
17 Evaluative Readiness: The Motivational Nature of Automatic Evaluation

Melissa J. Ferguson and John A. Bargh

CONTENTS

Notes on Terminology.....	288
Attitude versus Evaluation.....	288
Affect and Evaluation.....	288
Automatic versus Implicit.....	289
Notes on Measurement.....	290
The Evaluative Priming Paradigm.....	290
The Implicit Association Test.....	291
The Motivational Nature of Automatic Evaluation.....	291
Automatic Evaluations and Currently Accessible, Conscious Goals.....	292
Automatic Evaluations and Currently Accessible, Nonconscious Goals.....	294
Automatic Evaluations and Chronically Accessible Goals.....	296
The Motivation Nature of Automatic versus Explicit Evaluations.....	298
Conclusions.....	299
References.....	299

The determinants and implications of people's likes and dislikes for stimuli in their environment has been a central topic of study over the 100 years since empirical psychology began (Allport, 1935; Brown, 1998; Eagly & Chaiken, 1993; Higgins & Brendl, 1996; McGuire, 1969, 1985; Osgood, Suci, & Tannenbaum, 1957; Rosenberg, 1965; Tesser & Martin, 1996; Zajonc, 2000). Throughout most of this period, researchers have studied people's likes and dislikes (i.e., attitudes, evaluations, preferences) by simply asking them to report them (Himmelfarb, 1993; Krosnick, Judd, & Wittenbrink, 2005). For example, a typical methodological strategy is to ask respondents to indicate on an 11-point scale how much they like a variety of stimuli. In this way, researchers have typically examined how people's explicitly (i.e., consciously, intentionally) generated evaluations predict their behavior across a range of circumstances, change after learning about new information or experiencing persuasive

appeals, and compare to other people's evaluations (for reviews see Albarracín, Johnson & Zanna, 2005; Eagly & Chaiken, 1993). This approach has yielded valuable insight into the questions of how, when, and why, and to what effect people evaluate stimuli as good versus bad.

Over the last two decades, however, there has been a remarkable shift in researchers' assumptions about the ways in which people generate likes and dislikes in response to stimuli. A considerable amount of data now show that people's evaluative processes are not limited or constrained to those times during which they are consciously and deliberately reflecting on a given stimulus. Instead, people evaluate the stimuli in their environment effortlessly, spontaneously, quickly, and often without realizing they have done so (Bargh, Chaiken, Gendler, & Pratto, 1992; Fazio, 2001; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Greenwald, Klinger, & Liu, 1989; Greenwald, McGhee, & Schwartz, 1998; Zajonc, 1980).

That is, on the mere perception of a stimulus, people invariably evaluate the stimulus in terms of being positive or negative, and they do so without being aware of it, intending to do so, or exerting any appreciable effort to do so (Bargh, 1994; for evidence of effortlessness, see Hermans, Crombez, & Eelen, 2000). For example, people are able to assess whether a facial expression is positive or negative on the basis of an exposure less than 10 ms in duration (Murphy & Zajonc, 1993; Niedenthal, 1990; Ohman, 1986), a time span almost 15 times shorter than the average human eye blink. Moreover, these immediate and effortless evaluations occur for a whole range of stimuli, including words, letters, pictures, drawings, people, faces, and even odors (for a review see Ferguson, in press-a; Musch & Klauer, 2003).

AQ1

These findings have demonstrated the phenomenon of *automatic evaluation*—evaluations that are unintentionally generated on the mere perception of the respective stimuli. The examination of such evaluations has consumed a sizable portion of attitude research over the last 20 years, and especially over the last 5 years. In this chapter, we consider the motivational basis of this mode of evaluation. We first review theory suggesting that motivations and goals should be expected to be closely related with one another. We then describe several lines of recent research that provide empirical support for the notion that automatic evaluations are contingent or *conditional* on current and chronic goals and motivations. But first, we need to lay the groundwork for these substantive sections with a discussion of the terminology and methodology that characterize this area of research.

NOTES ON TERMINOLOGY

ATTITUDE VERSUS EVALUATION

Researchers have used a variety of terms to describe people's likes and dislikes, the two most common being *attitudes* and *evaluations*. Attitudes have been traditionally defined as consisting of affective, cognitive, and behavioral reactions to stimuli (Albarracín et al., 2005; Allport, 1935; Doob, 1947; Eagly & Chaiken, 1993; Osgood et al., 1957; Sarnoff, 1960; Smith, Bruner, & White, 1956; Thurstone, 1931). However, they have more recently been defined simply as the evaluations associated with objects in memory (Fazio, 1986; Fazio, Chen, McDonel, & Sherman, 1982). In this way, *attitude* is virtually indistinguishable from *evaluation*, which is a less technical (i.e., academic) term referring simply to the assessment of whether a given stimulus is good or bad (Tesser & Martin, 1996). We use both of these terms

freely throughout the chapter, while ascribing to the definition of an attitude as the evaluative information associated with a given object representation in memory.

Another critical notion in the attitude literature is the concept of *attitude object* (Allport, 1935; Bargh et al., 1992; Fazio, 2001; Fazio et al., 1986; Sarnoff, 1960; Smith et al., 1956; Thurstone, 1931). This is a general term referring to any stimulus toward which a person holds an attitude, and includes any conceptual or perceptual stimulus that can be discriminated (Eagly & Chaiken, 1993; Thurstone, 1927). Even though most of the research in this area has examined automatic attitudes toward graspable, or physical, objects, such as people (e.g., blacks, elderly, women), animals (e.g., cockroach, puppy), and everyday objects (e.g., consumer products, trees), people also automatically evaluate more abstract concepts such as ideals, values, and goals (Ferguson, in press-b).

It is also worthwhile to note that other theoretical constructs in social and cognitive psychology are related to people's preferences even though they do not regularly show up in the attitude literature per se. For example, Damasio (1999) and colleagues have argued that people immediately and unintentionally generate *somatic markers* in response to stimuli. These somatic markers essentially denote the anticipated emotional reaction to the corresponding stimulus, a definition that is roughly equivalent to how attitudes have been conceptualized over the past two decades. In addition, behavioral economists as well as sociologists use the term *tastes* to refer to people's preferences for stimuli. In economics, a person's tastes are assumed to be based on the degree to which the corresponding objects or stimuli can bring enjoyment, satisfaction, utility, or happiness to that person, so that the economic concept of *taste* is essentially equivalent to the notions of preferences, likes and dislikes, evaluations, and attitudes.

AFFECT AND EVALUATION

It is also useful to draw a distinction between evaluations and affective states, and we consider two points of discussion to this end. The first is whether evaluations necessarily involve affective processing in terms of the involvement of brain regions traditionally implicated in emotional and mood states (Davidson, Scherer, & Goldsmith, 2003). This would at first glance seem to be true given that many researchers commonly assume that evaluations involve *affective* reactions (Albarracín et al., 2005; Clore & Schnall, 2005; Eagly & Chaiken, 2003; Forgas, 2003), as mentioned earlier. Also, some scholars consider an automatic evaluation to be the initial spark of

AQ2

an eventual, comprehensive affective or emotional state (Damasio, 1999; LeDoux, 1996). However, we should note that there is no research as of yet that convincingly demonstrates that the types of evaluations that we talk about here—those that are unintentionally and immediately generated in response to stimuli—*necessarily* depend on the brain and physiological systems typically characterized as affective. Future research will undoubtedly continue to address the extent to which automatic evaluations recruit those brain regions typically identified with affective experiences, as well as the circumstances under which this occurs.

The second point of discussion regards the conceptual differences between evaluations and affect. For example, how are evaluations different from emotions? One classic distinction is that although both evaluations and emotional states occur in reaction to a particular stimulus or event, the latter are generally more durable, long lasting, and subjectively involving than the former (Tesser & Martin, 1996). Additionally, an evaluation is assumed to be a simple classification as positive versus negative, whereas emotions consist of shades of positive (e.g., elation, surprise) and negative (e.g., sadness, anger, anxiety) affect. Furthermore, emotional states are also classically defined as conscious experiences (Davidson et al., 2003), whereas evaluations, as mentioned previously, can occur nonconsciously.

AQ3

How might evaluations differ from mood states? Mood states are assumed to be less introspectively linked to any one stimulus, and are consciously felt (Davidson et al., 2003; though see Winkielman, Berridge, Wilbarger, 2005), diffuse, and somewhat persistent (i.e., not fleeting, lasting more than 5 min). In contrast, evaluations are generated in direct response to stimuli, and are usually fleeting. Yet the line demarcating these theoretical constructs is not always sharp. In particular, especially if the nascent evidence for nonconscious mood states increases, the putative qualitative difference between a nonconscious evaluation of a given conceptual or perceptual stimulus, and a nonconscious mood state resulting from some incidental event, will become obscured.

AUTOMATIC VERSUS IMPLICIT

In terms of the characteristic of *automatic*, we again consider two points of clarification. Firstly, although evaluations and attitudes are often referred to as automatic or implicit (e.g., automatic attitudes, automatic evaluations), the terms automatic and implicit refer to the *measure* rather than the *construct* being measured. This is an important distinction as the latter would suggest that

there are two qualitatively different evaluations—those that are automatic and those that are not. Although this is a possibility, research concerning it is ongoing and not yet conclusive (Fazio & Olson, 2003; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Nosek, 2005; Wilson, Lindsey, & Schooler, 2000).

The second point of clarification concerns the meaning of the terms *automatic* and *implicit*. The term automatic has been used to describe processes that unfold without the person's awareness, intention, effort, or control (Bargh, 1994; Moors & De Houwer, 2006). However, a process does not need to meet all four of these criteria in order to be designated as automatic (very few do at the level of complexity typically of interest to social and motivational psychology), and in this way the term is not very specific. Therefore, it is useful when using the term to specify exactly what criteria are implied for a particular process (Bargh, 1989). With regard to the literature on evaluations, the term "automatic" usually refers to the fact that they can be generated without the person's intention. Although some research has shown that evaluations can be generated without the person's awareness of the stimuli themselves, most of the research employs measures in which the person is aware of the stimulus that is being evaluated but is unaware that their evaluation is being measured (for a review see Ferguson, in press-a). We use the term automatic in this chapter to refer to evaluations that are generated without the person's intentions and usually without their awareness.

We also offer the caution that the meaning of the term *implicit* as used in social psychology (Greenwald & Banaji, 1995) is somewhat different from how it is used in much of the cognitive science literature (De Houwer, 2005; Fazio & Olson, 2003). In cognitive psychology the term implicit refers to knowledge or memory that can influence processing but that cannot be introspectively identified, even when the person tries to do so. For example, a classic case of implicit priming is the influence of a previously studied word on word-fragment completion even when the respondent has no memory of encountering the word during the study phase (Roediger, 1990; Squire & Kandel, 1999; Tulving & Craik, 2000). In social psychology however, the term implicit is often used to describe evaluations that are generated without the person intending to do so, even if that person would be able to identify her or his evaluation of a given stimulus if asked to do so. For example, people would probably be able to easily identify their evaluation of many of the stimuli that are presented in implicit attitude measures, and at least some of the time these intentional (explicit) evaluations will line up with their unintentional (implicit)

ones (Nosek, 2005). We return to this issue of *dissociation* between implicit and explicit evaluations later in this chapter.

NOTES ON MEASUREMENT

Throughout most of the last century of empirical psychology, researchers have measured people's preferences in the straightforward manner of just asking for them. For example, in order to find out how much people like elderly people, they would ask people to circle a number on an 11-point scale with 1 indicating extreme disliking and 11 representing extreme liking. As Schwarz and Bohner (2001) and others have noted, this type of measurement is highly susceptible to a range of contextual factors, that is, factors that are unrelated to the attitude but that nevertheless influence how the person responds. These factors can include mood states, response biases, demand effects, and impression maintenance (for a review see Schwarz & Bohner, 2001). Because of these factors, it is difficult to precisely and accurately interpret the meaning of a respondent's answer on an explicit attitude measure.

One area of research where the difficulty of interpretation is especially clear is intergroup attitudes. Given societal norms for egalitarianism and fairness toward other (especially stigmatized) groups, people may feel social pressure to keep hidden any negative feelings and evaluations they may harbor about other groups of people (Dovidio, Mann, & Gaertner, 1989; Jones & Sigall, 1971; Katz & Hass, 1988; McConahay, 1986; Sears, 1988). This means that explicit measures of prejudice can underestimate the actual amount of prejudice the respondent holds toward others. To attempt to circumvent this problem, researchers began to develop indirect, less obtrusive and reactive measures of attitudes. For example, in the Bogus Pipeline research (Jones & Sigall, 1971), participants were hooked up to an apparatus that was supposed to be capable of detecting their attempts at deception. Given this possibility of detection, participants did admit to greater levels of prejudice when using this measure compared to other explicit, traditional measures of the kind described above.

Although indirect (but explicit nonetheless) measures of this sort were an improvement, researchers continued to be interested in developing a method to assess a person's unintended and unconscious evaluative responses to stimuli. Given the covert nature of the implicit methodologies developed by cognitive psychologists, social psychological researchers began to modify them in order to address social psychological issues and phenomena. With regard to attitudes and evaluations, the two most

common measures include the evaluative priming paradigm (Fazio et al., 1986) and the Implicit Association Test (Greenwald et al., 1998), among others (Brendl, Markman, & Messner, 2005; De Houwer, 2003; De Houwer & Eelen, 1998; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Koole, Dijksterhuis, & van Knippenberg, 2001; Niedenthal, 1990; Nosek & Banaji, 2001; Payne, Cheng, Govorun, & Stewart, in press; von Hippel, Sekaquaptewa, & Vargas, 1997). These methods are summarized briefly in the next section.

THE EVALUATIVE PRIMING PARADIGM

Sequential priming paradigms were originally developed by cognitive psychologists to assess the degree to which memory locations related to a given stimulus become activated automatically on perception of that stimulus (Logan, 1980; Meyer & Schvaneveldt, 1971; Neely, 1976, 1977; Posner & Snyder, 1975; Shiffrin & Schneider, 1977). In such a paradigm the "prime" stimulus of interest (e.g., butter) is presented on a computer screen for a fraction of a second and is followed by a "target" stimulus that is either related to it (bread) or not (chimney), and to which the participant must make some kind of response or judgment (e.g., lexical decision). The common finding is that people can respond significantly more quickly to the targets when they are preceded by related versus unrelated primes. This suggests that quickly following the perception of a given stimulus, such as butter, the knowledge that is semantically or lexically related to butter, such as bread, becomes automatically activated in memory. This activation makes *bread* more accessible in memory (i.e., more likely to be applied to incoming stimuli; Higgins, 1996), and thus facilitates the perception and assessment of it during the target response. A key finding from research using this paradigm is that related knowledge becomes activated without the perceiver's intention, awareness, or control (Neely, 1977).

Fazio and colleagues (Fazio et al., 1986; see also Fiske, 1982) applied this finding to the question of whether evaluative knowledge also becomes activated automatically on the perception of a stimulus. For example, does a positive evaluation (i.e., "good") become activated as soon as someone reads the word *puppy*? To test this, the researchers developed an evaluative sequential priming paradigm in which primes that were either positive or negative were paired with targets that were either positive or negative but otherwise semantically unrelated to the primes. They found evidence for *evaluative priming*, such that people were faster at responding to the targets when they were preceded by evaluatively consistent versus inconsistent

AQ4

AQ5

primes, even though the primes and targets were not otherwise related semantically. Since this first evidence was published, other researchers have replicated and extended the evaluative priming effect, and various alternatives have been offered concerning the underlying mechanisms of the effect (Castelli, Zogmaister, Smith, & Arcuri, 2004; Chaiken & Bargh, 1993; Fazio, 1993; Klauer & Musch, 2003; Klauer & Stern, 1992; Klinger, Burton, & Pitts, 2000; Wentura, 1999, 2000).

AQ6

Importantly, the evaluative priming paradigm can be used as a way to implicitly assess the evaluation of a prime stimulus simply by gauging whether the mere perception of the prime facilitates positive versus negative targets, compared to baseline responding to each kind of target (Fazio, Jackson, Dunton, & Williams, 1995; Ferguson, in press-b; Ferguson & Bargh, 2004; Wittenbrink, Judd, & Park, 1997, 2001). For example, it is possible to present pictures of members of a certain group as the prime stimuli and measure whether the perception of a face facilitates responding to positive versus negative targets (Fazio et al., 1995). In fact, this kind of paradigm is one of the two most popular measures of automatic evaluations. One important characteristic of this paradigm is that participants' evaluations of the prime stimuli are assessed without their awareness, and participants are assumed to be unable to exert strategic control over the latency of their responses to the targets as a function of the nature of the primes.

THE IMPLICIT ASSOCIATION TEST

The other widely popular measure of automatic attitudes is the implicit association test (IAT; Greenwald et al., 1998). This paradigm also measures the degree to which people tend to associate a particular stimulus with positivity versus negativity, but does so in a different manner. In this case, participants are first asked to practice deciding on a computer whether a given stimulus belongs to one of two categories (e.g., young versus old people). For example, a word related to elderly people might appear on the screen and the respondent would have to press the key associated with elderly rather than the key associated with youth. In a second task, participants would have to judge each of a series of stimuli in terms of belonging to either positive or negative words (e.g., happy).

In the next phase of the measure, participants would be asked to accomplish these sorting tasks simultaneously using two response keys. In this way, they would have to press one key if the stimulus that appears on the screen is either elderly or positive, and would have to press another key if the stimulus is either young or negative.

The pairing of the categories would then be switched in the next task such that participants would have to press one key if the stimulus is elderly or negative, and another key if it is young or positive. The main analysis of these data consists of whether participants are faster at the first versus second sorting task. If they are faster on average at the second task, this implies that they have an easier time associating the elderly with negative things (and/or the young with positive things).

The IAT has generated an incredible amount of research, spanning attitudes toward various groups, individuals, the self, and products (Greenwald & Farnham, 2000; Greenwald, Banaji, Rudman, Farnham, & Nosek, 2002; Jordan, Spencer, & Zanna, 2003; Marsh, Johnson, & Scott-Sheldon, 2001; Nosek, Banaji, & Greenwald, 2002). This task is implicit in nature because participants are not being asked to report their attitudes. Also, as in the evaluative priming task, the data from the IAT consist of the speed of participants' responses. This means that it is very difficult for participants to manage or strategically conceal their underlying attitudes as this would require them to both detect differences in the speed with which they respond to targets across conditions, and to control their responses based on preconceived notions of appropriate responding. Moreover, also like the evaluative priming paradigm, the IAT demands quick responding and therefore does not give participants the necessary time to strategically edit their responses.

AQ7

THE MOTIVATIONAL NATURE OF AUTOMATIC EVALUATION

What is the relationship between a person's current goal pursuits and the *automatic* evaluations they make? To answer this question, first consider how researchers have understood the relationship between motivations and goals, on the one hand, and conscious or intentional evaluations on the other. Researchers across areas of psychology have long assumed a close correspondence between people's preferences for stimuli and their motivations regarding those stimuli (Arnold, 1960; Bogardus, 1931; Chen & Bargh, 1999; Corwin, 1921; Doob, 1947; Frijda, 1986; Lang, 1984; Lazarus, 1991; Lewin, 1935; Mowrer, 1960; Osgood, 1953; Thurstone, 1931; Young, 1959). After all, one of the most fundamental axioms of motivation is the pleasure principle, or the notion that people approach things that make them feel good, and avoid those things that make them feel bad. As Bentham famously stated in 1789, "Nature has placed mankind under the governance of two sovereign masters: pain and pleasure. It is for them alone to point out what we ought

to do, as well as to determine what we shall do.” Given that attitudes reflect the person’s assessment of whether the corresponding stimuli are good or bad, attitudes are therefore direct indications of our motivations toward those stimuli.

But what about *automatic* (nonconscious and unintended) evaluations? Is the relationship between automatic evaluations and goals different in an interesting way from that between conscious evaluations and goals? Indeed, numerous researchers over the last couple of decades have argued just that: automatic, more than conscious, evaluations seem especially tied to people’s motivations because they facilitate people’s general goals of securing rewards and avoiding dangers and threatening stimuli (Chen & Bargh, 1999; Damasio, 1999; Duckworth, Bargh, Garcia, & Chaiken, 2002; Fazio, 1989; Ferguson & Bargh, 2002, 2004; Lang, Bradley, & Cuthbert, 1990; LeDoux, 1996; Ohman, 1986; Pratkanis, Breckler, & Greenwald, 1989; Roskos-Ewoldsen & Fazio, 1992; Smith et al., 1956). They do so by *quickly* providing needed and important information about the nature of the stimuli in a person’s environment. The nearly instantaneous delivery of this kind of relevant information can enable people to prepare to act and react to the objects in their surroundings in an adaptive, goal-consistent manner.

Automatic evaluations are functional also because they direct people toward those stimuli that have the most goal-relevance for them. For instance, Roskos-Ewoldsen and Fazio (1992) presented participants with a series of displays of line drawings of everyday objects (e.g., elephant, bug, and bike) for very brief amounts of time. Using recall paradigms, they found that participants automatically attended, visually, to those objects toward which they possessed strong, automatically activated attitudes. In this way, people are immediately alerted to those objects that hold the most potential for their goals, either in terms of reward or danger. There exists substantial research showing how automatically activated attitudes facilitate judgment and decision making, and serve as reliable, effective guides toward goal-relevant behavior (Fazio, 1989, 1990; Fazio & Williams, 1986; Petty & Krosnick, 1995).

However, this conclusion regarding the motivational property of automatic evaluations is based on a single processing characteristic of how quickly they are generated, rather than anything about their content, or their relative intensity across situations. Does the content or intensity of automatic evaluations reflect anything about people’s current goals? If the way in which people automatically evaluate stimuli reflects something about their

motivational stance toward the objects then the content of automatic evaluations (i.e., good vs. bad) should fluctuate along with the person’s goals regarding the objects. That is, they should reflect what the person wants at the moment (Lewin, 1926). Positive automatic evaluations should emerge when the person currently possesses an approach stance toward the objects, and negative automatic evaluations should automatically emerge when the person holds an avoidant stance toward the objects. Moreover, there should be some correspondence between people’s chronic goals toward objects, and their automatic evaluations toward them. We now turn to several recent lines of empirical support for these propositions.

AUTOMATIC EVALUATIONS AND CURRENTLY ACCESSIBLE, CONSCIOUS GOALS

Recently, several lines of research have examined whether a person’s currently accessible, conscious goals influence the way in which that person automatically evaluates the stimuli in their environment. Sherman, Rose, Koch, Presson, and Chassin (2003) examined the role of people’s goal to smoke and their automatic evaluations toward smoking paraphernalia (e.g., cigarettes). All participants were instructed to refrain from smoking before arriving at the lab. Whereas some participants were allowed to smoke for a few minutes before completing the experiment, others were not allowed to smoke. This manipulation ensured that some participants had the goal to smoke whereas others had just satisfied their need. All participants then completed a measure of their implicit evaluations, and the results showed that those who had the current need to smoke evaluated the smoking-related stimuli as relatively more positive than those who had just fulfilled their need. These findings demonstrate that automatic evaluations seem to reflect the degree to which the perceiver currently wants to approach the respective stimuli.

In another line of studies, we (Ferguson & Bargh, 2004) examined the goals of achievement, thirst, and athleticism. We wanted to test whether the desire for, versus fulfillment of, a variety of goals would dictate people’s immediate evaluations of stimuli related to those goals. In the first experiment, participants were asked to play a word game and they were told either that the game measured their verbal skills or that it was being developed for use in future research. They were instructed that in the game, they would earn a point for every word they could create out of a given set of letters, and would earn extra points if the word was a noun, and still more points if the word was a noun that started with the letter “c.” They

then played the game for about 5 min, and then completed a measure of their automatic evaluations. At that point, half of the participants believed that they were finished with the word game, whereas the other half of the participants believed that they were going to be playing a second round of the game after the computer task (i.e., the automatic evaluation measure). In this manner we manipulated whether the task goal was still active or “turned off” because the task and goal pursuit had been completed (Lewin, 1926). We then measured the participants’ automatic evaluations toward stimuli related to the game (e.g., *points, achieve, nouns, c, create*).

The main finding was that the content of participants’ automatic evaluations towards game-related stimuli was a function of how much they cared about their performance in the game, and also whether they thought they would be playing the game again. Only those who thought that their verbal skills were being measured, and who believed that they would be playing again, produced positive automatic evaluations of the words. The findings from this experiment suggest that one’s *current* (rather than recently fulfilled) achievement goal can influence automatic evaluations both of stimuli that have recently been designated as goal-relevant (e.g., noun, c, game) as well as stimuli that are chronically relevant to achievement (e.g., achieve, win).

Does the positivity of automatic evaluations depend on the extent to which a stimulus is related to the person’s current goal? For example, are stimuli that are strongly versus weakly related to a current goal automatically evaluated in a more positive way? This would suggest the prediction, on functional grounds, that those stimuli that are most able to fulfill a goal are immediately evaluated as the most desirable. Our second experiment tested this hypothesis. Participants were instructed to refrain from drinking anything for three hours before arriving at the experiment, and thus they were all thirsty. Participants were then asked to sample either a variety of bottled waters, or a variety of dry, salty, sourdough pretzels. Whereas the thirst of those who sampled the water was sated, it was exacerbated for those who had to sample the pretzels. In this way, the goal of quenching one’s thirst was recently fulfilled for some participants but was still active for the others.

All participants then completed a measure of their automatic evaluations of stimuli varying in their relevance to the goal. Based on pretest data, the stimuli were strongly (e.g., water, juice, drinking), indirectly (e.g., glass, bottle), weakly (e.g., coffee, beer), or not at all (e.g., chair, window) relevant to the thirst goal. Those

who were thirsty at the time of the measure gave automatic evaluations of the strongly relevant stimuli that were significantly more positive than their evaluations of the other stimuli, as well as significantly more positive than made by the nonthirsty participants. These findings demonstrate that automatic evaluations are *prospective* in that they reflect the upcoming or immediate utility of the stimuli, rather than only their recently experienced utility. Also, the results show that automatic evaluations are sensitive to the degree to which a certain stimulus can facilitate the perceiver’s current goal.

A final question that we examined was whether participants’ automatic evaluations would be sensitive to the strength of the perceiver’s current goal. In this experiment, all participants were self-described athletes, in that they played athletics regularly and cared about their identity as an athlete. However, those who were varsity athletes cared more than those who were intramural (and nonvarsity) athletes. Participants were asked to describe either a recent failure or success in athletics, or were asked to describe their academic schedule. Based on self-completion theory (Wicklund & Gollwitzer, 1982), we expected that those who were asked to describe a recent athletic failure experience would be the most motivated to reclaim and reestablish their athletic identity, compared with those in the control condition and also compared to those who wrote about success. We then assessed participants’ automatic evaluations of stimuli that were either relevant to the athletic goal (e.g., agile, athletic) or irrelevant to the goal (e.g., chair, smart). The results showed that those who cared most about the goal—the varsity athletes—displayed the most positive automatic evaluations toward the goal-relevant stimuli, relative to the intramural athletes, and also compared to the goal-irrelevant stimuli.

Together, the findings of Sherman et al. (2003) and Ferguson and Bargh (2004) demonstrate that people’s currently accessible, conscious goals cause them to automatically evaluate the stimuli in their environment as a function of whether those stimuli can enable them to reach the goal. This suggests that automatic evaluations are motivational (and functional) in nature because they both provide information that is important to people’s goals *quickly*, and also because they *reflect* people’s current motivational priorities. In other words, the motivational nature of automatic evaluations goes beyond a single processing characteristic of the evaluations—the speed with which they are made—to their content and intensity within goal-relevant conditions. We now consider some implications and extensions of these findings.

AUTOMATIC EVALUATIONS AND CURRENTLY ACCESSIBLE, NONCONSCIOUS GOALS

The findings from the experiments described above suggest that automatic evaluations reflect the perceiver's *currently* rather than *recently* active goals. Motivational influences on automatic evaluations are also moderated by the strength or importance of the goal to the individual, as well as by the relevance of the evaluated stimulus for reaching that goal. An important remaining question is whether the goal has to be pursued in a conscious, intentional, verbally reportable manner for these effects to occur. In each of the studies reviewed above, the participants were consciously induced into the goal state, and could easily have been knowingly and intentionally thinking about how they might want to fulfill it. For those in the Sherman et al. (2003) studies, the cigarette-deprived smokers could well have been thinking about how good a cigarette would taste. For those in the Ferguson and Bargh (2004) studies, the thirsty participants could have been thinking about several things: achieving and scoring points with nouns (Exp. 1), wanting some water (Exp. 2), or improving their athletic performance (Exp. 3). Thus, it remains possible that the effects of goals on the automatic evaluation of goal-relevant stimuli are contingent on the perceiver consciously thinking about those objects.

AQ8

Do goals influence automatic evaluations even when those goals are nonconsciously induced? There are several demonstrations now that goals can be activated from memory and influence behavior without the person's awareness or intentions (Aarts, Gollwitzer, & Hassin, 2004; Bargh, 2007; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001; Chartrand & Bargh, 1996; Fishbach, Friedman, & Kruglanski, 2003; Fitzsimons & Bargh, 2003; Shah, 2003; Shah, Kruglanski, & Friedman, 2002). For instance, the goal to attain high performance on a given task can be activated merely by reading words related to achievement, with positive effects on participants' success and persistence on the assigned task (Bargh et al., 2001). Thus, one might expect other effects of a nonconsciously activated goal, such as on the individual's immediate and spontaneous evaluations of the goal-relevant stimuli in their environment. If goals automatically influence how people evaluate the stimuli in their environment, then even a nonconsciously activated goal should lead to the kinds of motivational effects on evaluation as with the studies, described above, involving conscious goal pursuit. Another relevant question is whether such motivational influences on automatic evaluations are functional for

the individual. We have been assuming here that if one's currently active goal fosters positive automatic evaluations of goal-helpful stimuli, the probability of one's attaining the goal will be enhanced. But is this actually the case? None of the experiments described so far have directly examined this question. One way to approach it would be to examine whether those participants who are the most skilled and successful in a goal domain are also the most likely to show the effects of goal activation on automatic evaluations. Thus, for example, when the goal of academic achievement has been activated in memory, those who are skilled in that domain should be the most likely to show more positive automatic (immediate, unintended) evaluations of the goal-friendly stimuli in that domain.

Some very recent research has addressed these questions (Ferguson, 2007). In one experiment, participants were nonconsciously induced into either an academic goal, a goal unrelated to academics (i.e., a social goal), or no goal. Participants completed a scrambled sentence task (Srull & Wyer, 1979) wherein they were asked to make grammatically correct sentences out of sets of five words each. Presented in some of the sentences were words related to the academic goal (e.g., study, school, smart) or to the social goal (e.g., friends, laughing, social), depending on the condition to which participants had been randomly assigned. In the control condition, none of the words in the sentences were related to the focal goals. This method has been used previously to activate a construct out of participants' awareness, and indeed, none of the participants in this study reported any awareness of pursuing the primed goals. Once participants had been primed with a goal construct (or not), they completed a measure of their automatic evaluations of both words related to the academic goal (e.g., grades, graduation), and unrelated to the goal (e.g., chair, window).

From the above considerations, it was predicted that those participants nonconsciously primed with an academic goal should automatically evaluate the academic stimuli as most positive, relative to the irrelevant stimuli; further, the academic goal-primed participants were predicted to evaluate the academic stimuli more positively than would those participants who had been primed with a goal unrelated to academics (the social goal condition) or no goal at all. The results supported these predictions. Those in the academic-goal condition automatically evaluated the academic stimuli as most positive, compared to the other relevant cells. It was further predicted that those who are most skilled in the academic domain should be the most likely to show these kinds of effects,

and this too was confirmed: those participants with the highest grade point average (GPA) were the most likely to show the academic-goal priming effect on the automatic evaluation of academic-related stimuli.

Taken together, this set of findings suggests that a goal can influence how people automatically evaluate the stimuli in their surrounding even when the goal has been activated and is operating nonconsciously. In addition, this effect seems to emerge particularly for those who are skilled in that goal domain, in harmony with the notion that motivational influences on evaluation are functional for the individual. The mere activation of the goal, even via minimal processing and awareness, is enough to change the way in which the perceiver sees and responds to the environment.

In our view, this effect of active goals on evaluation is the affective equivalent of Bruner's (1957) notion of "perceptual readiness," in which active goals cause goal-related mental representations to become more accessible or ready to be activated by relevant environmental stimuli. Just as we become, during goal pursuit, perceptually ready to see and hear goal-relevant objects and events in our environment, the recent research described above shows us to become "evaluatively ready" to positively evaluate and behaviorally approach those things that will facilitate the pursuit of the goal.

Another interesting aspect of these findings is that those skilled people primed with the academic goal automatically evaluated the academic-related stimuli as more positive than those who had been primed with the social goal. Previous research suggests that when people skilled at a certain goal perceive a temptation (e.g., TV) that is deleterious to that goal, the skilled-goal increases in accessibility and strength (Fishbach et al., 2003). This work might suggest that those primed with a social goal should evaluate academic related stimuli just as positively as those primed with the academic goal itself, and yet this did not happen. However, there is an important difference between distractions and temptations to a goal, on the one hand, and reminders of an equally important competing goal, on the other. In the social goal condition described above (Ferguson, 2007), participants were not primed with social temptations—rather they were primed with the goal of being with friends, one of the most basic and fundamental goals in human nature (Baumeister & Leary, 1995; Brewer, 1991). Based on the above results, we would suggest that skilled people are not "blind" to the importance of other competing goals than the one at which they are skilled. Instead, their implicit readiness to approach that goal can be deactivated when it conflicts with another important goal that is currently active (see

Morsella, 2005; Oettingen et al., 2006, for more on how AQ9 such goal conflicts are resolved nonconsciously).

Although these findings suggest that nonconscious goals can influence automatic evaluations of goal-relevant stimuli in the environment, the effect seems limited to those stimuli that can *help* them achieve the goal. What about those stimuli that might distract or tempt the person away from the focal goal? Although it is surely helpful for a person's currently accessible goal to render as positive those things that can enable the pursuit of that goal, it must also be functional for the goal to render as negative those things that might undermine or distract the pursuit of the focal goal. If such an effect emerged, it would provide support for a kind of "evaluative goal shielding" as discussed by Shah et al. (2003). AQ10 That is, the focused pursuit of a given goal might be protected or enhanced by the negative automatic evaluation of distractions to that goal pursuit.

This question was tested in another experiment (Ferguson, 2007) in which participants were subliminally primed (or not) with the goal of academic achievement. They then completed an automatic evaluation measure of stimuli, some of which were temptations to the academic goal (e.g., TV) and some which were not. The results showed that those who were primed with the academic goal automatically evaluated the social temptations as more negative than the other stimuli; also, the academic-primed participants showed more negative automatic evaluations of the social temptations than did the nonprimed participants. Importantly, this effect emerged only for those with a high GPA (a marker of academic goal-skill), again showing the functional benefits of motivational influences on automatic evaluation.

These preliminary findings suggest that even goals that are nonconsciously activated in memory can influence the way in which people automatically evaluate the stimuli in their environment. Thus the empirical findings described above regarding the effect of conscious goal pursuit on evaluations (Ferguson & Bargh, 2004; Sherman et al., 2003) are not contingent on people intentionally thinking and deliberating about how they might accomplish that goal. Furthermore, these more recent findings (Ferguson, 2007) extend the evaluative reach of currently (and nonconsciously) accessible goals to those stimuli that would undermine the pursuit of that primed goal, especially in the case of people who are skilled at pursuing that goal.

We now consider the extent to which automatic evaluations are influenced by the person's chronically accessible (latent) goals, even when these are not currently active.

AUTOMATIC EVALUATIONS AND CHRONICALLY ACCESSIBLE GOALS

Although the recent research described above suggests that people's currently accessible goals can influence their automatic evaluations toward stimuli relevant to the goal, the motivational influence on evaluations may not be limited to those goals that are currently active. Surely people still automatically evaluate stimuli as good or bad even when those stimuli are unrelated to what the person is currently trying to accomplish. Indeed, it would seem dysfunctional to not do so (Chen & Bargh, 1999; Duckworth et al., 2002; Fazio, 1989; Ferguson & Bargh, 2002, 2004; Lang et al., 1990; LeDoux, 1996; Ohman, 1986; Pratkanis et al., 1989; Roskos-Ewoldsen & Fazio, 1992; Smith et al., 1956). We argue here that one's automatic evaluation of stimuli should, on average, reflect the typical importance of that stimulus for someone's goals. In this way, people may automatically evaluate puppies as relatively positive on average because they are typically always appealing (and nonthreatening), and cockroaches as relatively negative on average because they are typically always aversive and disgusting. This reasoning implies that just because an athlete's automatic evaluation of *agile* becomes more positive when she or he is currently concerned with that goal, it should still be relatively more positive on average than for someone for whom the athletic goal is unimportant.

In support of this claim, there is considerable evidence that people's automatic evaluations toward a range of stimuli on average predict their approach versus avoidance behaviors toward those stimuli (Blair, 2002; Chen & Bargh, 1999; Dovidio, Kawakami, & Gaertner, 2002; Dovidio et al., 1997; Duckworth et al., 2002; Epley & Caruso, 2004; Fazio et al., 1995; Haidt, 2001, 2003; Kawakami & Dovidio, 2001; Lambert, Payne, Ramsey, & Shaffer, 2005; McConnell & Leibold, 2001; Nosek et al., 2002). Someone who displays a positive automatic attitude toward stereotypically black names, for instance, is more likely to display warmth and friendliness to black people compared with someone who displays a negative attitude toward the same group (for a review see Fazio & Olson, 2003). Automatic evaluations have been found to be particularly predictive of those behaviors that are spontaneous and difficult to control, more so than of obvious and overt behaviors (Blair, 2002; Dovidio et al., 2002; Dovidio et al.; Ferguson, in press-b; Kawakami & Dovidio, 2001). Overall, this body of research indicates that people's automatic evaluations of stimuli are generally predictive of how they will tend to act toward those stimuli across time and situations. Because people's

approach and avoidance behaviors toward stimuli reflect their motivations toward those stimuli, automatic evaluations can be understood as reflections of motivations.

Interestingly, almost the entire literature on the predictive validity of automatic evaluations has focused on people's immediate evaluative responses to graspable stimuli, or those stimuli toward or away from one can physically move. For instance, almost all of the literature on how automatic evaluations toward groups predict behavior with group members has used stimuli such as group names, group labels, or faces of group members (Fazio & Olson, 2003). And yet, what about the more abstract values, goals, and ideals that undoubtedly predict people's behavior across physical targets and situations? If automatic evaluations reflect the perceiver's tendency to approach the respective stimuli, then automatic evaluations toward abstract goals, such as equality, should reflect the perceiver's tendency to approach—or pursue—that goal. The more one immediately and unintentionally evaluates the word *equality* with positivity, the more that person should be expected, on average, to demonstrate egalitarian behavior toward others.

How will such automatic evaluations of abstract concepts compare with what is known about how people evaluate concrete, graspable stimuli? The first thing to note is that the influence of any evaluation will depend on the accessibility of its referent (i.e., the respective attitude object). The more the referent is accessible in memory, the more its corresponding attitude should influence behavior toward that referent (Higgins, 1996). In addition, research also shows that the accessibility of abstract versus concrete memories fluctuates across circumstances (Trope & Liberman, 2003; Vallacher & Wegner, 1987; Wegner, Vallacher, Kiersted, & Dizadji, 1986). Thus, there is some reason to expect that automatic evaluations of abstract goals might sometimes be more influential on behavior than automatic evaluations toward concrete stimuli related to that goal.

Ferguson (in press-b) examined the above questions in a series of experiments. In the first of these, participants arrived at the lab and completed an automatic evaluation measure of stimuli related to the goal to be thin, and also provided their explicit attitudes toward the goal and the strength of their current desire to reach the goal. Participants were then contacted about a week later through e-mail, and asked to indicate how many times over the past week they had engaged in each of a variety of behaviors, and also how many times they planned to engage in those same behaviors during the upcoming week. Among the behaviors was “resisting tempting food”—a behavior that had been rated in a pilot study as

the most effective way to meet the goal of being thin. The results showed that participants' immediate, unintentional evaluations of the goal significantly predicted their reported successful goal pursuit, and did so above and beyond their explicit ratings of the desirability of the goal, and their explicit attitude toward the goal.

What about automatic evaluations of the goal to be thin versus the tempting foods that need to be avoided in order to meet the goal? This comparison was examined in the next experiment. Participants arrived at the lab and indicated how often they regulated their intake of fattening foods. Then between 3 and 5 weeks later they came back to the lab and completed a measure of their automatic evaluations of the goal to be thin, as well as a variety of tempting foods related to the goal. The results showed that participants' automatic evaluations of the goal significantly predicted their reported goal pursuit, while their automatic evaluations of the tempting foods did not. This set of findings indicates that automatic evaluations of goals are sometimes more predictive of goal pursuit than the concrete stimuli toward which goal-relevant behavior is directed.

In the above two experiments, however, participants merely reported goal pursuit rather than demonstrated actual goal pursuit. To test whether automatic evaluations of the goal to be thin would predict how much of a tempting food one would eat, participants arrived at the lab and were told that they would sample and comment on products as part of a marketing study. They were assigned to taste either goal-relevant, fattening (cookies) or goal-irrelevant, nonfattening (low-calorie mints) snacks. Right before they were asked to sample the food, they completed an automatic evaluation measure in which their evaluations toward the goal, as well as the goal-relevant target of behavior (cookies), were measured. The results showed that their automatic evaluations of the goal predicted their consumption of the goal-relevant snack, but not the goal irrelevant snack. Their automatic evaluations of the target of behavior (cookie) did not predict their consumption of the snack, however.

Finally, in the last experiment, the participant's automatic and explicit evaluations of an abstract goal, along with concrete stimuli related to that goal, were measured. Moreover, participants' overt as well as subtle goal-relevant behaviors were assessed. In particular, participants' automatic evaluations toward the goal of egalitarianism and a relatively more concrete target of egalitarian behavior—elderly people—were measured. Participants then provided their explicit attitudes toward the goal and the concrete goal-relevant stimulus. Finally, they were asked to express their support for a number of federal and state

sponsored policies and programs. Included in this list of policies was Medicare, the federal program that provides financial assistance to elderly people. Previous research has suggested that subtle prejudice toward a group is related to decreased support for programs that target that group (Dovidio, Glick, & Rudman, 2005; Levy & Schlesinger, 2005; McConahay, 1983, 1986; Swim, Aiken, Hall, & Hunter, 1995), and thus it was expected that participants' automatic evaluation of the goal of equality would predict their subtle prejudice toward the elderly, in terms of their support of Medicare. Participants also were explicitly asked to what extent a negative stereotypical trait of the elderly (i.e., rigidity) was true of elderly people in general; this constituted the blatant or overt indication of prejudice toward the elderly.

It was expected that their automatic evaluation of the goal might be less effective at predicting this overt expression of prejudice, in line with previous research (Asendorpf, Banse, & Mücke, 2002; Devine, 1989; Dovidio et al., 2002, 1997; Egloff & Schmukle, 2002; Fazio, 1990; Wilson et al., 2000). Indeed, the results suggested that their automatic evaluations toward the goal predicted their subtle expression of prejudice but not their overt expression of prejudice. However, their explicit attitude toward the group did predict their overt expression of prejudice toward the group. The pattern of findings thus replicated the main result from the previous experiments that people's automatic evaluations of a goal do seem to reliably predict their actual behavioral pursuit of that goal. Also, this may be particularly true for subtle versus blatant goal-relevant behaviors. This experiment also again suggests that automatic evaluations of goals can prove more predictive of goal pursuit than automatic evaluations of concrete stimuli related to the goal.

Together, the results from this line of experiments suggest that automatic evaluations of goals may on average reflect the importance of the goals to the perceiver. But, when should such implicit evaluations out-predict more explicit motivations? Firstly, automatic evaluations should out-predict explicit motivations when it is difficult for the person to accurately introspect on how much they want to reach the goal. Note that it may be very easy for people to say whether they want, versus do not want, a particular goal, but it might be more difficult for them to precisely know just *how* much they want that goal. In such a case it may be that the degree of people's unintentional, and immediately generated, positivity to words related to the goal ends up being a more accurate index of how much they, on average, pursue and want the goal. For example, the participants in the above research might

have known that they cared about being egalitarian, but not been able to exactly pinpoint the degree of their commitment to the goal.

Secondly, automatic evaluations of goals should also better predict actual goal pursuit behavior than should explicit ratings of the strength of those motivations when the particular goal is accompanied by normative social or impression management pressures to explicitly respond in a certain way. For instance, there is considerable social pressure to espouse and endorse the goal of being egalitarian, and it may be that people's explicit commitment to this kind of goal is a poor reflection of how much they actually care about it. Again, in such a case it may be that people's spontaneous evaluation of words related to equality ends up being a better indication of how likely they are to pursue that goal in future circumstances.

When should automatic evaluations of goals out-predict automatic evaluations of more concrete stimuli? This question can essentially be translated into the question of when concrete versus abstract knowledge is likely to be most accessible in memory. There is a burgeoning literature on this topic, and researchers have identified a number of determinants, including temporal distance from an event being judged or evaluated (Trope & Liberman, 2003), the difficulty or familiarity of an action (Vallacher & Wegner, 1987), psychological distance (Trope & Liberman, 2003), spatial distance (Henderson, Fujita, Trope, & Liberman, 2006), and power (Smith & Trope, 2006).

For example, Vallacher and Wegner (1987) argued that when an action is familiar, and when both concrete and abstract knowledge related to the action exists in memory, the abstract knowledge is likely to be more accessible in memory than the concrete knowledge. Thus, when a person is climbing a tree and is asked what he or she is doing, the person is likely to say something about having fun (an abstract answer) rather than about holding onto tree limbs and branches (a concrete answer). In other words, the *why*, or high level, knowledge tends to be more accessible than the *how*, or low level, knowledge. In such cases, the evaluative information that is associated with the abstract knowledge (e.g., goals) should also be more accessible, and thus more influential and predictive, than the evaluative information associated with the concrete knowledge. In the experiments described above (Ferguson, in press) in which people's automatic evaluations of goals tended to be more predictive of their goal pursuit compared with their evaluations of relatively more concrete stimuli, it might have been the case that people were relatively familiar with those goal domains, and familiar with their strategies of

goal pursuit and self-regulation. Thus, their abstract knowledge (including knowledge about goals and values) may simply have been more accessible than their knowledge about the particular concrete items and objects relevant to the goal.

We now turn to a discussion of how automatic evaluations might be especially contingent on a person's goals and motivations.

THE MOTIVATION NATURE OF AUTOMATIC VERSUS EXPLICIT EVALUATIONS

Earlier in the chapter we discussed how automatic evaluations have been considered to be tied to motivations based on the speed with which they deliver important information to the perceiver. We argued that the motivational perspective of such evaluations can be considerably broadened in that automatic evaluations should actually reflect the content as well as intensity of the perceiver's current and chronic goals. However, how does this characteristic of automatic evaluations compare with the operation of explicit evaluations? That is, whereas automatic evaluations are clearly more functional than explicit evaluations at least in terms of the speed with which they are generated, are they ever more reflective of people's goals?

On the one hand, people's explicit evaluations can be clearly and directly reflective of what they want. People's explicit evaluations of the stimuli in their surrounding do fluctuate with their current goals regarding those stimuli. In fact, people's expressed desires for certain stimuli are often considered as a classic signature of a particular goal. When people (explicitly) express desire for food and drink, they are considered to have the goals of hunger and thirst, respectively (Cabanac, 1971). When people express their desire for meaningful relationships with others, they are understood as having the goal of belongingness. There is a long history in psychology of the tight connection between what people say they like and dislike, and what they say their goals and motivations are (Ajzen, 1991; Bandura, 1986; Cabanac, 1971; Deci & Ryan, 1985; Locke & Latham, 1990).

However, on the other hand, as mentioned earlier, there are reasons why what people say they want does not always match up well with what they actually do in terms of motivational behavior (approach versus avoiding). Because people might not be able to always accurately introspect on the intensity of their goals, perhaps especially across situations, there may be times when their automatic evaluation of a goal is more predictive of their goal-relevant behavior, as we have discussed. Furthermore,

because people might be reluctant to express their true inclination toward some goal (either to others or to themselves), their automatic (unintentional) evaluations of goals might at times be more accurate indications of how they will act in actual goal-relevant situations (this should be especially true under time pressure or complex, information-rich environments). Finally, people may simply be unwilling to exert the control necessary to act in line with their expressed preferences. There is considerable empirical support in the self-regulation literature for the dissociation between what people say they like and dislike, and what they in fact do (for reviews see Baumeister & Vohs, 2004; Carver & Scheier, 1981, 1998; Loewenstein, 1996). People's expressed preferences in domains of self-control and regulation are often at odds with how they actually behave.

Moreover, there is also evidence for the dissociation between expressed preferences and behavior in recent research on automatic evaluations and goals. In the work by Ferguson and Bargh (2004), in the first experiment that examined the effect of the achievement goal on automatic evaluations of, participants were also asked to indicate their explicit evaluations toward the stimuli. The results showed that whereas the goal and timing conditions influenced participants' automatic evaluations as described earlier, they did not influence their explicit evaluations. This is some preliminary evidence that people may not always be able or perhaps willing to adjust their explicit evaluations in line with their currently active goal, in line with our discussion here.

Another line of evidence suggesting a possible dissociation between people's explicit evaluations and their goal pursuit comes from the recent work on automatic evaluations of end-states (Ferguson, in press-b). In two experiments, people's explicit attitudes toward the abstract end-states did not reliably predict their behavior relevant to the end-state. In one experiment, their explicit attitude toward the goal of being thin did not predict their pursuit of this goal over the following week. In the other experiment, participants' explicit goal of equality did not predict their subtle expression of prejudice toward the elderly. In both cases, this disconnect may have emerged either because the participants were unable to introspect accurately on their desire for the goal, or were unwilling to do so. Future research is expected to continue to address the correspondence between people's goals, and their automatic versus explicit attitudes, but at this juncture we argue that automatic evaluations may be especially reflective of, and therefore predictive of, people's underlying motivations and goals.

CONCLUSIONS

In this chapter we considered the motivational nature of automatic evaluations. We first considered the extent to which evaluations in general are closely tied to motivational behavior given the classic definitions of motivation and evaluations. We then reviewed recent research that examined questions relevant to this topic. Namely, we reviewed findings showing that a person's currently accessible, conscious goal influences how that person automatically evaluates the stimuli in her or his environment: people evaluate as positive those stimuli that can help them achieve the goal. Additionally, a goal does not have to reside in conscious awareness in order for it to influence automatic evaluations. Nonconsciously induced goals also can influence the automatic evaluation both of stimuli that can help the activated goal, as well as stimuli that can harm the activated goal. Recent findings also suggest that the effect of goals on automatic evaluations is functional in that it seems to emerge most strongly for those who are skilled at the particular goal domain. We also speculated that automatic evaluations might be more closely tied to goals and motivations than are explicit attitudes, and considered some new findings relevant to this matter. Overall, the evidence supports concluding in favor of a strong and direct influence of motivational states on how people naturally and nonconsciously evaluate the objects, people, events, and even abstract concepts and issues that make up their psychological environment.

REFERENCES

- Aarts, H., Gollwitzer, P. M., & Hassin, R. (2004). Goal contagion: Perceiving is for pursuing. *Journal of Personality and Social Psychology, 87*, 23–37.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.
- Albarracín, D., Johnson, B. T., & Zanna, M. P. (2005). *The handbook of attitudes*. Mahwah, NJ: Erlbaum.
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *Handbook of social psychology* (pp. 798–844). Worcester, MA: Clark University Press.
- Arnold, M. B. (1960). *Emotion and personality*. New York: Columbia University Press.
- Asendorpf, J. B., Banse, R., Mücke, D. (2002). Double dissociation between implicit and explicit personality self-concept: the case of shy behavior. *Journal of Personality and Social Psychology, 83*, 380–393.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Upper Saddle River, NJ: Prentice-Hall.

- Bargh, J. A. (2007). *Social psychology and the unconscious: The automaticity of higher mental processes*. New York: Psychology Press.
- Bargh, J. A. (1989). Conditional automaticity: Varieties of automatic influence in social perception and cognition. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 3–51). New York: Guilford Press.
- Bargh, J. A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology*, *62*, 893–912.
- Bargh, J. A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In R. J. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 1–40). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Bargh, J. A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology*, *62*, 893–912.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*, 1014–1027.
- Baumeister, R., & Leary, M. R. (1995). The need to belong: Desire for inter-personal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Baumeister, R. F., & Vohs, K. D. (Eds.). (2004). *Handbook of self-regulation: Research, theory, and applications*. New York: Guilford Press.
- Blair, I. (2002). The malleability of automatic stereotypes and prejudice. *Personality and Social Psychological Review*, *6*, 242–261.
- Bogardus, E. (1931). *Fundamentals of social psychology* (2nd ed.). New York: Appleton-Century-Crofts.
- Brendl, C. M., Markman, A. B., & Messner, C. (2005). Indirectly measuring evaluations of several attitude objects in relation to a neutral reference point. *Journal of Experimental Social Psychology*, *41*(4), 346–368.
- Brewer, M. B. (1991). The social self: on being the same and different at the same time. *Personality and Social Psychology Bulletin*, *17*, 475–82.
- Brown, J. D. (1998). *The self*. New York: McGraw-Hill.
- Bruner, J. S. (1957). On perceptual readiness. *Psychological Review*, *64*(2), 123–152.
- Cabanac, M. (1971). Physiological role of pleasure. *Science*, *173*, 1103–1107.
- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- Castelli, L., Zogmaister, C., Smith, E. R., & Arcuri, L. (2004). On the automatic evaluation of social exemplars. *Journal of Personality and Social Psychology*, *86*, 373–387.
- Chaiken, S., Bargh, J. A. (1993). Occurrence versus moderation of the automatic attitude activation effect: Reply to Fazio. *Journal of Personality & Social Psychology*, *64*, 759–765.
- Chartrand, T. L., & Bargh, J. A. (1996). Automatic activation of impression formation and memorization goals: Non-conscious goal priming reproduces effects of explicit task instructions. *Journal of Personality and Social Psychology*, *71*, 464–478.
- Chen, M., & Bargh, J. A. (1999). Consequences of automatic evaluation: Immediate Behavioral predispositions to approach and avoid the stimulus. *Personality and Social Psychology Bulletin*, *25*, 215–224.
- Clore, G. L., & Schnall, S. (2005). The influence of affect on attitude. In D. Alabarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 437–492). Mahwah, NJ: Erlbaum.
- Corwin, G. (1921). Minor studies from the psychological laboratory of Cornell University. *American Journal of Psychology*, *32*, 563–570.
- Damasio, A. R. (1999). *The feeling of what happens: Body and emotion in the making of consciousness*. Orlando, FL: Harcourt.
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., et al. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, *65*, 564–570.
- Davidson, R., Scherer, K., & Goldsmith, H. (2003). *Handbook of affective sciences*. New York: Oxford University Press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- De Houwer, J. (2003). The extrinsic affective Simon task. *Experimental Psychology*, *50*, 77–85.
- De Houwer, A. (2005). Early bilingual acquisition: Focus on morphosyntax and the separate development hypothesis. In J. Kroll & A. De Groot (Eds.), *The handbook of bilingualism* (pp. 30–48). Oxford, UK: Oxford University Press.
- De Houwer, J., & Eelen, P. (1998). An affective variant of the Simon paradigm. *Cognition and Emotion*, *8*, 45–61.
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*, 5–18.
- Doob, L. W. (1947). The behavior of attitudes. *Psychological Review*, *54*, 135–156.
- Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*, *82*, 62–68.
- Dovidio, J. F., Kawakami, K., Johnson, C., & Johnson, B. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology*, *33*, 510–540.
- Dovidio, J. F., Mann, J., & Gaertner, S. L. (1989). Resistance to affirmative action: The implications of aversive racism. In F. A. Blanchard & F. J. Crosby (Eds.), *Affirmative action in perspective* (pp. 83–102). New York: Springer-Verlag.
- Dovidio, J. F., Glick, P., & Rudman, L. (2005). *On the nature of prejudice: Fifty years after Allport*. Oxford, UK: Blackwell.
- Duckworth, K. L., Bargh, J. A., Garcia, M., & Chaiken, S. (2002). The automatic evaluation of novel stimuli. *Psychological Science*, *13*, 513–519.

- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich College.
- Epley, N., & Caruso, E. M. (2004). Egocentric ethics. *Social Justice Research, 17*, 171–187.
- Egloff, B., & Schmukle, S. C. (2002). Predictive validity of an Implicit Association Test for assessing anxiety. *Journal of Personality and Social Psychology, 83*, 1441–1455.
- Fazio, R. H. (1986). How do attitudes guide behavior? In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 204–243). New York: Guilford.
- Fazio, R. H. (1989). On the power and functionality of attitudes: The role of attitude accessibility. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 153–179). Hillsdale, NJ: Erlbaum.
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 75–109). New York: Academic Press.
- Fazio, R. H. (1993). Variability in the likelihood of automatic attitude activation: Data reanalysis and commentary on Bargh, Chaiken, Gendler, and Pratto (1992). *Journal of Personality and Social Psychology, 64*, 753–758.
- Fazio, R. H. (2001). On the automatic activation of associated evaluations: An overview. *Cognition and Emotion, 14*, 1–27.
- Fazio, R. H., Chen, J., McDonel, E. C., & Sherman, S. J. (1982). Attitude accessibility, attitude-behavior consistency and the strength of the object-evaluation association. *Journal of Experimental Social Psychology, 18*, 339–357.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology, 54*, 297–327.
- Fazio, R. H., & Williams, C. J. (1986). Attitude accessibility as a moderator of the attitude-perception and attitude-behavior relations: An investigation of the 1984 presidential election. *Journal of Personality and Social Psychology, 51*, 505–514.
- Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline?. *Journal of Personality and Social Psychology, 69*, 1013–1027.
- Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology, 50*, 229–238.
- Fazio, R. H., & Williams, C. J. (1986). Attitude accessibility as a moderator of the attitude-perception and attitude-behavior relations: An investigation of the 1984 presidential election. *Journal of Personality and Social Psychology, 51*, 505–514.
- AQ12 Ferguson, M. J. (in press-a). On the automaticity of evaluation. In J. A. Bargh (Ed.), *On the automaticity of higher mental processes* (pp.).
- AQ13 Ferguson, M. J. (in press-b). On the automatic evaluation of end-states. *Journal of Personality and Social Psychology*.
- Ferguson, M. J. (2007). On evaluative readiness: The automatic attitudes of effective self-regulators. Unpublished manuscript.
- Ferguson, M. J., & Bargh, J. A. (2002). Sensitivity and flexibility: Exploring the knowledge function of automatic attitudes. In L. F. Barrett & P. Salovey (Eds.), *The wisdom in feeling: Psychological processes in emotional intelligence* (pp. 383–405). Guilford Press.
- Ferguson, M. J., & Bargh, J. A. (2004). Liking is for doing: Effects of goal pursuit on automatic evaluation. *Journal of Personality and Social Psychology, 88*, 557–572.
- Fiske, S. T. (1982). Schema-triggered affect: Applications to social perception. In M. S. Clark & S. T. Fiske (Eds.), *Affect and cognition: The 17th annual Carnegie Symposium on cognition* (pp. 55–78). Hillsdale, NJ: Erlbaum.
- Fitzsimons, G. M., & Bargh, J. A. (2003). Thinking of you: Nonconscious pursuit of interpersonal goals associated with relationship partners. *Journal of Personality and Social Psychology, 84*(1), 148–163.
- Fishbach, A., Friedman, R., & Kruglanski, A. W. (2003). Leading us not unto temptation: Momentary allurements elicit automatic goal activation. *Journal of Personality and Social Psychology, 84*, 296–309.
- Forgas, J. (2003). Affective influences on attitudes and judgments. In R. Davidson, K. Scherer, & H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 596–618). New York: Oxford University Press.
- Frijda, N. (1986). *The Emotions*. Cambridge University Press.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4–27.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology, 79*, 1022–1038.
- Greenwald, A. G., Klinger, M. R., & Liu, T. J. (1989). Unconscious processing of dichoptically masked words. *Memory and Cognition, 17*, 35–47.
- Greenwald, A. G., McGhee, D. E., & Schwarz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*, 1464–1480.
- Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., Mellott, D. S. (2002). A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review, 109*, 3–25. AQ14
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108*, 814–834.
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford: Oxford University Press.
- Henderson, M., Fujita, K., Trope, Y., & Liberman, N. (2006). Transcending the “here:” The effect of spatial distance on social judgment. *Journal of Personality and Social Psychology, 91*(5), 845–856.
- Hermans, D., Crombez, G., & Eelen, P. (2000). Automatic attitude activation and efficiency: The fourth horseman of automaticity. *Psychologica Belgica, 40*, 3–22.
- Higgins, E. T. (1996a). Ideals, oughts, and regulatory focus: Affect and motivation from distinct pains and pleasures. AQ15

- In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 91–114). New-York: Guilford Press.
- AQ16 Higgins, E. T. (1996b). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York: The Guilford Press.
- Higgins, E. T. & Brendl, C. M. (1996). Principles of judging valence: What makes events positive or negative? In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 28, pp. 95–160). San Diego, CA: Academic Press.
- Himmelfarb, S. (1993). The measurement of attitudes. In A. H. Eagly, & S. Chaiken (Eds.), *The psychology of attitudes* (pp. 23–84). Fort Worth, TX: Harcourt Brace Jovanovich College.
- Hofmann, W., Gawronski, B., Gschwendner, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the Implicit Association Test and explicit self-report measures. *Personality and Social Psychology Bulletin*, 31(10), 1369–1385.
- Jones, E. E., & Sigall, H. (1971). The bogus pipeline: A new paradigm for measuring affect and attitude. *Psychological Bulletin*, 76, 349–364.
- Jordan, C. H., Spencer, S. J., & Zanna, M. P. (2003). “I love me ... I love me not:” Implicit self-esteem, explicit self-esteem, and defensiveness. In S. J. Spencer, S. Fein, M. P. Zanna, & J. M. Olson (Eds.), *Motivated social perception: The Ontario Symposium* (Vol. 9, pp. 117–145). Mahwah, NJ: Lawrence Erlbaum Associates.
- Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55, 893–905.
- Kawakami, K., & Dovidio, J. F. (2001). Implicit stereotyping: How reliable is it? *Personality and Social Psychology Bulletin*, 27, 212–225.
- Klauer, K. C., & Musch, J. (2003). Affective priming: Findings and theories. In J. Musch & K. C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp. 7–49). Mahwah, NJ: Lawrence Erlbaum.
- Klauer, K. C., & Stern, E. (1992). How evaluations guide memory-based judgments: A two-process model. *Journal of Experimental Social Psychology*, 28, 186–206.
- Klinger, M. R., Burton, P. C., & Pitts, G. S. (2000). Mechanisms of unconscious priming: I. Response competition, not spreading activation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 26, 441–455.
- Koole, S. K., Dijksterhuis, A., & van Knippenberg, A. (2001). What’s in a name: Implicit self-esteem. *Journal of Personality and Social Psychology*, 80, 614–627.
- Krosnick, J. A., Judd, C. M., & Wittenbrink, B. (2005). The measurement of attitudes. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 21–76). Mahwah, NJ: Erlbaum.
- Lambert, A. J., Payne, B. K., Ramsey, S., & Shaffer, L. M. (2005). On the predictive validity of implicit attitude measures: The moderating effect of perceived group variability. *Journal of Experimental Social Psychology*, 41, 114–128.
- Lang, P. J. (1984). Cognition in emotion: Concept and action. In C. Izard, J. Kagan, & R. Zajonc (Eds.), *Emotion, Cognition and Behavior* (pp. 196–226). New York: Cambridge University Press.
- Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (1990). Emotion, Attention, and the Startle Reflex. *Psychological Review*, 97, 377–395.
- Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist*, 46, 819–834.
- LeDoux, J. (1996). *The emotional brain*. New York: Touchstone.
- Levy, B. R., & Schlesinger, M. J. (2005). When self-interest and age stereotypes collide: elders opposing increased funds for programs benefiting themselves. *Journal of Aging & Social Policy*, 17(2), 25–39.
- Lewin, K. (1926). Vorsatz, Wille, und Bedürfnis [Intention, will, and need]. *Psychologische Forschung*, 7, 330–385.
- Lewin, K. (1935). *A dynamic theory of personality*. New York: McGraw-Hill.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organizational Behavior & Human Decision Processes*, 65(3), 272–292.
- Logan, G. D. (1980). Attention and automaticity in Stroop and priming tasks: Theory and data. *Cognitive Psychology*, 12, 523–553.
- Marsh, K. L., Johnson, B. T., & Scott-Sheldon, L. A. J. (2001). Heart versus reason in condom use: Implicit versus explicit attitudinal predictors of sexual behavior. *Zeitschrift für Experimentelle Psychologie*, 48, 161–175.
- McConahay, J. B. (1983). Modern racism and modern discrimination: The effects of race, racial attitudes, and context on simulated hiring decisions. *Personality and Social Psychology Bulletin*, 9, 551–558.
- McConahay, J. (1986). Modern racism, ambivalence, and the Modern Racism scale. In J. Dovidio (Ed.), *Prejudice, discrimination, and racism* (pp. 91–125). San Diego, CA: Academic Press.
- McConnell, A. R., & Leibold, J. M. (2001). Relations among the Implicit Association Test, discriminatory behavior, and explicit measures of racial attitudes. *Journal of Experimental Social Psychology*, 37, 435–442.
- McGuire, W. J. (1969). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (2nd ed., Vol. 3, pp. 136–314). Reading, MA: Addison-Wesley.
- McGuire, W. J. (1985). Attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (3rd ed., Vol. 2, pp. 233–346). New York: Random House.
- Meyer, D. E., & Schvaneveldt, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology*, 90, 227–234.

- Moors, A., & De Houwer, J. (2006). Automaticity: A theoretical and conceptual analysis. *Psychological Bulletin*, *132*(2), 297–326.
- Morsella, E. (2005). The Function of Phenomenal States: Supramodular Interaction Theory. *Psychological Review*, *112*(4), 1000–1021.
- Mowrer, O. H. (1960). *Learning theory and behavior*. New York: Wiley.
- Murphy, S. T., & Zajonc, R. B. (1993). Affect, cognition, and awareness: Affective priming with optimal and suboptimal stimulus exposures. *Journal of Personality and Social Psychology*, *64*, 723–739.
- Musch, J., & Klauer, K. C. (2003). *The psychology of evaluation: Affective processes in cognition and emotion*. Mahwah, NJ: Lawrence Erlbaum.
- Neely, J. H. (1976). Semantic priming and retrieval from lexical memory: Evidence for facilitatory and inhibitory processes. *Memory and Cognition*, *4*, 648–654.
- Neely, J. H. (1977). Semantic priming and retrieval from lexical memory: Roles of inhibitionless spreading activation and limited-capacity attention. *Journal of Experimental Psychology: General*, *106*, 225–254.
- Niedenthal, P. M. (1990). Implicit perception of affective information. *Journal of Experimental Social Psychology*, *26*, 505–527.
- Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of Experimental Psychology: General*, *134*, 565–584.
- Nosek, B. A., & Banaji, M. R. (2001). The go/no-go association task. *Social Cognition*, *19*(6), 625–666.
- Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Math = Male, Me = Female, therefore Math = I = me. *Journal of Personality and Social Psychology*, *83*, 44–59.
- Ohman, A. (1986). Face the beast and fear the face: Animal and social fears as prototypes for evolutionary analysis of emotion. *Psychophysiology*, *23*, 123–145.
- Osgood, C. E. (1953). *Method and theory in experimental psychology*. New York: Oxford University Press.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. Chicago: University of Illinois Press.
- AQ17 Oettingen, G., & Thorpe, J. (2006). Fantasy realization and the bridging of time. In L. J. Sanna & E. C. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 120–144). New York: Oxford University Press.
- AQ18 Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. (in press). An inkblot for attitudes: Attitude misattribution as implicit measurement. *Journal of Personality and Social Psychology*.
- Pratkanis, A. R., Breckler, S. J., & Greenwald, A. G. (1989). *Attitude structure and function*. New Jersey: Erlbaum.
- Petty, R. E., & Krosnick, J. A. (1995). *Attitude Strength: Antecedents and Consequences*. Mahway, NJ: Erlbaum.
- Posner, M. I., & Snyder, C. R. R. (1975). Attention and cognitive control. In R. L. Solso (Ed.), *Information processing and cognition: The Loyola symposium* (pp. 55–85). Hillsdale, NJ: Erlbaum.
- Roediger, H. L. (1990). Implicit memory: Retention without remembering. *American Psychologist*, *45*(9), 1043–1056.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press: Princeton, NJ.
- Roskos-Ewoldsen, D. R., & Fazio, R. H. (1992). On the orienting value of attitudes: Attitude accessibility as a determinant of an object's attraction of visual attention. *Journal of Personality and Social Psychology*, *63*, 198–211.
- Sarnoff, I. (1960). Psychoanalytic theory and social attitudes. *Public Opinion Quarterly*, *24*, 251–279.
- Sears, D. O. (1988). Symbolic racism. In P. A. Katz & D. A. Taylor (Eds.), *Eliminating racism: Profiles in controversy* (pp. 53–84). New York: Plenum.
- Schwarz, N., & Bohner, G. (2001). The construction of attitudes. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology: Intraindividual processes* (Vol. 1, pp. 436–457). Oxford, UK: Blackwell.
- Shah, J. (2003). The Motivational Looking Glass: How Significant Others Implicitly Affect Goal Appraisals. *Journal of Personality and Social Psychology*, *85*(3), 424–439.
- Shah, J. Y., & Kruglanski, A. W. (2002). Priming against your will: How goal pursuit is affected by accessible alternatives. *Journal of Experimental Social Psychology*, *38*, 368–382. AQ19
- Shah, J. Y., Kruglanski, A. W., & Friedman, R. (2002). A goal systems approach to self-regulation. In M.P. Zanna, J. M. Olson, & C. Seligman (Eds.), *The Ontario symposium on personality and social psychology* (pp. 247–276). Mahwah, NJ: Erlbaum. AQ20
- Shah, J. Y., & Kruglanski, A. W. (2003). When opportunity knocks: Bottom-up priming of goals by means and its effects on self-regulation. *Journal of Personality and Social Psychology*, *84*, 1109–1122. AQ21
- Sherman, S. J., Presson, C. C., Chassin, L., Rose, J. S., & Koch, K. (2003). Implicit and explicit attitudes toward cigarette smoking: The effects of context and motivation. *Journal of Social and Clinical Psychology*, *22*, 13–39. AQ22
- Shiffrin, R. M., & Schneider, W. (1977). Controlled and automatic human information processing. *Psychological Review*, *84*, 127–190.
- Smith, P. K., & Trope, Y. (2006). You Focus on the Forest When You're in Charge of the Trees: Power Priming and Abstract Information Processing. *Journal of Personality and Social Psychology*, *90*(4), 578–596.
- Smith, M. B., Bruner, J. S., & White, R. W. (1956). *Opinions and personality*. New York: Wiley.
- Squire, L. R., & Kandel, E. R. (1999). *Memory: From mind to molecules*. New York: W.H. Freeman & Co.
- Strull, T. K., & Wyer, R. S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*(10), 1600–1672.
- Swim, J. K., Aiken, K. J., Hall, W. S., & Hunter, B. A. (1995). Sexism and racism: Old-fashioned and modern prejudices. *Journal of Personality and Social Psychology*, *68*, 199–214.
- Tesser, A., & Martin, L. (1996). The psychology of evaluation. In E. T. Higgins, & A. W. Kruglanski (Eds.), *Social*

- psychology: Handbook of basic principles* (pp. 400–432). New York: The Guilford Press.
- Thurstone, L. L. (1927). Psychological analysis. *American Journal of Psychology*, *38*, 368–398.
- Thurstone, L. L. (1931). Measurement of social attitudes. *Journal of Abnormal and Social Psychology*, *26*, 249–269.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, *110*(3), 403–421.
- Tulving, E., & Craik, F. I. M. (2000). *Handbook of memory*. Oxford, UK: Oxford University Press.
- Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review*, *94*, 3–15.
- von Hippel, W., Sekaquaptewa, D., & Vargas, P. (1997). The Linguistic Intergroup Bias as an implicit indicator of prejudice. *Journal of Experimental Social Psychology*, *33*, 490–509.
- Wegner, D. M., Vallacher, R. R., Kiersted, G., & Dizadji, D. (1986). Action identification in the emergence of social behavior. *Social Cognition*, *4*, 18–38.
- Wentura, D. (1999). Activation and inhibition of affective information: Evidence for negative priming in the evaluation task. *Cognition and Emotion*, *13*, 65–91.
- Wicklund, R. A., & Gollwitzer, P. M. (1982). *Symbolic self-completion*. Hillsdale, NJ: Erlbaum.
- Wilson, T. D., Lindsey, S., & Schooler, T. Y. (2000). A model of dual attitudes. *Psychological Review*, *107*, 101–126.
- Winkielman, P., Berridge, K. C., & Wilbarger, J. L. (2005). Unconscious affective reactions to masked happy versus angry faces influence consumption behavior and judgments of value. *Personality and Social Psychology Bulletin*, *31*(1), 121–135.
- Wittenbrink, B., Judd, C. M., & Park, B. (1997). Evidence for racial prejudice at the implicit level and its relationship with questionnaire measures. *Journal of Personality and Social Psychology*, *72*, 262–274.
- Wittenbrink, B., Judd, C. M., & Park, B. (2001). Spontaneous prejudice in context: Variability in automatically activated attitudes. *Journal of Personality and Social Psychology*, *81*, 815–827.
- Young, P. T. (1959). The role of affective processes in learning and motivation. *Psychological Review*, *66*, 104–125.
- Zajonc, R. B. (1980). Feeling and thinking. Preferences need no inferences. *American Psychologist*, *35*, 151–175.
- Zajonc, R. B. (2000). *Feeling and thinking: The role of affect in social cognition*. Cambridge University Press. AQ23

AUTHOR QUERIES

- [AQ1] The author name “Ohman” in citation “Ohman, 1986” has been changed as per the reference list. Please check.
- [AQ2] Please add “Eagly & Chaiken, 2003” to the reference list.
- [AQ3] Kindly expand citation “Davidson et al., 2003” as the reference list has two entries for “Davidson, 2003”.
- [AQ4] Please add “Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997” to the reference list.
- [AQ5] Please add ‘a’ or ‘b’ in citation “Higgins, 1996” as per the reference list.
- [AQ6] Please add “Wentura, 2000” to the reference list.
- [AQ7] Please add “Greenwald, Banaji, Rudman, Farnham, & Nosek, 2002” to the reference list.
- [AQ8] Can the text “Exp.” in “wanting some water (Exp. 2)” be changed to “Experiment 2”?
- [AQ9] Please add “Oettingen et al., 2006” to the reference list.
- [AQ10] Please add “Shah et al. (2003)” to the reference list.
- [AQ11] Please add “a” or “b” to “Ferguson, in press” as the reference list contains two entries.
- [AQ12] Please update reference “Ferguson, M.J. (in press-a).”
- [AQ13] Please update reference “Ferguson, M.J. (in press-b).”
- [AQ14] Please provide text citation for reference “Greenwald, A.G., Banaji, M.R., Rudman, L.A., Farnham, S.D., Nosek, B.A., Mellott, D.S. (2002).”
- [AQ15] Please provide text citation for reference “Higgins, E.T. (1996a).”
- [AQ16] Please provide text citation for reference “Higgins, E.T. (1996b).”
- [AQ17] Please provide text citation for reference “Oettingen, G., & Thorpe, J. (2006).”
- [AQ18] Please update reference “Payne, B.K., Cheng, C.M., Govorun, O., & Stewart, B. (in press).”
- [AQ19] Please provide text citation for reference “Shah, J.Y., & Kruglanski, A.W. (2002).”
- [AQ20] Please check whether the inserted publisher location is correct in reference “Shah, J.Y., Kruglanski, A.W., & Friedman, R. (2002).”
- [AQ21] Please provide text citation for reference “Shah, J.Y., & Kruglanski, A.W. (2003).”
- [AQ22] Please provide text citation for reference “Sherman, S.J., Presson, C.C., Chassin, L., Rose, J.S., & Koch, K. (2003).”
- [AQ23] Please provide publisher location for reference “Zajonc, R.B. (2000).”