neutral (Aarts, Custers, & Marien, 2008). Furthermore, motivation toward an already positively valued goal can be reduced by a similar pairing with a negatively valued stimulus (Aarts et al., 2007).

For purposes of motivational counseling (see also Chapter 11, this volume), these clear effects of a person’s context on goal pursuit have a number of implications. Changing a person’s motivation – the kinds of goals the person chooses and the person’s manner of pursuing them – requires the counselor’s attention to the kinds of communications to which
the person is exposed. This could involve family, friendship, school, religious, and work settings and other social contexts, including recreational contexts such as sports settings and bars.

**Emotions and Attentional Processing**

A number of indications from these and other data (e.g., Klinger, Barta, & Maxeiner, 1980) suggest that a critical property of current concerns is to dispose individuals to respond emotionally to cues that are associated with corresponding goal pursuits. The emotional response then induces cognitive processing at a number of levels, sometimes ending with conscious thought. Because this hypothesis is hard to test with naturally occurring thought flow, it was tested with effects on attention, recall, and physiological variables.

In a reaction time experiment (Schneider, 1987), emotionally evocative cues (which participants had been instructed to ignore) slowed choice reaction time similarly to Young’s (1987) current-concern-related words. Furthermore, emotionally arousing distractors slowed Schneider’s high scorers on the Affective Intensity Measure (Larsen & Diener, 1987) significantly more than other participants.

**Emotions and Recall**

Words rated by participants as either relatively emotionally arousing or concern-related were later recalled significantly more often than other words (Bock & Klinger, 1986). Words’ concern relatedness and emotional arousal value were strongly intercorrelated. Partialing emotionality and concern relatedness of words out of each other suggested that much of the effect of current concerns on recall is mediated by concern-potentiated emotional responses. This interpretation is consistent with other findings that people experience more emotion in relation to those autobiographical memories that are most closely associated with current goal pursuits and longer-term personal strivings (Singer & Salovey, 1993). Chemically impairing the ability to respond emotionally reduces recall of emotionally toned stimuli (Cahill, Prins, Weber, & McGaugh, 1994).

These findings help to make sense of some other results in the literature, in which emotionally arousing stimuli speed performance when they are central to a task and slow it down when they are distractors (see Klinger, 1996, for a review). Close examination of procedures used in such studies suggests that people respond to cues as emotionally arousing insofar as the cues are related to current concerns. Thus, patients suffering from social phobias attend differentially more to socially threatening stimuli than to physically threatening ones, whereas people fearful of physical harm attend to the latter more than the former (Mogg, Mathews, & Eysenck, 1992; Williams et al., 1996).

**Conclusion**

Having a goal sensitizes a person to respond to goal-related cues, thus drawing the individual’s perceptions, memories, thoughts, dreams, and actions back to the goal pursuit.
Furthermore, the person’s emotional reactions, whether of joy, fear, anger, or sadness, depend substantially on what is happening to the individual’s goal pursuits.

Taken together, these effects mold people’s inner worlds around their individual sets of goals. If one placed two individuals into an identical objective world but with different sets of current concerns, they would experience quite different subjective worlds. What they would notice, recall, and think would be quite different; they would react with different emotions; and they would correspondingly act quite differently, which in turn would result in creating for them different objective circumstances.

These connections between goals, on the one hand, and perception, cognition, emotion, and action, on the other, are important points to remember in providing counseling. Apart from organic disorders, such as psychosis and brain damage, troublesome cognitions, emotions, and actions are tied to troubled goal pursuits. Whether the problem is rumination, boredom, depression, anxiety, or substance abuse, effective intervention requires examining and intervening in the related goal pursuits and in the cognitive and emotional phenomena they engender.

Reciprocal Effects of Attention and Mindwandering on Goal Pursuits

The influences operating between goals and cognitions are a two-way street. Goal-related cognitions feed back into the self-regulation of goal pursuits. Noticing, remembering, and thinking about one’s goals act both as a reminder of one’s agenda and as a continuing inducement to pursue them. When one’s goals are ambivalent, as in trying to give up smoking or alcohol use even as these continue to be attractive, goal-related cognitions can get in the way of changing behavior.

Retraining Attention

New research is demonstrating that retraining attention can reduce these effects and thereby facilitate reducing substance use and social phobia. Alcohol misuse is an example of having a positive, appetitive goal, albeit a destructive one, and social phobia is an example of an avoidance or escape goal, albeit an exaggerated, unnecessary one. Both kinds of goals foster corresponding attentional biases, and retraining attention to reduce those biases feeds back into action to reduce or eliminate those goal pursuits. Thus, simple laboratory exercises based on the alcohol Stroop procedure in the Alcohol Attention-Control Training Program help heavy drinkers to disattend from alcohol cues, with both reduced attentional bias toward alcohol cues and reduced alcohol use over a 3-month follow-up (Fadardi & Cox, 2009; Fadardi, Shamloo, and Cox, Chapter 16, this volume).

Adaptations of the visual probe (also called a dot probe) method have shown similar effects. Retraining consists of challenging participants to reduce their reaction time to probes following nonalcohol stimuli, thus breaking the bias toward alcohol stimuli. Using this method, heavy-drinking inpatients reduced their attention to alcohol-related stimuli and remained sober longer than other patients (Schoenmakers, et al., in press). In another retraining adaptation of the visual probe method, people who suffered from social phobia came to disattend from threatening faces and reduced their clinical symptoms of social phobia over a 4-month follow-up (Amir et al., 2009).
Functions of Mindwandering

Research has repeatedly shown that people’s spontaneous thoughts, as in mindwandering, are associated with their goals and current concerns (Klinger, 1978; Klinger et al., 1980). Mindwandering is a virtually universal phenomenon that is very hard to suppress completely. Along with other forms of daydreaming, it also appears to consume nearly half of an average person’s waking hours (Klinger & Cox, 1987–1988).

Such time-intensive activity must serve important functions because otherwise, in the course of evolution, natural selection would have selected against it. Now there is strong evidence that mindwandering is associated with activity in specific brain regions that had earlier been identified and labeled as the brain’s default network (Christoff, Gordon, Smallwood, Smith, & Schooler, 2009; Mason et al., 2007) – that is, the baseline state to which the brain returns when not engaged in work or other operant activity (Klinger, 1971). The association of this baseline, default state with mindwandering strongly suggests that the brain has evolved to spontaneously fill spare capacity with thoughts that are associated with goals, even when the person is not at the moment working toward them. Because the content of these thoughts tends to rotate among a person’s goals, this system can keep people’s larger agendas fresh in their minds. It can remind them of future things they may need to do about their goals, scrutinize past episodes, and rehearse future episodes related to these goals – a spontaneous reminder and a learning and discovery process to optimize and organize goal pursuits.

Other Influences on Goal Pursuits

A number of variables besides those already described also affect the level and quality of the motivation to pursue a goal. These and other aspects of motivated behavior are taken into account in the techniques for assessing motivation presented in Chapter 8.

Approach versus Avoidance Goals

One such variable is the valence of the desired goal object – whether it is positive or negative (Elliot, 2008). Positive and negative goals involve different neural systems for, respectively, approach and avoidance (e.g., Cacioppo et al., 1999; Carver & Scheier, 1998; Watson et al., 1999). These different systems are associated with different effects on emotion, motivation, and health. Thus, people striving to achieve positive (approach) goals such as gaining a job promotion or better health are more likely to do so for the intrinsic value of the goal (Elliot & Harackiewicz, 1996) and less likely to experience negative feelings, poor health, or a negative outlook on themselves than people who are motivated more by a desire to avoid negative consequences (avoidance goals), as in striving not to be fired, not to become ill, or to rid oneself of negative incentives by which one feels burdened, such as a poor marriage or loud neighbors (Elliot & Church, 2002; Elliot & Sheldon, 1998).

However, these deleterious effects of avoidance goals may apply more to individuals with an independent outlook (which, on average, includes Americans and other Westerners) than to people with an interdependent outlook, such as, on average, traditional residents of
Asian countries (Elliot, Chirkov, Kim, & Sheldon, 2001). This cultural difference aside, it may be beneficial for motivational counselors to help clients reframe their avoidance goals into approach terms. For example, avoiding illness can be reframed as maintaining health; avoiding arguments with one’s spouse can be reframed as improving one’s marital relationship (see also Cox & Klinger, Chapter 11, this volume; Elliot & Church, 2002; Willutzki & Koban, Chapter 18, this volume).

Higgins (1997, 2009) labels approach goals as promotion or ideal goals and avoidance goals as prevention or ought (obligatory) goals. The person’s state is labeled respectively as having a promotion focus or a prevention focus. These concepts have led to an extensive line of research that has associated different emotions with the two orientations; striving for promotion goals is associated with eagerness and cheerfulness or, in the event of setbacks, dejection, whereas striving for ought goals is associated with quiescence and vigilance or, in the event of setbacks, agitation or anxiety (e.g., Higgins, Shah, & Friedman, 1997). The same objective goal may be the subject of either focus, depending on the individual’s momentary orientation; a person is likely to orient differently with different goals, and people differ with regard to their typical orientation.

Having one or the other of these foci – promotion or prevention – has numerous implications, such as which kind of persuasion will work best with an individual, which manner of goal striving will prove most efficient, or the value placed on a given incentive. Persuasion, performance, and valuation will be higher when the nature of the persuasive message, method used to perform a task, or incentive fits the individual’s momentary regulatory focus on promotion or prevention. Higgins (2009) calls this regulatory fit.

There are important individual differences in the strength of the two hypothetical approach and avoidance systems. Some individuals respond more readily to approach goals, are more likely to experience positive emotions, and in these senses are said to be more reward dependent (e.g., Cloninger, Svrakic, & Przybeck, 1993) or reward sensitive, a characteristic that may be part of the essence of extraversion (Lucas, Diener, Grob, Suh, & Shao, 2000). This difference among individuals is reflected in the different values they place on the same objective incentives and hence in their different choices of goals and other decisions.

**“Fundamental Motives” Underlying Goal Pursuits**

The kinds of goal-related cognitions and actions that cues associated with goals elicit depend on which “fundamental motives” underlie the goal pursuit – motives such as affiliation, self-protection, social status, or acquiring a mate (Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010). Consistent with evolutionary theories of behavior, these different motives engender attention to different kinds of cues, and the thoughts and actions that follow are also different. Thus, for example, when harboring a mating motive (and, presumably, having a mating goal), men are likelier than otherwise to overinterpret the sexual arousal conveyed by attractive female faces (Maner et al., 2005). Similarly, people with implicit power motives attend more to faces that signal low power, but those with implicit affiliation motives attend more to faces that signal rejection or acceptance (Schultheiss & Hale, 2007).
Time Frame

The time course of the goal pursuit is another important consideration. People are more strongly motivated when pursuing goals (or subgoals) that are achievable in the relatively near future, rather than having to wait far into the future to gain a sense of accomplishment (Miller, 1944). Breaking long-term goal pursuits into a tangible series of attainable nearer-term subgoal pursuits may improve motivation for staying on course, especially when the overall goal also stays in focus (Fishbach, Dhar, & Zhang, 2006; Roberson & Sluss, Chapter 15, this volume).

Breaking longer-term goals into subgoals may help maintain motivation because of the phenomenon of delay discounting, described in the “Delay Discounting” section of this chapter. That is, the farther away an incentive is in the future, the less it is likely to be preferred. Put another way, given a choice between a near-term goal and a distant one, the value placed on the distant goal must be greater than the value placed on the near-term goal in order for the distant goal to be preferred (e.g., Ainslie, 1975; Loewenstein, 1996). Because subgoals are by definition nearer in time, they are likely to be valued more highly (other things equal) than a distant outcome.

Goal Conflicts and Shielding

Yet another consideration is the impact that pursuing one goal will have on one’s other goals (see also Michalak, Heidenreich, & Hoyer, Chapter 4, this volume). A person’s goals may facilitate or may conflict with one another. One can think of goal conflicts on at least two levels: conflict in a given situation and conflict in the purposes themselves.

When a person is physically in the act of pursuing one goal, it would obviously be disruptive to try at the same time to reach another goal with actions that are incompatible with the first goal. That is why hungry students or employees who are deeply involved in a class or a project ignore their hunger until they come to a logical stopping point rather than racing in the direction of food at the first hunger pang. Indeed, at particular moments in time, pursuing a goal inhibits responsivity to memories and cues related to other goals that might conflict with the pursuit (e.g., Laran & Janiszewski, 2009; McCulloch, Aarts, Fujita, & Bargh, 2008; Shah, Friedman, & Kruglanski, 2002) and reduces the perceived value of a competing reward, tempting though it might be, as in a serious student’s choice of an academic textbook rather than a leisure DVD (Fishbach & Zhang, 2008). These ways of resolving short-term conflicts are normal, healthy, and automatic ways of protecting the coherence of goal-directed actions. In effect, having a goal instates a tendency to shield it from competing pursuits that might interfere with it. Once the goal has been attained, the inhibition of other goal pursuits ends (Laran, 2010).

Furthermore, facing a temptation (such as partying) that conflicts with a higher priority goal (such as doing well in one’s studies) activates the higher priority goal (Fishbach, Friedman, & Kruglanski, 2003) and strengthens avoiding the temptation (Fishbach & Shah, 2006). A number of attributes of goals and persons influence the extent to which one goal inhibits responsivity to another (Shah et al., 2002). This inhibition is greater insofar as the person is committed to the inhibiting goal, is generally tenacious in pursuing goals, is in an agitated but nondepressed state, and has a high need for closure. Inhibition is also greater
when the competing goal is a reasonable substitute for the inhibiting goal (but less when the competing goal facilitates attaining the inhibiting goal), and inhibition is greater when the inhibiting goals are viewed, in Higgins’s (1997, 2009) sense, as obligatory (preventive) rather than simply ideal (promotional).

The more wrenching kind of conflict arises when attaining one important, longer-term goal inherently interferes with the achievement of another one. For example, finding one’s best job opportunity in one community when a romantic partner is tied to a different, distant one is bound to produce distress. The resulting conflict may dampen the motivation to achieve either goal. Thus, conflicts between family and work goals are associated with reduced work satisfaction (Wiese & Salmela-Aro, 2008). People with more than an average number of such conflicts experience more negative affect and poorer health (Emmons & King, 1988). Such goal conflicts are necessarily an important target of counseling interventions.

**Specificity of Intentions**

People vary in regard to how concretely they imagine their goal pursuits. Sometimes they focus mainly on the end result – what it will be like and how it will feel to achieve the goal. Musing about the consummation of a romantic relationship or of a business deal can both be pleasant experiences. However, people are more likely to carry out their intended goal pursuits if they also imagine the steps necessary to reach their goals (e.g., Brandstätter, Lengfelder, & Gollwitzer, 2001; Gollwitzer, 1999; Snyder, 1994) and take into account the difficulties before them (Oettingen, Pak, & Schnetter, 2001), especially if the goals also fit well with the individual’s core values (Koestner, Lekes, Powers, & Chicoine, 2002). Counseling interventions can be targeted toward helping clients to form adequate conceptions of their goal pursuits so as to improve the quality of their tactics for attaining their goals (Cox & Klinger, Chapter 11, this volume).

**HOW GOAL PURSUITS END**

All goal pursuits must end, whether by reaching the goal or by relinquishing it. Attaining a goal, especially an important goal that has many ramifications for one’s future life, generally evokes some combination of joy, gratification, contentment, and pride. One marries, obtains a college degree, gets a desired job, buys a lovely house, or finds spiritual fulfillment. Attaining the goal ends the pursuit and deactivates the current concern. It is clearly the nice way for goal pursuits to end.

Unfortunately, life is rarely so kind as to spare people at least some failures. The relationship ends or the partner dies, the job goes to someone else, or the stock market collapses and takes one’s savings with it. Obstacles to goal pursuits unleash a regular sequence of events, an incentive–disengagement cycle (Klinger, 1975, 1977). When the obstacle first arises, the effect is to invigorate goal-directed action. One tries harder, rethinks, tries alternatives, and seeks help. If these tactics fail, invigoration turns to anger and possibly aggression. If this also fails to avert the obstacle, the individual experiences a souring of mood that can range from disappointment to depression. Depression is regularly associated with blocked goal pursuits (Klinger, 1975, 1977; e.g., Nurmi, Salmela-Aro, &
Aunola, 2009). There is often a reduced interest in other pursuits (Klinger, 1993), lassitude, and fatigue. The normal attentional bias toward cues related to one’s goals weakens (Fadardi & Bagherinejad, 2010). In major depression, people have trouble reducing activity in their brains’ default network (Sheline et al., 2009), which is associated with mind-wandering and self-referential content. This failure to regulate the default network would be expected to hinder focusing one’s attention on work; reduced ability to concentrate is a frequently reported attribute of depression.

Eventually, the individual recovers from the failure or loss and returns to baseline levels of mood and activity. This may take from minutes to years, depending on the individual and the scale and ramifications of the failure.

Although there are wide variations in the strength of these effects, they appear nearly universal, even when there is no apparent point to them. Thus, when someone learns that a loved one has unexpectedly died, the first reaction is often disbelief, checking on the accuracy of the report and ascertaining that nothing can be done. This is often followed by anger and blame toward the departed, caretakers, medical personnel, relatives, or oneself. Then come the grieving and eventually, normally, the recovery.

Before that recovery, the depth of the depression depends in part on the individual’s implicit valuation of the goal (Schultheiss et al., 2008), and the relative prominence of the various symptoms of depression depends on what gave rise to them (Keller & Nesse, 2006). Thus, failed efforts to attain a goal gave rise most prominently to guilt, rumination, fatigue, and pessimism, whereas social losses gave rise most prominently to crying, sadness, and a desire for social support.

When the cycle has run its course, the person is largely freed to go on to other things. The failed goal ceases to be a goal. However, its representation in the brain remains. Disengagement is almost certainly not a process of forgetting or deleting the goal but rather one of inhibiting responses to all but the most central cues associated with it. The failure or loss lives on, even though deeply suppressed. Thus, groups of parents who have lost children continue to report effects of the loss at follow–ups of 4 to more than 18 years (Lehman, Wortman, & Williams, 1987; Murphy, Johnson, Chung, & Beaton, 2003; Rogers, Floyd, Seltzer, Greenberg, & Hong, 2008).

Very likely, the reaction to failure or loss is a form of extinction, which results from withholding reward that the animal had previously regularly experienced, and also leads to a cycle of invigoration and depressed activity followed by recovery (e.g., Klinger, Barta, & Kemble, 1974; Lewis, Sullivan, Ramsay, & Alessandri, 1992). Furthermore, the goal striving is rapidly reinstated when the reward is again made available (e.g., Nakajima, Tanaka, Urushihara, & Imada, 2000; Toyomitsu, Nishijo, Uwano, Kuratsu, & Ono, 2002), suggesting that the previous extinction of response was by inhibition rather than deletion.

Faced with intractable problems affecting one’s health and finances, one can resort to three major kinds of approaches to improve one’s sense of well-being: persisting in pursuing one’s goals, reappraising what the problems mean to one, and lowering one’s aspirations (Wrosch, Heckhausen, & Lachman, 2000). These are differentially successful depending on one’s circumstances. Persistence works best on average for improving well-being in young adulthood but less in old age, positive reappraisal works better in middle and old age, and lowering aspirations is associated with reduced well-being in all three age groups (Wrosch et al., 2000), as one would expect from incentive–disengagement theory.
Incentive–disengagement theory also predicted that failure to let go of failed goals can protract the depressed phase of the disengagement cycle (Klinger, 1975, 1977), a hypothesis that is now supported by empirical evidence in regard to childbearing. German women who had passed the biological deadline for bearing children and had disengaged from that goal (as measured by recall of relevant sentences) scored higher on measures of well-being than women who had disengaged less well (Heckhausen, Wrosch, & Fleeson, 2001). Finnish women who received unsuccessful fertility treatments suffered more depression than did those who received successful treatments. Six months after the last treatment, those unsuccessfully treated women who continued to place importance on having a child remained depressed longer than those who let go of this goal (Salmela-Aro & Suikkari, 2008). Failure to disengage from unattainable goals exacerbates perceived stress and continuing intrusive thoughts related to the lost goal (Wrosch, Scheier, Miller, Schulz, & Carver, 2003). It is also associated with self-reported depression, reduced life satisfaction, and poorer physical health, but reengaging with alternative goals counters these effects on common-cold symptoms and life satisfaction (Wrosch, Miller, Scheier, Schulz, & Carver, 2007). For older adults, moreover, reaping the emotional benefits of successful disengagement may depend on their reengaging with other goals (Wrosch et al., 2003).

Reengaging with alternative goals may thus be even more important in promoting well-being than disengaging from lost goals. Young adults with a high ability to reengage reported fewer intrusive thoughts, less stress, and a greater sense of mastery and purpose in life (Wrosch et al., 2003). Similarly, older adults’ health problems were associated with depression unless these individuals were pursuing goals to overcome them (Wrosch, Schulz, Miller, Lupien, & Dunne, 2007).

Similarly, in another study of childless women, long-held, intense wishes for a child were associated with intense feelings of longing for a child, a longing that often persisted past the point at which the person expected to be able to attain it (Kotter-Grühn, Scheibe, Blanchard-Fields, & Baltes, 2009). Such disappointed longings affect personal well-being, but in this study the longing for a child was no longer related to the well-being of those women who had successfully disengaged from the childbearing goal and reengaged with other goals.

These concepts of incentive–disengagement and extinction are important considerations in counseling depressed clients. Within limits, depression is a normal reaction to failure and loss. Individuals characterized by strong emotional responsiveness and by a weak ability to downregulate negative affect are particularly more likely to experience psychopathological depression (Kuhl, 2000, 2001; see also Alsleben & Kuhl, Chapter 5, this volume). Nevertheless, in treating depression it would appear to remain crucial for counselors and psychotherapists to work with the client’s motivational structure, along with applying other cognitive and interpersonal approaches (e.g., Beck, Rush, & Emery, 1979; Fadardi & Bagherinejad, 2010; Teasdale et al., 2000). Chapters 11 to 25 of this volume describe the various motivational-counseling techniques.

**MOTIVATIONAL STRUCTURE**

*Motivational structure* refers to the individual’s pattern of goal striving. For example, given a choice between a little money now or much more money much later, substance
abusers are likely to pick the smaller amount now (Bickel & Marsch, 2001). However, there are also many other dimensions of motivational structure that grew out of current-concerns theory and are assessed using variants of the Motivational Structure Questionnaire (MSQ) or the Personal Concerns Inventory (PCI). These are described more fully, including their factor structure, reliability, and validity, in Chapters 7 and 8 of this volume.

In brief, respondents first list their current goals and then rate each goal on a series of rating scales. The pattern of content and ratings reflects important elements of the individual’s motivational structure. The scales include such things as how a person frames each goal (e.g., positive/appetitive or negative/aversive), the person’s level of commitment to pursuing it, the emotional payoff anticipated from reaching it or failing to reach it, optimism about reaching it, and time frame. The latter variables correspond to value and expectancy dimensions plus time frame.

Some of these motivational patterns are presumably more adaptive than others, permitting people to attain their valued goals and to stay out of trouble. Factor analyses of MSQ and PCI scores have repeatedly arrived at a factor that one might call adaptive motivation. The scales that load on it are typically Commitment, Joy Anticipated at Success, Sorrow Anticipated at Failure, and optimism about succeeding. Putting this another way, this factor reflects the richness and attainability of the individual’s set of goals, a pattern associated with relatively high well-being and the sense that one’s life is meaningful (Klinger, in press; Chapter 8, this volume) and with pursuing specific goals of achievement and power (Stuchliková & Klinger, 2010).

Evidence is accumulating that adaptive motivational structure relates to important behavioral patterns. Not only is it inversely related to alcohol and substance use, but also it fully mediates their relationship to resilience (Fadardi, Azad, & Nemati, in press), sense of control, and intrinsic motivation (Shamloo & Cox, 2010). However, its relation to such use is not necessarily across the board. For example (Cox, Schippers, et al., 2002), adaptive motivation of people who had encountered few problems as a result of drinking alcohol was unrelated to the amount of alcohol that they habitually consumed. People who have encountered few problems as a result of drinking have no reason to modify their drinking patterns – drinking doesn’t matter. However, for the others, the more such problems they encountered, such as with their work, their families, and the police, the more strongly adaptive motivational structure was associated with reduced drinking (see also Chapter 8, this volume).

Thus, successful self-regulation depends on motivational structure, but only insofar as what one is regulating matters. Healthy motivational structure means that a person has a rich assortment of other life goals – rewarding goals – besides, for example, drinking alcohol.

INCENTIVES, GOALS, WELL-BEING, AND THE SENSE THAT ONE’S LIFE IS MEANINGFUL

Perhaps the broadest measure of an individual’s subjective success in life is the person’s global sense of well-being (Diener, 1984; Diener, Scollon, Oishi, Dzokoto, & Suh, 2009). Another, closely correlated measure (Wong, in press, Chapter 19, this volume) is the sense that one’s life is meaningful. Both are closely related to having a range of satisfying personal goals and making reasonable progress toward attaining them (Brunstein, 1993;
Diener & Fujita, 1995; Klinger, 1977, in press) – goals such as finding and maintaining close relationships (Baumeister & Leary, 1995; Myers, 1999) and satisfaction with one’s work (Roberson, 1989; Roberson & Sluss, Chapter 15, this volume; Warr, 1999). Having a sense of interpersonal support in one’s goal pursuits enhances well-being; a sense of others hindering one’s goal pursuits detracts from well-being (Palys & Little, 1983). When people must disengage from an unattainable goal, their well-being and sense of having purpose depend to a large degree on their ability to reengage with other goals (Wrosch et al., 2003).

Similarly, a long-term longitudinal study (Halisch & Geppert, 2001) found that life satisfaction and well-being depend on having goals that are attainable, and this is especially true for people highly committed to them. Mood was lower in the absence of affiliative activity and, for men, of power-related activity. Thrash, Elliot, Maruskin, and Cassidy (2010, Study 4) found morning experiences of inspiration to have a substantial relationship with levels of well-being later that day, but this was partly mediated by feeling a sense of purpose on that day – that is, meaningfulness, which arises from engagement with attainable goals, determined the contribution of inspiration to well-being. By contrast, objective indices of personal resources and circumstances, such as income, education, and marital status, are correlated rather modestly with subjective well-being (Diener & Fujita, 1995).

However, not all personal goals carry equal weight in well-being. For example, progress on goals imposed by others or suggested by social pressures boost subjective well-being less than goals that correspond to one’s individual core values (Baumann, Kaschel, et al., 2005; Brunstein et al., 1998; Sheldon & Elliot, 1999). This suggests a point of departure for psychological intervention: assessing the self-concordance of a client’s goals and modifying or eliminating those at variance with the client’s core values.

There are also other important factors that moderate the relation of goal pursuits to subjective well-being. For example, some individuals (state-oriented) have more difficulty than other people in distinguishing self-chosen goals from goals suggested by others (Kuhl & Kazén, 1994; see also Alsleben & Kuhl, Chapter 5, this volume). Under pressure, they may be less able to discern their own values and interests in a situation and hence strive for less fulfilling goals. Activation of people’s more analytic left cerebral hemisphere apparently exacerbates this kind of confusion, whereas activation of the more holistic right hemisphere reduces it (Baumann, Kuhl, & Kazén, 2005). It also crops up more after induced stress and elevated levels of cortisol, a hormonal response to stress (Quirin, Koole, Bauman, Kazén, & Kuhl, 2009). Insofar as pursuing the assigned goals is less satisfying than pursuing genuinely self-chosen goals, this kind of confusion can be expected to reduce overall well-being.

Thus, situational and individual differences in emotional response dispositions, partially described in this chapter, can determine the extent to which people pursue goals and the extent to which they derive satisfaction from them. These findings, too, suggest possible foci for psychological intervention.

A substantial proportion of the variance in subjective well-being can be accounted for by genetics (Lykken, 1999; Lykken & Tellegen, 1996). The genetic factors may, however, exert some of their effect through their influence on an individual’s readiness to commit to positive goals and to reap the emotional gain from attaining them. Thus, it would be mistaken to conclude that heritability prevents intervention from improving an individual’s motivational structure and, with it, subjective well-being. Genes provide an input whose
ultimate results depend on their interaction with the environment. Intervention can be part of that environment.

A substantial literature relates subjective well-being and the sense that one’s life is meaningful to psychopathology and substance use (Baumeister, 1991; Cox & Klinger, 1988, Chapter 6, this volume; Glasner, Chapter 13, this volume; Klinger, 1977, in press; Wong, in press, Chapter 19, this volume). For example, a substantial student sample produced a correlation of −.46 between a rating of their lives’ meaningfulness and depression scores (Klinger, 1977). In two samples of adolescents and young adults, Newcomb and Harlow (1986) found low-order but significant relationships between substance use and lacking direction, plans, or solutions. In a comparison of Czech students and demographically rather similar nonstudent alcoholic patients (Man, Stuchlíková, & Klinger, 1998), the clinical group listed 40% fewer goals, responded as if they needed richer incentives to form strong commitments to goal striving, displayed marginally less average commitment to their goals, and, after other variables had been partialled out, expressed less ability to influence the course of goal attainment. These correlational findings cannot establish cause and effect, but, when they are combined with experimental studies of extinction, loss, and failure, it seems likely that goal pursuits affect moods and at least some forms of psychopathology.

Accordingly, efforts to modify clients’ motivational structure form a promising avenue to clinical effectiveness with a variety of disorders and discontents. These methods form the focus of Parts III and IV of this volume.

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