The Goal Construct in Social Psychology

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A chapter to appear in Kruglanski A. W. & Higgins T. E. (Eds.) *Social Psychology: Handbook of Basic Principles.*

Goals constitute the focal points around which human behavior is organized. Much of what people think about, feel, and do, revolves around the goals they are trying to meet, or those goals they have already met or dismissed. Goals can influence major life decisions such as choosing one's career path, as well as more mundane everyday choices, such as which book to read. Goals guide one's behavioral responses to the social environment, such as whether one responds to a provocation by being competitive, collaborative, or resigned, for instance. And goals, and the ways in which people pursue them, also determine people's evaluations, moods, and emotional experience both during a pursuit, and after a pursuit has been completed or abandoned. The scholarship on goals in social psychology has reflected the centrality of goals in people's lives, and consequently the goal construct has been defined, examined, and challenged, iteratively, throughout almost the entire century of empirical psychology (e.g., Ach, 1935; Atkinson, 1964; Austin & Vancouver, 1996; Bandura, 1986; Bargh, 1990; Carver & Scheier, 1998; Deci & Ryan, 1985; Gollwitzer, 1990; Higgins, 1997; James, 1890; Kruglanski, 1996; Lewin, 1926; Locke & Latham, 1990; Mischel, Cantor, & Feldman, 1996).

In the current chapter, we propose a contemporary framework for understanding what goals are and how they influence human experience and behavior. In particular, we address how goals are activated, the characteristics of their operation, and the ways in which they interact with one another. We anchor the framework with a set of definitional assumptions about the structure and content of goals. In support of our framework, we draw primarily on research conducted over the last decade that is characterized by its social-cognitive approach. By adopting this approach to the study of goals we also emphasize the implicit nature of motivation, including the ways in which goals can become activated outside of conscious intention, and operate according to a variety of implicit mechanisms. This stands in contrast with much of the

traditional research on goals, which has focused on the conscious processes involved in setting a goal and striving toward its completion (e.g., Carver & Scheier, 1981; Gollwitzer, 1999; Locke & Latham, 1990).

We organize the chapter into four major parts. We consider in the first part (*Section I: What is a goal?*) a working definition of goals as well as a set of assumptions underlying goal research. We then move onto the second part (*Section II: On the activation of a goal*), which considers theory and findings on the determinants of goal activation. We discuss in the third part (*Section III: On the operation of a goal*) the various characteristics of active goal operation that involve goal-related knowledge activation, evaluations, and affective experience. In the fourth and final part (*Section IV: On the interaction among goals*), we turn to an arguably more realistic view of goals; one that assumes that people are constantly switching their attention and motivation from goal to goal, depending on a host of situational and personal variables (e.g., Atkinson & Birch, 1970). Any given goal pursuit potentially interferes with other possible pursuits, and thus we examine the special challenges that simultaneous goal pursuits pose and the ways in which interaction and interdependence among goals occur. Our broadest objective in this chapter is to develop a goal framework that both grounds previous work as well as generates new questions and research directions.

Section I: What Is A Goal?

We define a goal as *a cognitive representation of a desired end-point that impacts evaluations, emotions and behaviors.* Aspects of this definition have been echoed in goal literature throughout the past 50 years (e.g., see Carver & Scheier, 1981; Gollwitzer & Moskowitz, 1996; Higgins & Kruglanski, 2000; Locke & Latham, 1990; Sorrentino & Higgins, 1986). In what follows we explicitly consider a set of more detailed assumptions about goals that

underlie this definition and much of recent work. These assumptions can be organized into those that concern the *structure* of a goal in memory versus those that involve the *content* of goal representations.

The structure of goals

Researchers have long assumed that goals exist as cognitive representations in memory (Bargh, 1990; Hull 1931; Kruglanski, 1996; Tolman, 1932), even if various theoretical treatments of goals over the last century have varied in terms of explicitly mentioning this point. We argue that although there is a general consensus that goals exist in memory, an explicit consideration of this point inevitably leads to certain implications, which have not been as widely discussed or tested. The fact that goals exist as knowledge structures suggests (at least) three characteristics. Firstly, as a memory construct, a goal necessarily *fluctuates in accessibility* (i.e., its activation potential; Higgins, 1996b). This means that the likelihood of the goal being activated will vary across time and situations according to its accessibility at the moment.

Another characteristic concerns the *multiple memories* underlying any given goal. In particular, rather than a goal consisting of a unitary, discrete construct, it instead consists of a wide array of interconnected memories that are related to that goal (e.g., means of attainment, opportunities) and become associated with one another through a variety of ways. For example, the interconnection among memories underlying the goal of riding a bike might develop through direct experience (e.g., when the bike tilts left, shift weight to the right) as well as semantic and episodic knowledge (e.g., bike riding is a form of exercise and recreation perfect for a sunny summer afternoon).

The fact that goals consist of many memories that are interconnected naturally leads to the third characteristic of goals. Namely, the memories of a goal become activated according to

classical *knowledge activation* processes (Anderson, 1983; Anderson & Reder, 1999; Collins & Loftus, 1975; Neely, 1977, 1991; Posner & Snyder, 1975; Shiffrin & Schneider, 1977). In particular, it has long been postulated that the activation of a given memory will influence the activation of those memories with which it is connected. The nature of this influence can be either excitatory or inhibitory. With excitatory connections, as one memory of a goal construct becomes activated, and therefore, relatively more accessible, those memories interconnected with it should become activated and accessible as well. In this way, making one component of a goal construct more accessible can render much of the construct as a whole more accessible. For instance, the activation of a single memory concerning the goal of achievement could automatically lead to the activation (i.e., greater accessibility) of many other memories associated with achievement (see also research on stereotype activation; e.g., Bargh, Chen, & Burrows, 1996; Devine, 1989). But other connections among goal memories are inhibitory in nature, such that the activation of one goal automatically leads to the inhibition (i.e., lower accessibility) of another, competing goal. For instance, the activation of a central goal (e.g., academic achievement) might inhibit another tempting goal (e.g., partying; Fishbach, Friedman, & Kruglanski, 2003; Shah, Friedman, & Kruglanski, 2002).

Notably, the link between any two memories may not be bidirectional. Just because the activation of one goal memory can render accessible an associated memory, the same facilitative effect may not emerge in the reverse direction. For example, when considering the relationships among competing goals, whereas an immediately tempting goal can activate an overriding, more important goal, the reverse is not necessarily true. In fact, some recent research suggests that the same important goal might actually inhibit the tempting one (see Fishbach, et al., 2003). In this

sense, the connection among any two goal-related memories cannot be inferred merely on the basis of how one memory influences the activation of the other.

These three characteristics of goal structure (i.e., varying accessibility, multiple memories, excitatory and inhibitory links) would be consistent with, and explained by, numerous types of cognitive models of memory, including simple associative networks as well as connectionist models, for example. A consideration of the types of cognitive architecture that might be able to explain and reproduce goal phenomena is beyond the scope of this chapter and we consider it to be one of the next challenges that social cognitive psychologists will face in the near future, just as has been the case with research on attitudes and stereotypes (e.g., Bassili & Brown, 2005; Smith, 1996; Mitchell, Nosek, & Banaji, 2003).

The content of goals

Beyond these structural characteristics, what type of knowledge is reflected by goal memories? The answer to this question directly builds on our definition of goals as representations of desired end-points that direct behavior, evaluation, and emotions. Below we consider in more detail what this view implies about the nature of goal memories.

Ends and means. First and foremost, goals contain information about end-states. End-states are the reference points toward which behavior is directed. One notable feature of end-states is that they can vary in their abstractness (Hommel, Muesseler, Aschersleben, & Prinz, 2001; Jeannerod, 1997; Kornblum, Hasbroucq, & Osman, 1990; Kruglanski et al., 2002; Miller, Galanter, & Pribram, 1960; Powers, 1973). For example, a goal may involve an end-state that entails something tangible and perceptual in the world (e.g., having a cup of coffee) or one that is relatively more abstract and conceptual in nature (e.g., achievement).

Goals entail more than just end-states, however. They also include the variety of behaviors, plans, and objects that enable one to reach that end-state. For instance, the goal of getting a cup of coffee might entail temporally ordered, procedural information about first grinding coffee beans and then putting them into a filter in a coffee machine (see Norman, 1981), and the goal of achievement might include behaviors such as studying at the library, and paying attention in class (Aarts & Dijksterhuis, 2000; Bandura, 1997; Bargh & Gollwitzer, 1994; Carver & Scheier, 1998; Custers & Aarts, 2005; Emmons, 1992; Schank & Abelson, 1977; Shah & Kruglanski, 2002, 2003; Vallacher & Wegner, 1985; Vallerand & Ratelle, 2002; Wilensky, 1983). The behaviors and objects associated with an end-state can also vary in abstractness. For instance, the end-state of achievement might include the specific behavior of neatly writing lecture notes as well as the relatively more general behavior of being punctual.

When considering ends versus means, it quickly becomes apparent that almost any end-state can be understood as a means for a higher-order end-state. For instance, the means of studying in order to attain academic success could itself constitute an end-state with its own associated means (e.g., take notes, go to library). In such a hierarchical organization, the terms "end-state" and "means" are clearly meaningful only in relation to one another. Despite the relative nature of the terms, they are nevertheless useful in that they identify the point toward which a person is striving, and the specific ways in which that person might succeed. In this way, the "end-state" organizes one's behavior, whereas the variety of means can be somewhat interchangeable or substitutable, and an inability to utilize one means does not necessarily imply that the end-state is abandoned (e.g., Kruglanski et al., 2002; Tesser, Martin, & Cornell, 1996).

***Evaluative information*.** We assume that a goal consists of an overall end-state, and the behaviors, objects, and plans needed for attaining it. But is that all a goal is? Just because

someone possesses knowledge about how to put a tree house together, for instance, does not mean that that knowledge constitutes a goal. This leads to a second important aspect of the content of goal constructs – the end-state (and its associated means) has to be *desirable* (Carver & Scheier, 1981; Custers & Aarts, 2005; Kruglanski et al., 2002; Peak, 1955; Pervin, 1989; Shah et al., 2002; Young, 1961). By definition, a goal that is desirable must be associated in some way with positive affect. We argue that, in line with the long standing notion that people are motivated to approach pleasure and avoid pain (Arnold, 1960; Bogardus, 1931; Corwin, 1921; Doob, 1947; Frida, 1986; Lang, 1984; Lazarus, 1991; Lewin, 1935; Mowrer, 1960; Osgood, 1953; Thurstone, 1931; Young, 1959), the positivity in a goal representation is what imbues the construct with its motivational force. In other words, the primary reason that goals influence and guide behavior is because the positivity associated with them is inherently motivating (see research on expectancy-value models, Atkinson, 1974; Tolman, 1932).

Although we define goals as desirable end-states, and therefore assume that they must include positive evaluative information in their representation, it is not yet clear exactly how goals become positive. For instance, a goal might become positive and desirable in a conscious and intentional manner, such as when a person sees a friend playing a complicated, fun game and wants to learn it in order to join in. Or, a goal can become desirable in a more implicit, nonconscious fashion, such as through repeated pairings (i.e., conditioning) of a given activity and consequent reward experiences. Recent research has provided support for the latter claim. Custers and Aarts (2005) first implicitly conditioned a goal (e.g., playing a puzzle) with positive evaluations by creating a computer task in which they paired aspects of a task (e.g., the words *puzzle, number*) with positive words (e.g., *happy*). They found that participants who had received

positive (vs. neutral) conditioning of the puzzle words subsequently showed greater motivation to begin the puzzle task.

What distinguishes a goal construct from other social psychological constructs

We have noted so far that a goal construct varies in accessibility, consists of many interconnected memories, and operates according to classic knowledge activation principles. These memories refer to ends and means, and also contain positive information. But, given these characteristics, how is a goal construct distinct from other types of knowledge structures?

Goals have been distinguished from other hypothetical constructs primarily by the nature of their effects on behavior (Aarts, Gollwitzer, & Hassin, 2004; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001; Fitzsimons & Bargh, 2003; Kawada, Oettingen, Gollwitzer, & Bargh, 2004; Shah & Kruglanski, 2003; see review by Forster and Liberman, this volume). In particular, the strength, or activation, of a goal only dissipates when the goal has been reached, whereas the activation of semantic constructs dissipates at a constant rate from the moment of activation (Atkinson & Birch, 1970; Gollwitzer & Moskowitz, 1996; Lewin, 1936; McClelland, Atkinson, Clark, & Lowell, 1953). Specifically, whereas Lewin (1936) suggested that a goal will stay active until the discrepancy between the actual and desired state is reduced, others have argued that the goal strength will actually increase over time until it is met (Atkinson & Birch, 1970; McClelland et al., 1953), or when the pursuit becomes too difficult to sustain (Brehm & Self, 1989; Wright, 1996). This suggests for example, that when the *goal* of achievement has been activated, the person will increase her efforts for a while until the goal has been met (or until she encounters an insurmountable obstacle). In contrast, when mere *semantic knowledge* about achievement has been activated, that activation should rapidly decay over time such that

the person may quickly show less evidence of that activated knowledge in perception or judgment (see Bargh et al., 2001).

It follows that a cue for a goal (e.g., the word "achievement") does not always influence behavior in a goal-related fashion; rather, its influence depends on other variables such as the nature of the task and whether the goal is applicable to it. In addition, whereas all goals include semantic knowledge, not all semantic constructs are goals, i.e., have motivational force, or positivity associated with them. As we consider how a goal might become activated and then operate, we review the ways in which researchers have distinguished between goals versus other types of constructs.

Section II: On the Activation of a Goal

What determines whether a given goal is activated and then guides behavior? The main theme of classical goal research has been that goals are enacted when people deliberately and purposively decide to adopt them (Bandura, 1986; Carver & Scheier, 1998; Deci & Ryan, 1985; Gollwitzer, 1990; Locke & Latham, 1990; see also Mischel, Cantor, & Feldman, 1996, for a review). This would suggest that a goal becomes activated via conscious, intentional thought. For instance, a person might consciously consider whether to intentionally pursue the goal of being funny while at a dinner party.

However, research over the last decade on how goals become activated suggests a different perspective. Many of the insights in this work follow from the definition of goals, and the assumptions regarding their structure in memory in particular. We noted earlier that goals consist of interconnected memories that become activated (i.e., more accessible) according to knowledge activation principles. This means that the perception of any stimulus that is strongly associated with the goal should be sufficient for the goal to become activated (Bargh, 1990;

Bargh & Barndollar, 1996; Bargh et al., 2001; Gollwitzer, 1999; Jacoby & Kelley, 1987; Kruglanski, 1996; Shah & Kruglanski, 2003; see also McClelland, Koestner & Weinberger, 1989). Importantly, the perception of a stimulus does not have to be conscious (e.g., Greenwald, 1992; Greenwald, Draine, & Abrams, 1996). And, even if people's perception of a stimulus *is* conscious, they may not be aware that it has activated a whole array of associated memories, including goal constructs (see Ferguson & Bargh, 2004b).

In general, by considering goals as constructs in memory, recent goal research acknowledges the possibility of nonconscious goal activation. We review below the kinds of stimuli that are capable of triggering goal activation. This range of stimuli must, by necessity, be associated with that goal. In this way, not only does our review below address the ways in which goals can become activated, it also further reveals the kinds of stimuli that are part of the goal construct.

It is also important to note that although we concentrate in this section on the ways in which goals are activated, the findings also necessarily speak to the operation of a goal. That is, we infer the activation of a goal from how the goal influences behavior, judgment, attitudes, and emotions. Although goal-activation and goal-operation are often empirically difficult to disentangle, we assume that goal-activation precedes goal-operation. Therefore, we emphasize in the next section the minimal requirements for a goal to be activated, and we then turn our attention to the types and kinds of downstream consequences of activation in subsequent sections.

Priming by end-states and means

In one of the first tests of how a goal can become activated and influential without the person's awareness or intention, Chartrand and Bargh (2001) subtly primed participants with

either a person-impression or memory goal. They administered to participants a scrambled sentence task in which participants had to create grammatically correct 4-word sentences out of groups of five scrambled words (Srull & Wyer, 1979). Some sentences included words related to forming an impression (e.g., judge, impression, personality), while others contained words related to memorization (e.g., remember, recall, retain). Participants were then asked to read through a set of behaviors about a fictional target, and were given a surprise recall test afterwards. The results showed that those who had merely read a few words related to forming an impression in fact processed and integrated the behavioral information about the target in a way similar to when someone is intentionally trying to form an impression. That is, they formed more clusters of the behaviors around personality traits, and were also more likely to show deeper processing of those behaviors that were inconsistent with the overall personality theme (e.g., see Hamilton & Sherman, 1996; Stangor and MacMillan, 1992). This was one of the first demonstrations of how information-processing goals can become nonconsciously activated and influential.

But, what is the behavioral evidence that a goal is nonconsciously activated? Bargh et al. (2001) tested for goal activation by first asking participants to complete a word-search puzzle. Whereas for some participants some of the words were related to achievement (e.g., strive, achieve, master), for others none of the words were related to this goal. After this subtle exposure to the notion of achievement, participants were asked to complete a series of other word-search puzzles. Those who were exposed to achievement words found significantly more words than those in the control condition. These findings demonstrate that by simply reading words related to a given end-state, a person is likely to perform goal-congruent actions unknowingly and unintentionally.

How might a nonconsciously activated goal compare with one that is consciously activated? To examine this question, participants in another study (Bargh et al., 2001) were explicitly told to cooperate, were subtly primed with cooperation words via a scrambled sentence task, or were not primed in any way. Each participant then played a resource management game with another participant in which they had to fish from a lake while ensuring that the lake did not become depleted. The results showed that those in the consciously activated goal condition, as well as those in the nonconsciously activated goal condition, showed more cooperation than those in the control condition. It appears that a nonconscious prime can have an effect similar to a conscious prime on goal-congruent behavior.

Another predominant issue concerns the evidence for the activation of a goal versus some other construct. That is, in these tests of nonconscious goal activation, how do we know that a goal was activated, versus perhaps simply semantic concepts related to the goal? For example, was participants' achievement behavior due to the influence of the *goal* of achievement or simply the *semantic concept* of achievement? Perhaps the priming task simply increased the concept of achievement, and then participants interpreted the situation as achievement related and acted accordingly. Recall that whereas the activation of semantic concepts decreases over time, the activation of goals increases over time until the goals are attained. Accordingly, Bargh et al. (2001) nonconsciously primed participants with achievement and then asked them to complete either a semantic task of evaluating an ambiguously achieving target (Higgins, 1996b), or a goal task of solving a set of word search puzzles. Participants also completed the measure either immediately after the priming or after a 5-minute delay. In the immediate condition, those in the priming condition who did the goal task performed better than those in the control condition, and those in the priming condition who completed the semantic judgment task rated

the target as more achieving than those in the control condition. The critical question concerned the effects for those in the delay condition. If nothing but the semantic concept of achievement was activated, then the effects for both the judgment task and the goal task should have decayed. However, if the goal of achievement was actually activated (in addition to semantic knowledge), then the effect on the goal-relevant task should have increased over time. The pattern of results confirmed this, suggesting that the goal of achievement was indeed activated.

More recent research suggests that in addition to end-states, goals can also be nonconsciously activated by relevant means and strategies. Shah and Kruglanski (2003) showed that people who were subliminally primed with a recently learned behavioral strategy showed evidence of pursuing the goal related to the strategy. In one study, before completing an anagram task, participants learned a strategy for solving anagrams. Those participants who were subliminally primed with the name of that strategy ("first-last," which refers to determining initially whether the first and last letters of the letter string anchor any known words) showed a greater accessibility of words related to anagrams, and also exhibited more persistence and better performance. These findings suggest that the perception of (even recently learned) means can activate the goal associated with that means.

Whereas the work described above showed that a goal can be nonconsciously activated by semantic cues (i.e., words) closely related to end-state or means, what other ways might goals become triggered by the environment? We suggested that the perception of any stimulus that is associated with the goal should be sufficient for the goal to become activated. Because people live in a social environment, a large proportion of these stimuli are social stimuli. Indeed, a bevy of studies has now uncovered some of the main categories of social stimuli that lead to goal activation.

Priming by relationship partners

Goals can include the representation of individuals (e.g., a parent, a teacher) who expect the person to pursue the goal as well as the representation of individuals who pursue that goal themselves. For instance, a person's goal of making money might include representations of that person's father, who expects that person to make money, as well as representations of a best friend who is obsessed with making money. If goals include representations of others, than the perception of a relationship partner can automatically activate those goals associated with that partner.

As a demonstration of this principle, Shah (2003) has shown that being subtly reminded of a significant other can activate the significant other's expectations, which can then influence the person's own expectations and performance. Shah (2003) demonstrated that participants who were subliminally primed with the name of a significant other who had high expectations for the person (e.g., a father) on an anagram task actually persisted longer and performed better than those not primed. In a similar line of research, Fitzsimons and Bargh (2003) claimed that people normatively have achievement goals for impressing their mothers. They accordingly found that those who were reminded of their mothers in a subtle way achieved more on a word-search puzzle than those not reminded.

Relationship partners can further activate the emotional experience that is included in the goal representation. For example, Higgins and colleagues have shown that people can adopt a style that emphasizes nurturance needs (a promotion focus) or one that emphasizes security needs (a prevention focus; see Higgins, 1997, 1998). Based on this theory, Shah (2003) showed that a significant other's regulatory focus can also influence one's own reactions to the task according to regulatory focus. For example, those whose fathers *hoped* that they would do well

on academic tasks (an ideal expectation), and who were primed with words related to father, experienced cheerfulness when given positive feedback on an anagram task and dejection when given negative feedback on the task, in line with the ways in which regulatory focus influences emotion specific reactions. Those whose fathers *expected* them to do well on academic tasks (ought expectation), and who were primed with father-related words, experienced relaxation when given positive feedback on an anagram task, and agitation when given negative feedback, again in line with research on how regulatory focus influences emotions (e.g., Higgins, Shah, & Friedman, 1997).

Priming by group members

In addition to relationship partners activating goals, the perception of (unfamiliar) group members can also activate the goals that the perceiver tends to pursue when in the presence of those group members (Cesario, Plaks, & Higgins, 2006). When one encounters another person, an automatic preparation to interact with that person, either in an approach or avoidance manner is activated, depending on that person's implicit attitudes toward that group. The result is that the perception of a group member activates one's goals toward that group (in addition to stereotypes) and these goals influence behavior. As a demonstration of this principle, Cesario et al. (2006) primed participants with gay or straight men, and then introduced a mild provocation when the computer failed and participants' data were supposedly lost (a paradigm developed by Bargh et al., 1996). The degree to which participants then interacted with the experimenter in a hostile manner constituted the main dependent measure. If the contents of the gay stereotype are most influential, then those who were primed with gay should behave in a more passive manner after the provocation (given that gay men are stereotyped as passive; e.g., Herek, 2000, 2002) compared with those not primed. However, if one's goal to interact with the group member is

activated and assuming that most people have negative implicit attitudes toward gay men, those primed with gay men should be more hostile toward the experimenter than those not primed. The results favored the latter hypothesis – priming gay men activated the goal to act with hostility.

Priming by a stranger's goal pursuit

In addition to relationship partners and group members, the perception of another person engaging with goal-related actions might be sufficient to trigger the goal related to these actions, even if the actor himself or herself is unfamiliar. This is because people infer other people's goals from their actions, and these inferred goals have implications for one's own behavior (Aarts, Gollwitzer, & Hassin, 2004; Aarts, Hassin, & Ferguson, 2005). As a demonstration, Aarts et al. (2004) gave participants a vignette about a target person's behavior (which implied a goal), and then participants were placed in a setting where they could behave in line that the goal or not. For instance, in one study, male participants either read about a target person who was trying to pick up women in a bar (implying the goal of seeking casual sex) or read a control vignette that did not imply the goal. Participants were then asked to provide feedback on one of the experimental tasks to the experimenter, who was described to half of the participants as female, and to the other half of participants as male. Because men who are sexually interested in women tend to show more helping behavior toward them (e.g., Baumeister & Tice, 2001; Buss, 1988), those who had read the vignette implying the goal of casual sex gave more feedback (i.e., showed more helping behavior) toward the female experimenter, but not the male. These findings show that merely observing someone else's behavior can activate the goal associated with the behavior.

Notably, these "goal-contagion" effects reflected the influence of a goal, rather than the influence of simple behavior-priming (e.g., Bargh et al., 1996; Dijskterhuis & van Knippenberg, 1998). Namely, because the dependent measure (giving feedback to a female experimenter) was sufficiently semantically distinct from the primed behavior (picking up women in a bar), the effect was probably due to an overarching goal that contained both behaviors as means.

Summary

The research we have described in this section shows how a goal can become activated (and influential) on the basis of the mere (conscious or nonconscious) perception of a goal-related stimulus. There is precedent for this notion in classic goal research, which assumed that the degree to which a person is consciously thinking about a goal determines the likelihood that the person will pursue it (e.g., Bandura, 1986; Deci & Ryan, 1985; Gollwitzer, 1990; James, 1890; Lewin, 1925, 1936; Locke & Latham, 1990; Mischel, Cantor, & Feldman, 1996). The present analysis expands on classical research, by showing that if accessibility is in fact the underlying mechanism, then goals should be able to be activated by even the nonconscious perception of goal-related stimuli.

Importantly, the claim that a goal's influence will depend on its accessibility in memory does not imply that people will behave in line with whatever memories have recently been activated. Once a goal is activated, its effect on behavior still conforms to the principle of applicability (Higgins, 1996b). Increased accessibility of a construct via priming simply means that it will be more likely to be applied to a stimulus that is *relevant to that construct*. In the research reviewed above, participants were primed with cues for a certain goal, and were then placed in a situation that "afforded" the relevant goal pursuit to some degree. The degree to

which a particular task is goal related determines the extent to which an accessible goal guides behavior.

In our discussion of goal activation, we inferred activation based on the downstream behavioral effects of goals (e.g., puzzle performance, helping behavior, hostile behavior). In this way, this research joins a litany of other classic findings showing how goals influence behavior. However, in thinking about the downstream consequences of goals on behavior, we now move away from merely documenting overt, behavioral effects to identifying more subtle effects that perhaps might mediate between a goal and overt behavior. Specifically, we are interested in examining the ways in which an activated goal, and in particular a nonconsciously activated goal, influences knowledge accessibility, evaluations, and emotions, and we review these influences in the next section.

Section III: On the Operation of a Goal

In this section we identify the characteristics of goal pursuit, including goal relevant knowledge accessibility, goal relevant evaluations, goal relevant moods and emotions, and, of course, goal relevant choices and behaviors. Just as we did in the section on the activation of a goal, we develop the current section on the operation of a goal based on the definition of the goal construct that we outlined in the beginning of the chapter. In particular, throughout the following section we note how some of the characteristics of goal operation derive directly from our assumptions about the content and structure of the goal concept. For instance, because goals contain information on evaluations and behaviors, the operation of goals can be characterized by changes in the evaluation of goal-related stimuli and the enactment of goal-congruent behaviors.

Goal relevant knowledge accessibility

We proposed earlier that increased accessibility of goal-related knowledge is what it means for a goal to be activated. In addition, the accessibility of goal-related knowledge can also be understood as a *consequence* of goals. This suggests that goal relevant knowledge should be more accessible during the pursuit of that goal, compared with when the pursuit is over or has not been initiated. For example, the activation of the hunger goal should increase the accessibility of knowledge that is related to that goal, such as restaurants. In this way, the increased accessibility of restaurants simultaneously represents what it means for a hunger goal to be activated, and one type of downstream consequences of goal activation.

There is a long history of the theoretical notion that the (conscious) activation of a goal influences the types of knowledge that become accessible (Ach, 1935; Bargh, 1997; Bruner, 1957; Gollwitzer, 1996; Jones & Thibaut, 1958; Klinger, 1996; Kruglanski, 1996; Kuhl, 1983, 1987; McClelland & Atkinson, 1948). Some of the precedent for this started with the New Look research movement. In contrast with the classic view of perception in the first half of the 20th century that perception was entirely driven by the stimulus (Stevens, 1951), New Look research showed that people's perceptions are influenced by the value of the stimulus being perceived (McClelland & Atkinson, 1948; Bruner, 1957; Bruner & Postman, 1948; Jones & Thibaut, 1958; for a review see Greenwald, 1992). For example, in the classic experiment by Bruner and Postman (1948), poor children overestimated the size of coins to a greater degree than rich children, for whom the money was presumably less intensely desired. In a review of the New Look research, Bruner (1957) argued that what people want, need, and desire can influence the accessibility of knowledge, and thus how they see the world around them. Each nonconscious act of perception is an act of categorization, with multiple categories being available for a given

stimulus. People's needs and motives can influence the accessibility of those categories and thus make them "perceptually ready" to categorize, or perceive, stimuli in certain ways. For instance, when people are looking at an ambiguous object in the distance that looks like a storefront but could be a restaurant façade, they should be more likely to "see" a restaurant when they are hungry than when they are not (see Bruner, 1957; see also Glenberg, 1997).

Recent evidence provides more methodologically rigorous support for the theoretical claim of the New Look that an active goal increases the accessibility of related knowledge (Aarts et al., 2002; Balcetis & Dunning, 2006; Forster et al., 2005; Moskowitz, 2002). For instance, Moskowitz (2002) tested whether knowledge that is related to an active goal automatically captures attention. Based on self-completion theory, people who receive negative feedback about an important self-relevant domain should be especially motivated to re-establish competence in that domain. Accordingly, Moskowitz (2002) reasoned that athletes who think about one of their recent athletic failures (e.g., missing a crucial foul shot) should be highly motivated to reclaim or prove their competence as athletes; and if so, those who have recently thought about failure should demonstrate the strongest accessibility of knowledge related to their goal of athleticism. Participants thought about either a recent failure or success in athletics, or nothing at all, and then completed a computer task in which there were distractors related to athleticism (e.g., athletic, fast, agile) or unrelated. Those participants who had been thinking about failure, and thus who presumably had particularly accessible goal-related knowledge, responded more slowly to the focal task when the distractors were athletic-related versus unrelated. Apparently, when a goal is activated, stimuli related to the fulfillment of that goal become highly accessible and automatically attract attention.

But, part of our argument (also consistent with the New Look research) is that the accessibility of goal knowledge should influence the stimuli in the environment to which people pay attention. Does this happen? Aarts , Dijksterhuis, and De Vries (2001) manipulated participants' thirst by asking some of them to consume salty snacks. Participants then completed a lexical decision task in which some of the words were beverages or items used to drink beverages (e.g., juice, soda, and bottle). The results showed that those who had been manipulated to be thirsty showed significantly greater accessibility of drinking-related words, compared with control words, and compared with non-thirsty participants. Aarts et al. (2001) then showed in a second study that thirsty participants were more likely than non-thirsty participants to recall drinking-related objects. These studies demonstrate that the goal of quenching thirst can render accessible knowledge concerning stimuli, actions, and concepts related to sating that goal, just as Bruner (1957) and others argued. And, importantly, that greater accessibility then determines the objects to which people attend in their environment.

Although an active goal increases the accessibility of knowledge related to that goal, which then influences the stimuli that are noticed, does it influence what people actually see in the world, as New Look researchers claimed? Recent research by Balcetis and Dunning (2006) has provided support for this notion. In one study, participants were told that they were going to be randomly assigned by the computer to one of two conditions. In one (desirable) condition, they would be asked to taste a glass of fresh orange juice, and in the other (undesirable) condition, they would have to sip an unappealing, green vegetable drink. They were told that the computer would randomly present either a number or letter to them, and that either a number or letter (depending on counterbalancing) would mean that they were assigned to the OJ condition. The computer then flashed the well-known, ambiguous "B/13" figure, and then there was a

message indicating computer failure. The experimenter, who had not seen what was flashed, asked the participant what he or she saw on the screen. Whereas those for whom the *number* meant the desirable condition were more likely to see the 13, those for whom the *letter* meant the desirable condition were more likely to see the B. A series of additional experiments demonstrated (using a variety of implicit measures) that the effect was not due to response bias, but rather reflected what participants actually perceived. On the basis of this work, we conclude that what someone wants does influence how they disambiguate stimuli in the world; critically, this seems to happen because what someone wants influences the types of knowledge that are accessible in memory, which then serve to capture any ambiguous stimuli relevant to that knowledge (see Bruner, 1957; Higgins, 1996b).

Interestingly, goal pursuit is not simply characterized by accessible knowledge during the pursuit; the completion of a pursuit leads to the inhibition of related knowledge. Recently, Forster, Liberman, and Higgins (2005; see also Liberman, Forster, & Higgins, in press) have demonstrated this point. They asked participants to search for a picture of a pair of glasses on a computer screen, and found that during the search, but before participants found the target, the accessibility of words related to glasses was greater compared with the accessibility for those who were not searching for the target. This is in line with the findings we just described. However, once participants found the target, the accessibility declined below the level for control participants. This work is consistent with work in cognitive science showing that knowledge related to fulfilled intentions becomes inhibited (Goschke & Kuhl, 1993; Liberman & Forster, 2000; Marsh, Hicks, & Bryan, 1999).

Goal relevant evaluations

We argued in the previous section that the accessibility of goal-related knowledge can be understood as evidence of goal activation as well as a consequence of goal activation. In a similar way, the effects of goals on *evaluations* of stimuli in the environment can be conceptualized both as evidence that those stimuli are relevant to an active goal, and as effects of that active goal. Indeed, we argue in this framework that the evaluations that follow from goal pursuit reveal the nature of the associations in memory between the goal construct, means and objects, and evaluative information. We therefore suggest that the "effects of a goal" on evaluation and emotion also speak to the content of the respective goal construct.

How then does active goal pursuit influence the way in which people evaluate stimuli related to that goal? In one way, the answer to this question is obvious and straightforward, and seems self-evidently true. When people are actively pursuing a goal, by definition they want (desire) those things that can help them achieve the goal, and similarly should not want those things that prevent them from reaching the goal. For example, being thirsty makes water more desirable and positive because it can alleviate one's thirst, and salty things more undesirable because they can exacerbate one's thirst (see also Loewenstein, 1996). Thus one consequence of goal operation is more positive evaluations of those stimuli that can facilitate the goal, and perhaps more negative evaluations of those stimuli that can thwart the goal (Brendl & Higgins, 1996; Cabanac, 1971; James, 1890; Lazarus, 1991; Lewin, 1926, 1935; Markman & Brendl, 2000; Rosenberg, 1956; Shah & Higgins, 2000).

In what follows, we explore how goals influence evaluations, but focus in particular on studies that used implicit rather than explicit measures of evaluation. There are two reasons for this focus. Firstly, implicit measures capture changes in evaluations that are not contaminated by people's response biases, self-presentation pressures, or demand effects. In this way, any

changes in implicit evaluation as a function of goal pursuit can be regarded as spontaneous, and likely to occur in "real-world," non-laboratory settings. Secondly, research has shown that explicit and implicit evaluations are not identical; not only might they rely on different memories and underlying processes (e.g., Gawronski & Strack, 2004; Hofman, Gawronski, Gshwendner, Le, & Schmidt, 2005), they also seem to guide different types of behaviors (e.g., Asendorpf, Banse, Mücke, 2002; Devine, 1989; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Egloff & Schmukle, 2002; Fazio, 1990; Wilson, Lindsey, & Schooler. 2000). Whereas explicit evaluations seem to guide behaviors of which the person is aware, and that are easy to guide and monitor, implicit evaluations seem to direct behaviors that are less intentional, and relatively more difficult to control and monitor. Given that implicit evaluations influence people's subtle and unintentional behaviors, any effect of goals on implicit evaluations would explain and demonstrate one way in which goals can guide people's behavior in a subtle and nonconscious manner.

Evaluations of stimuli consistent with the goal. Stimuli are evaluated implicitly in line with one's active goals (Ferguson & Bargh, 2004; Moors & De Houwer, 2001; Moors, De Houwer, & Eelen, 2004; Sherman, Rose, Koch, Presson, & Chassin, 2003). In support of this proposition, Sherman et al. (2003) found for example that chronic cigarette smokers automatically evaluate cigarette paraphernalia more positively when they are in need of a fix, versus when they just recently satisfied the urge. In one study, heavy smokers who had been instructed to refrain from smoking automatically evaluated smoking-related stimuli in a more positive fashion than those heavy smokers who had just recently smoked. This suggests that when a goal is activated, those stimuli that can help the person to reach the goal are automatically evaluated as positive.

But how long does this implicit positivity last? Ferguson and Bargh (2004) showed that stimuli that are relevant to a currently active, but not recently completed, goal are implicitly evaluated as more positive than control stimuli. This suggests that the effect of a goal on implicit evaluations lasts only as long as the goal is active. In one study, participants who were still involved in a competitive word game automatically evaluated game-related words (e.g., win, achieve) as more positive than those who had never played the game, as well as those who had played the game but were already finished. This demonstrates that the automatic evaluation of stimuli is contingent on what the perceiver is currently doing at the moment, rather than what the perceiver has just done. In another demonstration of goal-based evaluation, Ferguson and Bargh asked thirsty participants to either drink multiple beverages, thereby sating their thirst, or sample salty, dry pretzels, thereby exacerbating their thirst. The participants then automatically evaluated a series of words that varied in their relevance to thirst. The results showed that those who were still thirsty automatically evaluated words that were strongly related to the thirst goal (e.g., water, juice) but not unrelated to the thirst goal (e.g., chair), as more positive than those who had just sated their thirst.

In general, then, there is some evidence for our claim that objects and means related to a goal become more implicitly positive when that goal is active compared with when it is not. However, what about the end-state itself? When someone is pursing an achievement goal, for instance, are words such as *success* and *achievement* evaluated in a more positive manner? We claim that people who are actively pursuing a goal automatically evaluate relevant end-states as more positive compared with when the goal is not being pursued. In a study that tested for this possibility, Ferguson and Bargh (2004) assumed that participants who were asked to think about recent failure in an important, relevant domain would be the most motivated to pursue that end-

state (reestablish their competence in the domain) compared with those who thought about success in the domain, or who thought about an unrelated topic (see research on self-completion theory; e.g., Wicklund & Gollwitzer, 1982). Participants who were athletes were thus asked to think about recent failure or success in athletics, or an unrelated topic. Their automatic evaluations of words related to the goal of improving their athleticism (e.g., *athletic, agile*) were then measured. As predicted, those participants who had thought about a recent failure in athletics generated the most positive automatic evaluations of the end-states (and not other types of words) compared to those who had thought about success or an unrelated topic. Consistent with previous research on self-completion theory, this effect emerged most strongly for those for whom the athletic domain was the most important – varsity athletes. The activation of a goal thus renders as positive those end-states that are directly related to the goal.

Even though the evaluation of stimuli seems to depend on whether those stimuli are related in some way to people's current goals, this does not mean that stimuli that are unrelated to a current, primary goal will have no valence. People's average evaluations of stimuli should indicate the average relevance of those stimuli for the person's goals. Obviously, those stimuli that are consistently useful for a person's important goals might be evaluated as positive most of the time, whereas those that are only occasionally useful might be less consistently positive. If so, it should be the case that people's implicit evaluations of stimuli in default (non goal related) settings should predict the likely influence of that goal in a goal relevant setting. Ferguson (2006a) tested this by measuring participants' chronic, implicit evaluations of end-states in one setting, and then testing whether those evaluations predicted participants' goal pursuit in another setting. In one study, participants' implicit evaluation of the goal to be thin was measured. A week later, participants were asked to report how much over the previous week they had avoided

eating tempting foods, as well as how often they planned to do so in the upcoming week. Participants' implicit evaluations measured a week earlier significantly predicted their goal-relevant behavior, and even did so significantly above and beyond their explicit evaluation of the goal. Such findings suggest that people's chronic goals influence their evaluation of stimuli related to the respective end-states.

Evaluation of stimuli inconsistent with the goal. The activation of a goal representation might also lead to more negative evaluations of stimuli that undermine that goal (e.g., Ferguson, 2006b; Fishbach, Zhang & Trope, 2006). For example, participants who were consciously or nonconsciously primed with a goal construct (e.g., academic pursuits) implicitly generated negative evaluations of words that were related to another low priority goal (e.g., social life) that might undermine the primed goal (Ferguson, 2006b). But importantly, whereas an active high priority goal undermines the positive value of stimuli related to a competing low priority goal (as in the previous case), an active low priority goal may actually increase the positive value of stimuli related to a competing higher priority goal, because of the motivational priorities of the person pursuing these goals. For example, reminding participants of their social goals led to a more positive evaluation of academic pursuits among students who strived toward academic excellence and considered it more important than social activities (Trope & Fishbach, 2000; Fishbach, Zhang & Trope, 2006). In our Section IV, we discuss these patterns of influence between conflicting goals in more details.

Are there any variables that might determine when negative evaluation of goal-undermining stimuli is most likely to occur? One possibility is that the extent to which it occurs depends on whether the person can effectively self-regulate in the focal goal domain. The findings from Ferguson (2006b) and Fishbach, Zhang and Trope (2006) together suggest that

negative goal-related evaluations emerge most strongly for those who are skilled in the focal domain. For example, when participants were nonconsciously primed with academic concerns (e.g., grades), they automatically evaluated social temptations as more negative – especially so if they had relatively high GPAs. This suggests that the degree to which goals might shift automatic evaluations of pertinent stimuli in some cases depends on the person's skill level and experience in the relevant goal domain.

We further argue that the activation of a goal can have repercussions for the evaluation of stimuli that are irrelevant to the goal. Recent work by Brendl and colleagues (Brendl, Markman, & Messner, 2003; Markman & Brendl, 2000) has suggested that such "devaluation effects" occur when the activation of a given goal (e.g., hunger) renders as negative those objects (e.g., movie tickets) that might draw resources away from the focal goal. From this perspective, even though movie tickets do not directly undermine the goal of getting food, they indirectly do so by drawing limited resources away from the focal pursuit (see also Shah et al., 2002). To test this idea, they asked smokers who had or had not recently smoked to purchase raffle tickets for a prize of either cash or cigarettes. A devaluation effect occurred such that deprived smokers bought fewer tickets for the cash prize than those smokers who were not deprived. In this way, the active goal to smoke led to a lower evaluation of cash. We conclude that the activation of a goal may make stimuli that are not directly relevant to the overall goal less positive.

Goal relevant moods and emotions

Beyond evaluations of specific stimuli, how might the operation of a goal influence one's affective state more generally? There are at least two ways to approach this question. It is possible to consider the ways in which goal pursuit might influence people's moods and emotion

both *during* the pursuit, as well as *after* the pursuit has been completed. We first consider the former, and then move to the latter.

Considering our earlier argument that during goal pursuit the related end-state and associated means should be evaluated as more explicitly and implicitly positive, it seems possible that the positivity associated with a specific stimulus (e.g., a means) might extend to a more general affective state, such as a mood or emotion. This possibility was supported in research by Fishbach, Shah, and Kruglanski (2004). These researchers documented a transfer of emotions from goal to related means in proportion to the degree of association between the means and expected goal attainment. In particular, while pursuing a given means, people experience some of the emotions that characterized goal attainment. For example, in one of their studies, participants self-generated a goal (e.g., making friends), and one versus two activities that serve this goal attainment (e.g., joining a fraternity, being helpful to people). Listing a second activity was expected to dilute the association between the goal and the first activity, thereby decreasing the magnitude of the emotional transfer. Accordingly, participants perceived the first activity listed as more enjoyable when it was the only activity listed compared with it being the first of two activities listed. In another study, it was shown that the quality of feelings (promotion- or prevention-type affect) experienced toward social figures who also serve the attainment of means (e.g., a hair designers, a tax consultant) varied as function of the type of goals they were helpful in mediating.

People also experience general affective states during goal pursuit as a result of feedback processes, a possibility posed by cybernetic models of behavioral control. For example, Carver and Scheier (1990, 1998) have argued that people monitor the discrepancy between the desired end-state and their current status, and that their mood can be an important part of the feedback

for such monitoring. Specifically, when people are progressing faster than they expected, a positive mood will be generated. A negative mood, on the other hand, should result when one's progress is slower than expected. Theoretically, this means that as long as mood is associated with goal performance, a negative mood should prompt people to increase their efforts and pursuit, while a positive mood should signal that people should relax their efforts given that they are moving more quickly than they planned (see Carver, 2003, 2004).

What about moods and emotions that emerge *after* the termination of a goal pursuit? In one way, an answer to this question is straightforward. Psychologists have long recognized that there are general affective consequences for attaining desirable things, and failing to do so. Those who attain things that they view as desirable feel good; indeed, things are desirable precisely because they promise to deliver pleasure, or an escape from pain. And, by extension, those who fail to reach something desirable will undoubtedly feel bad. Although people may not be able to accurately calibrate the actual extent to which they will feel good or bad once they reach or fail to reach a goal (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000), it is well-established that such affective experience transpires in this way (e.g., Bandura, 1989, 1991; Carver & Scheier, 1990, 1999; Clore, 1994; Frijda, 1996; Higgins, 1987).

Moreover, the nature of a given goal pursuit influences moods and emotions (e.g., Higgins et al., 1997). Specifically, different goals will lead to different emotional responses to completing the pursuit. A focus on reducing the discrepancy between one's actual and ideal self (a promotion focus) leads to feelings of cheerfulness in the case of success and dejection in the case of failure. In contrast, a focus on reducing the discrepancy between one's actual and

"ought" self (a prevention focus) leads to feelings of calmness in the case of success and anxiety in the case of failure.

We therefore suggest that goal pursuit can influence more generalized affective states in addition to evaluations of specific stimuli. Furthermore, the termination of a goal pursuit induces certain affective states. One important question however is whether these "effects on affect" can also be considered part of the goal construct; that is, whether they should be considered both part of what it means for the goal construct to be activated in memory as well as the consequences of goal operation. We argued earlier that implicit effects on knowledge activation and evaluations can reveal the content of the goal construct, and we extend this logic to more generalized affective states. Goal constructs include the positive emotions that characterize goal attainment as well as the negative emotions that characterize goal failure. These emotions may be associated with the end-state as well as with the related means of attainment and be part of the goal structure (Fishbach et al, 2004; Higgins, 1997). In addition, emotions are downstream consequences of goal activation and goal pursuit, as we reviewed here.

Goal relevant behavior

Goals influence how people choose to react and behave toward the world (e.g., Bandura, 1986; Carver & Sheier, 1998; Deci & Ryan, 1985; Gollwitzer, 1990; Locke & Latham, 1990; Mischel, Cantor, & Feldman, 1996; Abelson, 1980; Fiske, 1989; Miller, Galanter, & Pribram, 1960; Norman & Shallice, 1986; Shallice, 1972). The research that we have reviewed in this chapter so far shows that even nonconsciously activated goals influence overt behavior, including achievement, cooperation, helping, expressing anger, seeking casual sex, and much more.

In addition to such overt behavioral effects, goals also influence more subtle types of action. Thus, Fishbach and Shah (2006) demonstrated that people possess implicit behavioral dispositions (approach, avoid) toward stimuli that are consistently desirable (high priority goal stimuli) or undesirable (low priority temptations). They first asked participants to generate words related to important goals and words related to associated, undermining temptations (e.g., studying, exercising, vs. movies, alcohol). They then measured participants' implicit behavioral tendencies toward those stimuli by asking participants to push or pull a standard joystick in response to each of those stimuli. Given that previous research has shown that pulling movements are faster in response to desirable stimuli, and pushing movements are faster in response to undesirable stimuli (e.g., Solarz, 1960), Fishbach and Shah hypothesized that participants would show implicit behavioral responses in accord with the desirability of the goal-related stimuli. The results showed that participants were in fact faster to pull (vs. push) a joystick toward them in response to a goal-related word; they were also faster to push (vs. pull) the joystick away from them in response to a temptation-related word. These implicit behavioral dispositions predict explicit behavior and successful self-regulation.

It should be noted that although plenty of the research we have reviewed examined the effects of goals on knowledge activation, evaluations, and emotions, it is ultimately concerned with predicting behavior. This research is grounded on the assumption that such phenomena mediate between the goal and more overt behavior. For instance, the accessibility of knowledge should eventually translate into how the person behaves (Higgins, 1996a). Similarly, a large and extensive literature details how evaluative and affective experiences lead to behavioral effects (e.g., Albarracín, Johnson, & Zanna, 2005; Carver & Scheier, 1990; Higgins, 1996a). In this way recent work has emphasized the (often implicit) mediators at work in goal pursuit.

Summary

In this section we discussed the characteristics of goal operation, including those that involve knowledge activation, evaluations, moods and emotions, and behavior. We now turn to a new direction in the study of goals. This next section addresses how multiple goals interact, and includes topics such as goal competition and self-control. Just as most of the characteristics we considered in the previous two sections depend on the definitional assumptions about the structure and content of goals, so too does the theory and research in the next section. In particular, this theory relies on the assumption that goals are often interconnected with one another, and may contain facilitative as well as inhibitory links.

Section IV: On the Interaction Among Goals

Soren Kierkegaard, the Danish existentialist philosopher, instructed his readers to will only one thing (Kierkegaard, 1938). However, according to modern goal research, it is unclear whether people wish or can ever follow his recommendation (e.g., Kruglanski et al., 2002). Indeed, in previous sections we discussed how a variety of stimuli that people might naturally encounter in every day situations, including various semantic stimuli (words), objects, relationship partners, and strangers, can activate goals. This suggests that in a typical and richly complex social environment, in which there undoubtedly exist multiple cues for different goals, the co-activation of simultaneous goals seems inevitable. In addition, people also at times consciously choose to pursue several goals simultaneously (e.g., career and family). In the face of such numerous competing pursuits, a person necessarily has to prioritize the pursuits and resolve goal conflict in order to best ensure the successful attainment of as many goals as possible (Cantor & Langston, 1989; Emmons & King, 1988; Higgins, 1997; Markus & Ruvolo,

1989; Shah, 2005). Which of multiple goals deserves priority? And when does a person decide to emphasize the pursuit of a single goal versus balance between the pursuits of several goals?

As is evident, an integral part of understanding how goals operate is an understanding of how *multiple* goals interact with each other, and together influence behavior, evaluation, and emotion. Virtually all of our earlier discussion dealt with the requirements for the activation of a single goal and the characteristics of the operation of that goal. In this section, we discuss the challenge presented by multiple goals, and how the interaction among goals poses a special problem for decision-making and choice. We specifically distinguish between three configurations of multiple goals. Firstly, we consider the implications of pursuing multiple goals that are of similar centrality to the individual. We then move on to theorizing about situations in which a person is confronted with multiple goals of different centrality, which, therefore, pose a potential self-control conflict between a central goal with delayed benefits and a less central goal with immediate benefits. Finally, we look beyond the impact of several goals on a *single* action, to the effects of multiple goals on a *sequence* of actions that unfold over time.

Just as in previous sections, much of the principles that we consider in these areas of research derive from the definitional assumptions concerning the structure and content of goal representations that we described at the outset of the chapter. In particular, it is assumed that many goals have been activated simultaneously in the past, or are related with each other in semantic or emotional meaning. We therefore argue that many goals themselves are interconnected in memory, just as are the memories associated with a single end-state. This implies then that the activation of a given goal can automatically facilitate other compatible goals or perhaps inhibit competing goals. This assumption lies at the heart of much of the research on multiple goals.

Multiple goals of similar centrality

How does a person manage multiple goals of approximately equal centrality that conflict with one another? We identify two assumptions that govern research on the effect of multiple goals of similar centrality: *goal competition* and *multiple goal attainment.* In what follows, we discuss their implications for behavior, evaluation, and emotional experience.

Goal competition. One underlying assumption of goal research is that simultaneously activated goals compete for limited motivational resources. And, because resources are limited, the pursuit of a given goal will inevitably pull resources away from another goal. In particular, goals compete for attention, commitment, and effort (Anderson et al., 2004; Baumeister, Bratslavsky, Muraven, & Tice, 1998; Forster, Liberman, & Higgins, 2005; Shah et al., 2002; Shah & Kruglanski, 2002).

In one demonstration of goal competition, Shah and Kruglanski (2002) found that priming participants with a background goal (vs. a control word) undermined their commitment to the focal goal, which then hindered the development of effective means for goal-pursuit and dampened participants' emotional responses to positive and negative feedback about their goal progress. In one study, participants expected to perform two consecutive tasks corresponding to two goals. While working toward the first task (i.e., the focal goal), they were subliminally primed with the name of the second task they expected to perform later (i.e., the background goal) or with a control prime. The activation of the background goal led to a decline in persistence on the first task, lower performance success, and lower emotional reactivity to success and failure feedback. In other words, the activation of an alternative goal pulled away motivational resources from the focal goal.

Because goals compete for attentional resources, the activation of one, focal goal can sometimes lead to the inhibition of another, alternative goal in memory; in this way, the focal goal '*shields*' itself from alternative ones by directly reducing the accessibility of alternative goals in memory (Shah et al., 2002). Empirically, this inhibition is often reflected in the slowing down of lexical decision times to concepts that represent alternative goals. For example, Shah et al. (2002) demonstrated that when a goal-related concept (e.g., "study" vs. control word) was subliminally primed, it slowed down the lexical decision time to concepts related to alternative goals (e.g., "jogging"). The degree of inhibition of alternative goals was moderated by participants' commitment to the focal goal they were currently pursuing, such that only highly committed individuals (i.e., those who indicated that the goal is important) inhibited completing goals. In addition, because goals compete with each other, there is a self-regulatory advantage for inhibiting focal goals once they are accomplished, since by inhibiting completed goals, a person frees up resources to be used for new goal pursuits (Forster et al., 2005; Liberman & Forster, 2000).

An underlying assumption in research on goal competition is that goals acquire their motivational force from a limited pool of motivational resources. In other words, any act of self-regulation is by definition resource depleting (Baumeister, Heatherton, & Tice, 1994; Muraven & Baumeister, 2000; Vohs & Heatherton, 2000). Research on *ego depletion* has provided ample demonstrations for the depleting nature of self-regulatory acts across many self-regulatory domains (see Baumeister et al, in this volume). For example participants who were asked to control their emotional responses to an upsetting movie (vs. watching that movie with no goal in mind) were subsequently less able to persist on holding a handgrip. Or, in another study, participants who suppressed forbidden thoughts (vs. no suppression condition) were

subsequently less likely to persist on trying to solve unsolvable anagrams (Muraven, Tice, & Baumeister, 1998).

But because goal pursuits are resource depleting, people withdraw from a current, effortful goal in order to save their resources for another upcoming, goal-related task. For example, dieting students might stop trying to control their food intake just before they undergo an important academic test. In general, over a life time's worth of experience with regulating limited motivational resources, people may develop strategies of resource conservation and resource management, which are designed to save self-regulatory recourses for future goal pursuits (Shah, 2005). These research management processes may further operate outside of conscious awareness. Shah and his colleagues found that participants who were subliminally primed with the name of an upcoming difficult task (vs. non-word control) were less likely to put effort into the present task, took longer breaks, and consumed more juice, which they were told was helpful for the subsequent task (Shah, Brazy & Jungbluth, 2005). This work suggests that resource management is often strategic (while still nonconscious), and can follow different patterns of self-regulation, such that lower efforts follow or precede actual physiological depletion. Because resource management is strategic, the extent of decline in goal performance also depends on one's lay belief that another act of self-regulation is or will be depleting (Mukhopadhyay & Johar, 2005).

Taken together, there is converging evidence for the phenomenon of goal competition. How does goal competition influence a person's evaluations, emotions, and behavior? Firstly, beyond the effects of the activation and operation of a single goal on evaluations, goal competition presents some consequences for patterns of evaluations more generally. One such consequence is instability of evaluations over time. Because various goals wax and wane in

accessibility, the evaluations of objects related to those goals (means and hindrances) will also fluctuate. This means that a decision that is made according to the goal-relevance of options at one point in time may not be as optimal at a later time when the goal-relevance of those same options has changed. This can be particularly troublesome if the accessibility of the goals, and the corresponding fluctuation of evaluations, all take place nonconsciously, without the person's awareness. For example, a person who selected flight tickets based on low price may find this selection incompatible with another, competing goal of saving time, which becomes salient later on. Because the person may be unaware of this goal conflict, she or he may experience little satisfaction with the choice, and may regret it if the accessible goal has changed from saving money to saving time. In this way, the fluctuating nature of goal activation might sometimes introduce negative emotional consequences and mean that people are often somewhat dissatisfied with their choices.

Secondly, what implications does goal competition have for behavior? With respect to behavioral effects, a normative choice theory (e.g., the multiattribute utility theory, MAUT) entails that when people want to make a single choice in a way that will meet several goals (e.g., ordering food that is healthy, tasty and not too expensive), they should integrate these various goals by weighing their relative importance (e.g., Baron, 2000; Keeney & Raiffa, 1976). However, our analysis attests that the relative weight of a goal in the decision process is not fixed, and therefore integration is rarely optimal. That is, because multiple goals that are brought into a decision process can directly interfere with the attainment of each other, people may tend to overemphasize a focal goal in their decision while discarding other background goals that are temporarily inhibited by the focal goal. For example, when primed with "ease," students may

choose to work on a project that is easy while completely overlooking other goals, such as their level of interest in any particular project.

***Multiple goal attainment*.** We assume that the pursuit of multiple goals is characterized by a desire for *multiple goal attainment*. According to this assumption, given the presence of several salient goals and limited motivational resources, self-regulators search for attainment means that are *multifinal*, that is, means that are linked to the attainment of several goals simultaneously (Kruglanski et al., 2002). For example, a person may prefer to dine out (vs. dine in) in order to satisfy both hunger and various social motives (to see and be seen, etc.), or commuters may choose to commute by bike (vs. car) in order to save money and keep in shape.

What are the implications of the assumption that people try to find means that can meet as many active goals as possible? Multifinal means are by definition scarce because they constitute a subset of the original set of means to a goal, and are therefore more difficult to find. Thus, when individuals wish to achieve multiple goals, any increase in the number of accessible goals negatively affects the number of satisfactory means, thus elevating the difficulty of the search (Kruglanski et al., 2002; Tversky, 1972). For example, while many restaurants will satisfy one's hunger, somewhat fewer of them will provide an interesting scene, and fewer still are also not too expensive. In general, when holding multiple goals people end up searching longer for satisfying means and they also end up choosing "compromise" options that are less effective at satisfying each goal separately (Simonson, 1989). Moreover, because compromise options imply that none of the goals is met very strongly, people may at times choose to abandon the search for multifinal means altogether, and focus on only one goal.

The search for multifinal means also has consequences for evaluation, emotions and behavior. The preference for multifinal means may have an adverse effect on the evaluation of

the selected choice options if these options are only partially associated with the attainment of any salient goal (e.g., when people order food that is moderately tasty and moderately healthy). We argued earlier that goal-facilitating stimuli acquire positive value and goal-thwarting stimuli acquire negative value (Brendl et al., 2003; Ferguson & Bargh, 2004; Fishbach et al., 2004). However, in the course of pursuing multiple goals, an attainment means to one goal can potentially interfere with satisfying another goal and hence, although this means may be positively evaluated because its facilitation of one goal, it might also tend to be negatively evaluated because it hinders another goal. Thus, even though a given means to an active, focal goal should be particularly positive because it facilitates that goal, the simultaneous activation of another goal, one that the given means cannot facilitate, can end up dampening the positivity of that means. One consequence of this is that the quest for multifinal means may undermine the evaluation of a given available means, and lead to choice deferral and decision aversion because none of the means seems satisfying (Dhar, 1996, 1997; Iyengar & Lepper, 2000; Tversky & Shafir, 1992). As one example of this notion, Iyengar and Lepper (2000) found that students are more likely to choose a class assignment when offered a limited array of a few options that activate fewer goals, compared with when more options are presented. It also follows that holding a single goal (or fewer goals) should lead to the positive evaluation of means and decision seeking behaviors related to this goal. For example, a student who wishes to select an interesting project to work on would be less likely to defer her choice and be more satisfied with the selected project than her classmate, who might share equal interest in selecting an interesting and easy project.

In terms of the emotional experience of goal pursuit more generally, the quest for multiple goal attainment can lead to mixed emotions and ambivalence when people strive toward

incongruent ends (e.g., academics and leisure) and a means to one end (e.g., a textbook) acts as a hindrance to another. Under these circumstances, the same object or activity may be experienced both positively and negatively at the same time, and end up seeming ambivalent (e.g., Cacioppo, Gardner, & Berntson, 1999). For example, a student who works on an easy but uninteresting project would be both satisfied and unsatisfied with her choice.

It was shown that the preference for multifinal means has further behavioral implications and, in general, people prefer choice alternatives that partially meet, or strike a compromise, between several goals at once, rather than ones that fully meet or highlight a single goal (e.g., Simonson, 1989). As a demonstration, Simonson asked participants to evaluate several consumption products (e.g., apartment, calculator and television). Participants exhibited a greater preference for options that struck a compromise between several goals (e.g., large/small size and low price) than those that accomplished a single goal (e.g., provided low price).

Because in a multifinal choice the number of activated goals is inversely related to the number of acceptable means, it follows that there should be a negative relationship between the number of goals and the number of acceptable means that a person would choose to pursue. This pattern was demonstrated in a study conducted around lunch time by Kopetz et al. (2006), in which participants listed three goals that they had for that day (vs. goals already accomplishedon that day), other than getting lunch, before indicating the number of different lunch options that they would consider. Compared to participants in the control (accomplished goals) condition, those for whom actual goal alternatives were activated listed significantly fewer food options in which they were interested.

Though highly desirable to have, multifinal means may suffer a disadvantage as well in that they may be perceived as less effective and instrumental to goal attainment. This may be so

because multifinal means can be objectively less effective. But this may also be because perceived effectiveness of a given means to goal attainment is determined in part by the strength of the association between that means and the goal, with stronger associations leading to higher perceived effectiveness. When the number of goals attached to a given means increases, each association becomes weaker, as demonstrated by a lower retrieval rate of the associated goal when the means is activated (Anderson, 1983; Anderson & Reder, 1999). The result is a dilution of the means-goal association, which may reduce the perceived effectiveness of the means with respect to the goal. In a demonstration of such a *dilution effect*, Zhang, Fishbach, and Kruglanski (2006) found that when participants considered the different goals (e.g., building muscles and losing weight) that a single means (e.g., working out) could satisfy, an increase in the number of goals resulted in a reduction in the perception of the instrumentality of the means with respect to each goal.

As a result, means that were connected with multiple goals were also less likely to be chosen and pursued when a single (vs. multiple) goal needed to be fulfilled. For example, participants were less likely to use the writing function of a pen that had also been used as a laser pointer (vs. was not used as a laser pointer) when they only needed to write (Zhang et al., 2006). It appears that multifinal means are desirable when the individual foresees the pursuit of multiple goals, but those same means are judged as less effective and they less likely to be selected when the individual focuses upon a single goal.

Self-control conflicts

We have identified two underlying mechanisms for managing multiple goals that are of similar centrality: goal competition and multiple goal attainment. But people often hold multiple

goals that differ in their importance or centrality, and these goals can impose a self-control dilemma. In what follows, we address such a situation.

People face a self-control problem when the attainment of their central, higher-order goals comes at the expense of foregoing low-order desires or temptations (Ariely & Wertenbroch, 2002; Baumeister, Heatherton et al., 1994; Dhar & Wertenbroch, 2000; Gollwitzer & Moskowitz, 1996; Kivetz & Simonson, 2002; Kuhl & Beckmann, 1985; Loewenstein, 1996; Metcalfe & Mischel, 1999; Rachlin, 1997). For example, the pursuit of academic excellence, professional success, or fitness and general health each comes with the expense of foregoing low-order although salient goals (e.g., partying, taking long vacations, or consumption of fatty foods, respectively). As these examples demonstrate, temptations are defined within a given situation and with respect to the higher order goals at hand. For example, while going on vacations interferes with pursuing professional success, thoughts about one's career can undermine one's ability to relax and enjoy a vacation. This context-specific definition of temptations suggests that when individuals strive toward multiple goals, any goal can potentially constitute an interfering temptation with respect to another, currently more central, goal. In response to self-control dilemmas, people exercise self-control (Dhar & Wertenbroch, 2000; Gollwitzer, 1999; Kivetz & Simonson, 2002; Kuhl, 1986; Muraven & Baumeister, 2000), and these self-control operations influence behavior, evaluation and emotion.

The operation of self control through construal. What do self-control operations entail? One category of such operations involves the construal of the self-control conflict in abstract (versus concrete) terms. For example, in one of the first systematic studies of self-control operations, Walter Mischel and his colleagues found that an abstract representation of the immediate reward (e.g., a small candy) helped children wait for the delayed, preferred reward

(e.g., a large candy; Mischel & Mischel, 1983; Mischel, 1964; Mischel, Shoda, & Rodriguez, 1989). According to Mischel and colleagues, abstract representations facilitate success at self-control because they activate a "cool" (cognitive and evaluative) system, while suppressing a "hot" (emotional and operating) system (Metcalfe & Mischel, 1999; Mischel & Ayduk, 2004). When a person is in an evaluative mode, rather than an action mode, the person is more likely to follow a higher order goal. As a recent demonstration of this idea, Kross, Ayduk and Mischel (2005) manipulated abstractness by asking participants to elaborate on the "why" versus "how" aspects of their experience (Freitas, Gollwitzer, & Trope, 2004; Vallacher & Wegner, 1987). They found that participants displayed improved self-control in coping with anger-provoking experiences when they had elaborated on why they had the experience (an abstract construal) as opposed to how they exactly felt (a concrete construal).

In addition, abstract processing increases success at self-control by directing people's attention to their central, high-order (vs. low-order) goals (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006; Rachlin, 2000). According to a construal level analysis (e.g., Trope & Liberman, 2003), abstract processing is associated with high-level construal and it can facilitate success at self-control by directing people's attention to high-order goals. In support of this analysis, Fujita et al. (2006) found that asking participants to generate superordinate category labels (abstract processing) versus subordinate exemplars (concrete processing) for a variety of common objects, increased participants' subsequent motivation to undergo a difficult yet important test. Presumably, abstract processing allows one to successfully ignore the immediate aversiveness of adhering to high order goals.

The operation of self- control through evaluation and emotion. Another category of self-control operations includes *counteractive control* processes, which offset the influence of

temptations on adherence to a central goal. Of particular interest, counteractive control processes influence the evaluation of and the affective experience of choice alternatives related to a central goal and less central temptations when these are in conflict (Fishbach & Trope, 2005; Trope & Fishbach, 2000, 2005).

Research on counteractive control attests that when people anticipate a self-control problem, they proactively increase the desirability of adhering to a goal relative to yielding to temptation. The presence of tempting alternative may thus influence goal-directed behavior in two opposite directions: directly, the perception of tempting alternatives decreases the likelihood of adhering to a more central goal; but, indirectly, the perception of tempting alternatives triggers the operation of counteractive control, which then acts to increase the likelihood of adhering to the goal. For example, an invitation to go out on the night before an important exam directly decreases the likelihood of studying, but it may further set into action counteractive bolstering of the value of studying, which increases the likelihood of engaging with this activity. As a result of counteractive control such invitation has no effect on studying for the exam overall.

Some of the counteractive control operations that people employ involve changes in the actual choice situation. For example, people may impose penalties on themselves for failing to adhere to an important goal (e.g., failing to abstain from smoking), or they may eliminate certain choice alternatives such as cigarettes or fatty foods from their environment, thus making their decision irreversible (Ainslie, 1975; Green & Rachlin, 1996; Rachlin & Green, 1972; Schelling, 1978, 1984; Strotz, 1956; Thaler, 1991; Thaler & Shefrin, 1981). In addition, people counteract temptations by changing the positive evaluation of adhering to their goals and pursuing temptations (see also Kuhl, 1986; Mischel, 1984), and they further change the perceived emotional significance of goals and temptations.

To demonstrate changes in evaluation in response to temptation, Trope and Fishbach (2000) offered participants an opportunity to take a diagnostic test that was described as requiring abstinence from food containing glucose for either a long or a short period (3 days vs. 6 hours). Participants evaluated the test more positively when it required a long (vs. short) period of glucose abstinence, i.e., when the temptation to forego the test was stronger. They also found that whereas the length of the abstinence directly decreased interest in the test, indirectly it increased interest in undergoing the test, by increasing its positive evaluation. Other studies demonstrated similar effects on the emotional reactivity to succeeding on goal-related activities. When facing strong versus weak temptations, participants reported that goal pursuits were associated with more intense pride while failing on goal pursuits was associated with more intense guilt.

Bolstering the value and emotional reactivity of a goal in response to a temptation can be deliberate and may require some level of conscious awareness, intentionality, and processing resources (Baumeister et al., 1998; Mischel, 1996; Muraven & Baumeister, 2000; Trope & Neter, 1994; Vohs & Heatherton, 2000). However, our analysis suggests that goals and the process of self-regulation may not require consciousness and intentionality, and it follows that processes of self-control and overcoming temptations can also proceed nonconsciously (Ferguson, 2006a, 2006b; Fishbach et al., 2003; Gollwitzer, Bayer, & McCulloch, 2005; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999). One such implicit strategy involves the activation of goal representations in response to cues for temptations (Fishbach et al., 2003). For example, Fishbach et al. assessed the lexical decision time to respond to words representing a potential goal following the subliminal presentation of words representing potential temptations. They found that subliminal temptation primes (e.g., “drugs” vs. control words) facilitated the lexical

times for goal-related targets (e.g., “bible”). In addition, goal related primes (vs. control words) inhibited the lexical time for temptation-related targets, and these implicit and asymmetrical activation patterns were shown to increase success at self-control.

Other implicit self-control operations involve changes in the implicit positivity of goals and temptations. For example, Fishbach, Zhang and Trope (2006) documented an implicit negative evaluation of temptations and an implicit positive evaluation of goals when these two were in a conflict. In one study, dieters (vs. non dieters) responded faster to positive concepts after being subliminally primed with words related to dieting (e.g., diet), and they responded faster to negative concepts after being subliminally primed with words related to food (e.g., cake). We claimed that such changes in implicit positivity directly influence behavior (e.g., Ferguson & Bargh, 2004). Indeed, as indicated earlier, Fishbach and Shah (2006) documented a similar tendency to automatically approach stimuli related to a goal (through faster pulling responses) and automatically avoid stimuli related to temptation (through faster pulling responses). These implicit approach and avoidance responses predicted the attainment of high-order interests. For instance, the rate of responding by pulling a joystick in response to academic targets (e.g., ‘library’) and by pushing a joystick in response to nonacademic, tempting targets (e.g., ‘party’), predicted student participants’ GPA scores.

The bidirectional relationship between emotions and self-control. We have thus far claimed that self-control operations involve changes in evaluation and emotions. Here we consider more generally the relationship between emotions and success at self-control. We suggest that the resolution of a self-control conflict has implications for one’s emotional experience and, in addition, people’s emotional experience and mood influence how they resolve a self-control conflict. In what follows we address these influences.

Firstly, with regard to the effect of self-control on people's emotions, whereas the successful resolution of a self-control conflict is characterized by the experience of feelings such as pride, a failure at self-control is characterized by feelings such as shame and guilt. These emotions (e.g., pride vs. guilt) are high-level, self-conscious emotions that people experience when they engage in a self-control behavior directed toward higher-order goals, and they are qualitatively different from more basic emotions such as happiness and fear that are low-level and signal immediate rewards or punishments (e.g., 'hot' feelings; Metcalfe & Mischel, 1999). Presumably, part of the reason that people adhere to high order goals is because they wish to experience positive self-conscious feelings and avoid negative self-conscious feelings (Beer & Keltner, 2004; Giner-Sorolla, 2001; Tangney, Miller, Flicker, & Barlow, 1996; Tracy & Robins, 2004). In support of this notion, guilt is associated with failing to maintain social relationships and with overeating and therefore, considering one's possible guilty feelings leads to improving social relationships (Baumeister, Stillwell, & Heatherton, 1994) and reducing the amount of fatty food eaten by dieting individuals (Giner-Sorolla, 2001).

But how do existing affective states influence the subsequent motivation to exercise self-control? This second question refers to the effect of emotions on self-control, and previous research poses an apparent contradiction in addressing it. Some research has claimed that positive mood undermines self-control (e.g., Wegener & Petty, 1994; Wegener & Petty, 2001), while others have claimed that positive mood improves self-control (e.g., Aspinwall, 1998; Raghunathan & Trope, 2002). Specifically, researchers have claimed that positive mood impairs self-control because happy (vs. unhappy) people prefer activities that prolong the quest for positive mood. For example, Isen and Simmonds (1978) reported that participants in a happy mood were less helpful than those in a neutral mood when the helping behavior involved reading

unpleasant information. Similarly, Wegener and Patty (1994) found that happy (vs. neutral or unhappy) participants chose to see more happy films but not more interesting films. Conversely, other mood researchers found that positive mood is often "used" for accomplishing tasks that have immediate costs and require self-control (Aspinwall & Taylor, 1997; Raghunathan & Trope, 2002; Trope & Pomerantz, 1998). For example, research on the delay of gratification attests that happy (vs. unhappy) children are better able to wait for a delayed, preferred reward than for an immediate, less preferred reward (Moore, Clyburn, & Underwood, 1976; Schwarz & Pollack, 1977). In addition, research on negative feedback seeking (i.e., feedback about a person's shortcomings) reveals that people take an increased interest in this potentially useful information when positive mood is induced. For example, caffeine drinkers who were induced to feel good were more attentive to negative information about the health effects of caffeine (Raghunathan & Trope, 2002, see also, Trope & Neter, 1994). Also consistent with this latter possibility, there is research showing impaired self-control ability during negative mood states (Leith & Baumeister, 1996; Tice, Bratslavsky, & Baumeister, 2001).

How can these areas of work be reconciled? Our view assumes that people can use their mood as information about the task at hand (e.g., Schwarz & Clore, 2003) and, in particular, we suggest that moods are seen as signals to either adopt or reject any accessible goal. That is, while the experience of positive mood signals to people that they should approach a stimulus, the experience of negative mood signals to them that they should avoid a stimulus (e.g., Cacioppo et al., 1999; Higgins, 1997; Larsen, McGraw, & Cacioppo, 2001; Lazarus, 1991). Accessible goals are one set of stimuli that people need to decide whether to approach or avoid. Thus, it follows that a positive mood should increase people's tendency to adopt any accessible goal, whether the goal is high-order (e.g., self-improvement) or low-order (e.g., mood management). In this way,

happy people should perform better on self-control tasks when they hold an accessible high-order goal, but perform poorly when they hold an accessible low-order goal.

In support of this analysis, Fishbach & Labroo (2006) found that when self-improvement goals were accessible, happy (vs. unhappy) participants invested more effort in a task that furthered the goal, even if the task was unpleasant or demanding. Conversely, when mood management goals were made more accessible, happy people invested less effort than unhappy people. In one study that tested for charity donations, happy (vs. unhappy) participants were asked to describe what they generally do to 'be better' (high-level, self-improvement) versus 'feel better' (low-level, mood enhancement). They were then asked to participate in a local charity campaign that promoted protecting young children from injury or death by improving children's product safety. Happy (vs. unhappy) participants donated more money when they had considered the self-improvement goal but not when they considered the mood management goal. Other studies replicated the effect of mood on self-control by nonconsiously priming self-improvement or mood management goals, which further demonstrates that the direction of the relationship between mood and success at self-control depends on a person's accessible goal.

The pursuit of multiple goals in a choice sequence

The previous sections refer to situations that involve the consideration of multiple goals of either similar or different centrality, which influence the selection of an action that secures their attainment. Notably however, few goals can be completed by the execution of a single action; rather, goals frequently require taking several actions that maintain goal pursuit over time. The challenge that individuals face over repeated choice situations is to decide between emphasizing, or highlighting, the pursuit of a single goal and balancing between several goals. In this section, we address this challenge, and consider how the specific strategy of goal pursuit

(highlighting a single goal vs. balancing among several goals) that an individual employs for actions that unfold over time, may influence their immediate behavior, evaluations, and emotional experience.

As stated above, when individuals simultaneously hold multiple goals that they wish to pursue over time, self-regulation may follow one of two possible dynamics: highlighting the pursuit of a single goal in several consecutive actions versus balancing among several potentially incongruent goals across several actions (e.g., Fishbach & Dhar, 2005, 2006; Fishbach, Dhar, & Zhang, 2006). For example, consider a person who chooses to dine out and wishes to both save money and seek pleasure. In the absence of compromise options, that person can balance between these conflicting goals by choosing an expensive appetizer and less expensive entrée; or, the person can highlight one of these goals, e.g., by choosing an expensive appetizer and an expensive entrée. *Choice-highlighting* refers to a dynamic of self-regulation where pursuing one goal enhances the commitment to this particular goal relative to competing ones and motivates complementary actions over time. *Choice-balancing* refers to a dynamic of self-regulation where pursuing one goal liberates the individual to pursue other, conflicting goals on the next opportunity (Dhar & Simonson, 1999; Fishbach & Dhar, 2005; Fishbach et al., 2006).

What then determines a person's interest in choice highlighting versus choice balancing? One factor is how the person interprets the meaning of an initial action that is congruent with one of the goals. It is possible that a person could interpret such an action as indicating a strong commitment to the respective goal. If so, such an interpretation would then increase the motivation to make similar, complementary actions, and to inhibit any competing goals (Aronson, 1997; Atkinson & Raynor, 1978; Bem, 1972; Feather, 1990; Festinger, 1957; Locke & Latham, 1990). The following choices then would be considered *choice highlighting* because the

person would be prioritizing one goal over the others. On the other hand, it is also possible that a person might interpret that initial choice as indicating progress toward that goal. If so, then that person might consequently relax her or his efforts toward the goal, and begin to attend to the other competing goals. In this way, the interpretation of a goal-congruent action as progress signals the reduction of a discrepancy between the present state and goal attainment (Carver & Scheier, 1998; Miller et al., 1960; Powers, 1973). The person's choices would thereafter be considered as *choice balancing* because she or he would be attempting to pursue multiple goals as much as possible, rather than focusing on a particular goal.

Research by Fishbach and Dhar (2005) demonstrated that people do indeed make inferences concerning goal commitment or goal progress, and these inferences activate different dynamics of self-regulation when there are multiple goals at stake. As an illustration, these researchers found that when initial academic success was interpreted as indicating greater commitment to academic goals, students were subsequently more interested in pursuing additional academic tasks and they were less interested in pursuing incongruent leisure activities. Yet, this same level of initial academic performance decreased interest in additional academic tasks and increased interest in balancing between initial success and subsequent choice of leisure activities when students inferred that progress had been made on the academic goals.

In addition to an initial goal-congruent action being able to be interpreted in multiple ways, an initial failure to pursue a goal is also open to multiple interpretations. Such a failure can signal either a lack of sufficient commitment to a goal, or a lack of progress toward the attainment of that goal (Fishbach et al., 2006). If people infer low goal-commitment based on an initial failure, they tend to subsequently highlight this failure by disengaging from the goal (Cochran & Tessser, 1996; Soman & Cheema, 2004). If, however, following failure people infer

a lack of progress toward the goal to which commitment remains intact, they tend to balance between the initial failure and their subsequent greater motivation to work harder by choosing additional actions that pursue this goal (e.g., see research on self-completion theory; Brunstein & Gollwitzer, 1996; Wicklund & Gollwitzer, 1982). Thus, for example, failure on an exam decreases the subsequent motivation to study if it signals low commitment to doing well academically but increases the subsequent motivation to study if it signals the absence of progress toward the goal of academic excellence.

Previous goal research has often focused on one of these dynamics only. Thus, as an example of choice balancing, Shah and Kruglanski (2002) examined goal substitution. In one study, these researchers framed two anagram tasks as relating either to the same goal or different goals. In one condition, one task was linked to promotion goal and the other task was linked to prevention goal (see Higgins, 1997); in the other condition the tasks were linked to the same prevention or promotion goal. They found that success at the first task decreased performance on the second when it served the same (vs. different) regulatory goal, because participants experienced goal attainment. But failure at the first task increased performance on the second task if both served the same (vs. different) goals, because participants did not experience attainment. Such substitution was shown to lead to ironic results when people substitute intention for action (e.g., Prelec & Bodner, 2003; Tesser et al., 1996). For example, Monin and Miller (2001) gave participants an opportunity to disagree with blatantly sexist statements, and those who received the opportunity (vs. not) were later more willing to favor a man for a stereotypically male job, presumably because the first task was sufficient to establish their moral credentials.

In yet another demonstration of ironic substitution, Fishbach & Dhar (2005) found that an initial sense of successful weight loss increased dieters' tendency to indulge. In their study, dieting participants were asked to draw a line that represented the distance between their current and ideal weight on a scale that either had -5 lbs. or -25 lbs as its maximum discrepancy. Providing a scale with a wide range (-25 lbs.) created an illusion of smaller discrepancy (e.g., 4:% vs. 20%, for a person who would like to lose 1 lb.), which led to greater perceived goal attainment. As a result, those who completed a wide (vs. narrow) scale were more likely to choose a chocolate bar over a low-calorie snack on a subsequent, supposedly unrelated choice task.

But how does substitution influence everyday behavior? People's intuitive belief in balancing between multiple goals leads them to seek variety and switch among goals when choosing items such as foods or leisure activities (Drolet, 2002; Ratner, Kahn, & Kahneman, 1999; Simonson, 1990). As a result, people sometimes end up choosing the less preferred item that is associated with the less valuable goal and which undermines choice satisfaction. According to the current framework, a variety-seeking behavior is driven by individuals' beliefs about satiation and maximizing the attainment from multiple goals. Therefore, for example, people incorporate more variety when simultaneously choosing several items than when choosing one item at a time (Simonson, 1990), because of their overestimation of the rate at which they will experience attainment (Read & Loewenstein, 1995).

However, people also demonstrate choice highlighting when they infer commitment and end up performing congruent behaviors. For example, research by Fishbach, Ratner & Zhang (2006) demonstrated that variety seeking behavior is attenuated and even reversed (as indicated by a greater preference for a previously selected item in a sequence) if participants consider their

stable preferences based on their initial choice, rather than the extent of satiation on that goal. In general, consistency theories in social psychology documented a desire to express congruency in a behavioral sequence; thus once a person engages in an initial action, the person feels that she should pursue similar actions (e.g., Aronson, 1997; Bem, 1972; Cialdini, Trost, & Newsom, 1995; Heider, 1958). For example, once participants agreed to display a small sign to advocate driving safety, they were more likely to display a larger sign to advocate the same goal compared with those who did not display the small sign (Freedman & Fraser, 1966). Other researchers have further indicated that behavioral consistency is associated with emotional benefits (Aronson, 1997; Festinger, 1957).

Future plans influence present actions. We described the effect of past actions on the present preference for actions that pursue the same or different goals, but what about the effect of future, planned actions? Do these actions also influence which goals a person decides to pursue in the present? There is some evidence that planned actions do influence present ones (Bandura, 1997; Oettingen & Mayer, 2002; Taylor & Brown, 1988). Thus, research on self-efficacy (Bandura, 1997) and positive illusions (Taylor & Brown, 1988) attest that exaggerated beliefs in actions that will be taken in the future lead to higher motivation to work harder on that goal in the present (see also Atkinson, 1964; Weiner, 1979). But other suggested that future plans can also undermine the motivation to work on a goal in the present. For instance, Oettingen and Mayer (2002) found that positive *expectations* of future goal pursuit lead to greater effort and successful performance on a focal goal in the present. But the reverse was true for positive *fantasies*, which are images depicting future goal attainment. Fantasies predicted lower effort on a focal goal in the present. As a demonstration, in one study college students who expected to

start a relationship with a person were more likely to start an intimate relationship compared with those who experienced positive fantasies about future romantic success.

But regardless of the direction of the influence on present actions (more vs. less goal pursuit), what is the relative impact of future plans compared with past actions? Building on the observation that people are unrealistically optimistic (Buehler, Griffin, & Ross, 1994; Weinstein, 1989; Zauberman & Lynch, 2005) and therefore believe more goal-congruent activities will be accomplished in the future than in the past, it is possible that future plans have a greater impact on immediate goal pursuits than retrospection on past pursuits (Zhang, Fishbach & Dhar, 2006). The direction of the impact should then depend on the framing of the goal pursuit as indicating commitment versus progress. When people consider their level of goal-commitment, thinking about plans for future (vs. past pursuits) leads to greater persistence on the goal in the present. Conversely, when people consider their level of goal-progress, thinking about future plans (vs. past pursuits) justifies disengagement from the focal goal in the present. As a demonstration, Zhang et al. (2006) asked gym members to estimate either the frequency of their exercise in the coming year or the frequency of their actual exercise regimen last year. Those who considered future (vs. past) exercise were more likely to consume healthy food in the present, if the exercise was framed as increasing commitment to the health goal. But envisioning future (vs. recalling past) exercise decreased the relative preference for healthy food in the present when the exercise was framed as increasing progress toward the health goal.

When do people highlight versus balance multiple goals? We described evidence in support of people's preference for making congruent choices that highlight a single goal when they consider their goal commitment, and people's preference for making incongruent choices that balance between different goals when they consider their goal progress. Several variables

determine the relative focus on commitment versus progress. Firstly, these inferences may be determined by situational cues, such as framing questions that direct one's attention to different aspects of goal-related actions. For example, Zhang et al. (2006) manipulated the degree of optimisms that gym members experienced (following Taylor, Pham, Rivkin, & Armor, 1998) before asking them whether by exercising they are "getting closer" to their workout objectives (progress frame), or whether they are "feeling more committed" to their workout objectives (commitment frame). High levels of optimism had opposite consequences for the subsequent interest in healthy eating: dampening the interest among those who focused on the progress from their actions and increasing the interest among those who focused on the commitment from their actions.

Secondly, the degree to which individuals infer progress or commitment from their actions depends on their relative attention to the concrete aspects of the action in comparison with the corresponding abstract goal that initiated this action. When people consider the attainment of the action itself, they may experience some of the benefits associated with goal fulfillment, which motivates them to move temporarily away from the goal. On the other hand, when the focus is on an overall, more abstract goal, the same level of successful attainment provides evidence for a person's higher commitment to, and identification with, the goal more than it indicates progress. Fishbach et al. (2006) tested this idea by giving participants an opportunity to work on two independent verbal ability tests that represented actions to an academic achievement goal. The first test had correct solutions, whereas the second test was unsolvable. They found that those who received high (vs. low) success feedback on the first test exhibited lower motivation to persist on a second similar but unsolvable test. This pattern replicated Shah and Kruglanski's (2002) findings on substitution. However, when in another

condition an overall achievement goal was nonconsciously primed, high (vs. low) success feedback elicited greater motivation to persist on the second test, since success signaled greater commitment.

In another study, Fishbach et al. (2006) tested temporal distance (e.g., Trope & Liberman, 2003) as another variable that determines the relative focus on the action itself (for proximal actions) versus the abstract goal that initiated it (for distant actions). They found that actions that were scheduled in the near future signaled their own attainment, whereas actions that were scheduled in the distant future signaled commitment to an overall goal. For example, studying for an exam in the present signaled the accomplishment of an academic task whereas studying in the future signaled the commitment to an academic goal. These inferences in turn increased the amount of time that participants intended to invest on additional actions to an overall goal that were scheduled in the distant versus proximal future (e.g., study for a second exam).

Thirdly, with regard to goals with an obvious end state, the relative focus on commitment versus progress may depend on whether a person attends to the amount of goal pursuit that was accomplished, as opposed to the remaining amount of goal pursuit that is required to meet the goal. Whereas completed actions establish a sense of commitment by signaling to the person that the goal is important, actions that are yet to be taken highlight the amount of progress that is still needed for goal accomplishment. For example, in the decision to participate in a charity campaign, learning about the amount of seed money that was collected thus far provides information regarding the importance of the campaign, which establishes commitment; whereas learning about the amount of money that is needed to complete the campaign goal provides information that establishes a sense of goal progress. It follows that uncommitted individuals, who wish to assess whether the goal is important, would be more influenced by learning about

accomplished actions, whereas committed self-regulators, who wish to assess the required efforts in order to accomplish the goal, would be more influenced by considering the remaining distance for goal completion. These predictions were recently tested by Koo and Fishbach (2006) who conducted a field study as part of an HIV/AIDS Initiative. Participants in their study were potential donors who were either committed individuals who donated money before or uncommitted individuals who did not donate money before. Uncommitted participants were more likely to donate and donated higher amounts when they read about the amount of money raised thus far as opposed to the amount of money that is still required, whereas committed participants were more likely to donate and donated higher amounts when they read about the amount of money still required than the amount of money that was raised.

Effects on evaluations and emotions. These aforementioned dynamics of multiple goals pursuit have further implications for evaluation and emotion. We proposed that in self-control situations, people secure the attainment of an important goal by increasing the positive evaluation of the high order goal relative to temptations (e.g., Fishbach & Trope, 2005; Trope & Fishbach, 2000). But what if people perceive an opportunity to balance between the goal and temptations and hence, view these options as complementary rather than competing? For example, a dieter may choose to balance between low- and high-calorie foods, or choose to highlight a choice of low-calorie foods. We next explore how each of these dynamics influences the evaluation of choice options.

When people plan to highlight the pursuit of a single goal across several actions, they should generate a positive evaluation of objects or means related to this goal, and a negative evaluation of objects or means related to competing alternatives, i.e., temptations. Conversely, when people wish to balance between goals and temptations that they see as complementary

rather than competing, they should express a more positive evaluation of objects or means related to the tempting option relative to those that are related to the goal option. The reason for this latter evaluative pattern is that goals (relative to temptation) offer delayed benefits (Ainslie, 1975; Rachlin, 1997; Thaler & Shefrin, 1981), and therefore when people expect to balance, they prefer to pursue the temptation in the present and postpone goal pursuits for the future, and as such, maximize the attainment from both. For example, people may choose to indulge today and start a diet tomorrow, and therefore express a positive evaluation of fatty food in the present.

In studies that demonstrated these evaluative patterns, Fishbach and Zhang (2006) manipulated the perception of items related to goals and temptations as complementing each other versus as competing with each other. Complementary items were presented in one choice set and competing items were presented in two different choice sets. They found, for example, that when healthy and unhealthy foods are included on one menu, participants saw them as complementing and planned to balance between them. As a result, the value of unhealthy foods was higher relative to the value of healthy foods. However, when these foods were presented apart in two different menus, participants saw them as competing with each other and planned to highlight the consumption of healthy food. As a result, the value of healthy foods was higher. Importantly, when these items were evaluated in isolation, i.e., in the absence of cues for alternative goals, they had similar value.

The evaluation of items related to multiple goals has further influence on the emotional experience that characterizes the self-regulatory process and goal attainment. That is, when people wish to highlight the pursuit of a single goal in a sequence, actions related to this goal are associated with positive emotions and actions that interfere with it are associated with negative emotions. However, when people wish to balance between several goals, actions directed toward

one goal can interfere with the attainment of another goal and, hence, might be less associated with positive emotions. Similarly, actions that interfere with the initial goal can advance the pursuit of another goal and be less emotionally negative. For example, socializing before an important exam is less guilt provoking if a student plans to balance between academic and social pursuits. The result is that when people consider the pursuit of multiple goals across several actions and over time, the emotional experience from goal-related actions is less intense.

Summary

Research reviewed in this section addresses the phenomena surrounding those situations where multiple goals are at stake. We considered the effects of goals that are of similar centrality as opposed to goals that vary in their relative centrality and impose a self-control dilemma. We also described research on how multiple goals interact when a person only considers a single act of self-regulation, as opposed to when a person considers the pursuit of multiple goals over time and across several decisions. Based on research reviewed here, we suggest that multiple goals (versus a single goal) present unique implications for people's behaviors, evaluations and emotions. We further propose that these effects follow from our definition of the goal construct that we outlined in the first section.

Concluding Remarks

Multiple researchers across various domains of psychology have documented the wide-ranging effects of goals on behavior, attitudes and evaluations, and emotions and moods. In this chapter, we sought to identify the main principles from this literature by focusing on how goals become activated in the first place, the mechanisms that underlie and enable their operation, and the ways in which they interact with one another. Our analysis was grounded in basic definitional assumptions about goals concerning their structure in memory, and the nature of

memories assumed to be relevant to goals. We attempted to showcase throughout the chapter how many of the recent findings we reviewed derive from these definitional assumptions.

One central distinction between past research and the current framework concerns the degree to which people are aware of goal activation and pursuit. Throughout most of the last century of empirical and theoretical psychology, goals have been commonly understood as objects, states, or experiences that people consciously want or do not want (e.g., Gollwitzer & Moskowitz, 1996; Locke and Latham, 1990). Such conscious desires naturally dictate people's (conscious) thoughts, emotions, and behaviors. This past research also largely focused on the various determinants and effects of specific types of goals (e.g., accuracy versus impression formation), and different ways of approaching the same goal (attaining achievement via academic or social means). In contrast with this work, our framework involves the consideration of goals that can become activated and operate without the person's awareness or intention, either in isolation or among other goal pursuits, a move that reflects much research in social cognition over the last two decades (e.g., Bargh & Chartrand, 1999; Kruglanski et al., 2002). With the assumption that goals essentially consist of constructs in memory that operate according to basic principles of knowledge activation (e.g., Higgins, 1996b) comes the potential for such constructs to be activated in memory without the person's awareness. And, just as a given thought, emotion, and action can be prompted by processing that remains implicit, so too can goal pursuit. In this way, people's choices of actions, emotions, and evaluations can be driven by goals of which they are unaware.

It is noteworthy that even though this recent framework differs in arguably substantive ways from much traditional research on goals, it nevertheless follows directly from classical research in social psychology more broadly. In particular, the view that goals can become

activated and influential merely upon perception of features of the environment follows from the tradition in social psychology to understand and document the power of situational forces to influence human behavior (since Asch, 1952; Cartwright, 1959; Milgram, 1963, Lewin, 1935). In this way, some of the recent work on goals provides a fuller picture of how goals might be selected merely as a function of the prompts and triggers in people's everyday surroundings.

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