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### CHAPTER

## 24 Attitudes and Social Cognition: The Synergistic Interface



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### Abstract

Social cognition and the study of attitudes have long enjoyed a synergistic relationship. This chapter provides an overview of different research programs that exemplify such synergies. The main theme that emerges from this tour through the literature is that adopting a social cognitive perspective helped attitudes researchers better understand central issues and resolve crises in the field. In turn, early theoretical and methodological advances in the attitudes field formed part of the zeitgeist that led to the rise of the social cognition movement. Moreover, these advances sometimes aligned the attitudes literature with those literatures that are traditionally considered to fall under the umbrella of social cognition (e.g. impression formation, stereotypes, the self). Last, the adoption of theoretical and methodological developments by attitudes researchers sometimes acted as catalysts for progress in traditional social cognition literatures.

**Keywords:** [dissonance theory](#), [self-perception theory](#), [elaboration likelihood model](#), [heuristic–systematic models](#), [attitude–behavior relations](#), [the mode model](#), [implicit measures](#)

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Defining social cognition can be rather difficult (Carlston, 2013). Contemporary social psychology textbooks often give the impression that social cognition is a content area within social psychology (not unlike interpersonal relationships or group processes) focused on understanding how people think about their social world. According to this perspective, the topics that were central to the emergence of social cognition (e.g., impression formation, stereotypes, the self) are those that sketch the boundaries of the field. However, the website for the International Social Cognition Network—a society dedicated to the

advancement of social cognition research—describes social cognition not as a content area, but rather as a general approach to conducting research. The key feature of a social cognitive approach to research is a focus on cognitive structure (e.g., how a given construct is represented in the mind) and process (e.g., the mechanism by which mental content influences behavior; Hamilton & Carlston, 2013). Associated features include an adoption of theories and methods from cognitive psychology, including interest in questions such as the extent to which a given phenomenon unfolds via a relatively automatic or controlled process (Carlston, 2013; Hamilton & Carlston, 2013).

p. 672 Indeed, no consensus exists regarding the definition of social cognition. Some researchers believe that social cognition is best conceptualized as an approach to research (Hamilton, 2005; Higgins, 2000), whereas others hold that it is only a content area (Macrae & Miles, 2012), and still others believe that it is both an approach and a content area (Carlston, 2013). ↪ What is clear is that social cognition has deep roots in the impression formation and person memory literatures, among others (North & Fiske, 2012), and it is easily conceptualized as a general approach to research because its structure- and process-focused perspective has been and can be applied to the study of such a wide variety of topics (Hamilton & Carlston, 2013).

With that in mind, we turn to the main purpose of our chapter. In the pages that follow, we focus on a number of different branches of the attitudes literature to examine synergies with the social cognition movement and with topics viewed as more central to what some consider to be its topic areas. The central thesis of this chapter is that adopting a social cognitive perspective pushed the attitudes literature forward by allowing researchers to better understand central issues and resolve crises in the field. The consequences of these developments were numerous. First, early theoretical and methodological advances that resulted from this adoption of a social cognitive perspective in turn formed part of the zeitgeist that led to the rise of the social cognition movement. Moreover, these advances sometimes aligned the attitudes literature with those literatures that are traditionally considered to fall under the umbrella of social cognition (e.g., impression formation, stereotypes, the self), essentially eliminating any sense of distance between them. Last, when these theoretical and methodological developments made by attitudes researchers were incorporated into the study of traditional social cognition topics, they acted as catalysts for progress. To set the stage for this discussion, we first provide a brief review of major landmarks in the attitudes literature (see Briñol & Petty, 2012; Briñol et al., 2019; and Wegener & Petty, 2013; for more detailed reviews).

## A Brief Introduction to the Attitudes Literature

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The scientific study of attitudes and persuasion began to take flight when L. L. Thurstone (1928) declared that attitudes could be measured and presented his method for doing so. Subsequent developments by Rensis Likert (1932) and Charles Osgood and colleagues (1957) pushed progress along even further by providing simpler instruments to assess people's attitudes. The common thread among all of these foundational measures was their reliance on direct reports of evaluations by the participant. As such, they can be categorized as *direct measures of attitudes*.

During the Second World War, the American military took a particularly keen interest in understanding how to best shape the opinions of their troops and the general public. Carl Hovland was selected to coordinate a research program intended to evaluate the effectiveness of training programs and films aimed at improving soldiers' attitudes toward the war (Shepard, 1998). After the war, Hovland established the highly influential Yale Communication and Attitude Change Program, in which he and his colleagues developed a framework for understanding persuasion that was centered around characteristics of the source, message, and recipient (Briñol & Petty, 2012; Lasswell, 1948). What became known as the *message learning approach*

proposed that successful persuasion attempts were those that provided sufficient incentives for people to learn the content of the message (Hovland et al., 1953).

In conjunction with the work of Hovland and colleagues, the introduction of the theory of cognitive dissonance (Festinger, 1957) led to an explosion of interest in studying attitudes. According to Festinger (1957), people experience cognitive dissonance—an uncomfortable state of arousal—when two cognitive elements (e.g., an attitude and a behavior) contradict each other. People are motivated to reduce this discomfort, with a shift in attitudes being one route through which this can be accomplished. In one seminal study by Festinger and Carlsmith (1959), people induced to lie about a boring task in exchange for a small incentive (\$1) changed their attitudes toward the task to a greater extent after having lied than those receiving a large incentive (\$20) because those in the latter group had a salient cognition that was consistent with their behavior—they lied for the incentive. The theory of cognitive dissonance is widely regarded as one of the most important theoretical frameworks in the attitudes literature, and perhaps all of social psychology. Its introduction into the literature created a great deal of excitement and inspired decades of controversy and research (see Cooper, 2007, for a review).

Meanwhile, the foundational elements of information integration theory began to appear in the literature (Anderson, 1959). Information integration theory provides a general framework for understanding how people use cognitive algebra to combine information about a given object and reach a judgment (Anderson, 1981). The origins of information integration theory can be traced to the attitude and impression formation literatures (Anderson, 1965a; Anderson, 1971), which is indeed the first interface between social cognition and attitudes we wish to highlight. Impression formation and attitude formation were essentially a single, intertwined literature. How perceivers form impressions of a target person described as possessing various traits was recognized as parallel to the question of how individuals form attitudes toward objects or issues on the basis of the beliefs or attributes associated with that object. This work generated a variety of debates and controversies. For instance, questions arose regarding whether additive or averaging models were most appropriate to model the data (e.g., Anderson, 1965b). More important, this algebraic approach stood in direct contrast to the Gestalt approaches that emphasized holistic processing of information (Asch, 1946; Hamilton & Zanna, 1974).

Despite the great interest generated by these developments, a serious and fundamental issue arose concerning the relation between attitudes and behavior. Though there were early challenges to the idea that there was strong correspondence between attitudes and behavior (Corey, 1937; LaPiere, 1934), Allan Wicker (1969) set off a crisis of confidence in the attitudes literature when he published a pessimistic review in which he concluded that it was “considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions” (p. 65).

Against this somewhat pessimistic backdrop, we begin our exploration of the synergies between social cognition and the attitudes literature. Throughout this chapter, we examine the state of the literatures concerning dissonance, persuasion, and attitude–behavior consistency in the late 1970s and early 1980s. Researchers concerned with these issues came to focus more and more on questions of mechanism—a perspective that yielded valuable returns. At the same time, key developments in other literatures were taking place. Researchers interested in person memory began to illuminate such process questions as how impressions of a target person related to memory for the target’s impression-congruent and -incongruent behaviors and how impression formation goals contrasted to memorization goals in the effects they had on memory for the behaviors performed by a target person (Hastie et al., 1980; Wyer & Carlston, 1979). Moreover, novel priming procedures demonstrated the impact of category accessibility on the impression formation process by virtue of the influence accessible constructs exerted on the construal of ambiguous information (Higgins et al., 1977; Srull & Wyer, 1979). This ever-increasing attention to process, including those processes underlying dissonance, persuasion, and attitude–behavior consistency, contributed to the zeitgeist that facilitated receptivity to the social cognition movement.

As we examine the progress facilitated by a process-focused perspective within the dissonance, persuasion, and attitude-behavior consistency literatures, we highlight cases in which these developments brought the attitudes literatures closer to areas of study traditionally considered to fall under the domain of social cognition, including impression formation, stereotypes, and the self. Last, we discuss the advances enabled by this alignment of social cognition and the study of attitudes.

## Attitude Formation and Change

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We begin our exposition of the synergies between social cognition and attitudes in the context of cognitive dissonance.

### Dissonance, Self-Perception, and the Pill

As the theory of cognitive dissonance gained empirical support and a prominent place in the social psychological landscape, competing theories entered the literature. For instance, self-perception theory (Bem, 1972) proposed that sometimes people have poor access to the contents of their mind (e.g., attitudes, emotions) and, much like an outside observer, must analyze their behavior to infer them. According to the self-perception perspective, participants in Festinger and Carlsmith's (1959) study did not change their attitudes after being induced to engage in a counterattitudinal behavior to relieve discomfort; rather, they analyzed the behavior in question and the surrounding circumstances to arrive at an inference of what their attitude toward the tasks must be. Consistent with this idea, participants who merely heard descriptions of the procedure of the induced compliance paradigm arrived at the same attitudes as those who actually experienced it (Bem, 1967).

Prompted at least in part by the controversy with self-perception theory, dissonance theorists grew much more concerned with the process by which dissonance occurs. Contrary to the idea that the predictions of the two theories could not be untangled (Greenwald, 1975), this concern with process eventually led researchers to one matter about which the theories made contradictory predictions: the presence of negative arousal when people engaged in a counterattitudinal behavior. The theory of cognitive dissonance predicted that, for example, after being subtly induced to write a counterattitudinal essay, individuals would experience an uncomfortable state of arousal. Self-perception theory predicted no such arousal. Inspired by recent research on the misattribution of arousal (Storms & Nisbett, 1970), Zanna and Cooper (1974) devised an ingenious experiment. According to the theory of cognitive dissonance, if people were given a placebo pill in the context of a separate experiment shortly before being subtly induced to write a counterattitudinal essay and told that it would make them tense, they should attribute their arousal to the pill and not their behavior and, thus, should not be driven to change their attitudes. Likewise, giving someone a pill prior to their writing the counterattitudinal essay and telling them it should make them feel relaxed should make their arousal all the more noteworthy and lead to more pronounced attitude change. Self-perception—with its dismissal of a role for arousal—made no such predictions. The results revealed that—as predicted by cognitive dissonance theory—when participants were told that the pill would make them tense, the dissonance effect was eliminated. When they were told the pill would relax them, the dissonance effect was enhanced.

This classic experiment made a lasting impact on the literature by providing conclusive evidence that dissonance involves the presence of negative arousal. Most relevant for our current purposes, these developments in the dissonance literature were an important backdrop to the social cognition movement because this focus on process was part of the zeitgeist that fostered its rise.

## A New Look at Cognitive Dissonance

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As the findings continued to accumulate, it became obvious that the theory of cognitive dissonance—as originally proposed—was inadequate to account for the complexity of the state of knowledge at the time. Employing a process-focused perspective, Cooper and Fazio's (1984) review of the literature provided a *New Look* at cognitive dissonance. Their conclusion was that dissonance was not merely the result of dissonant cognitive elements, but rather a product of believing that one's behavior will lead to aversive, irrevocable consequences. Indeed, a number of studies found that dissonance effects only emerged in situations in which people believed that their behavior led to aversive consequences (Cooper & Worchel, 1970; Goethals & Cooper, 1972, 1975). Such beliefs, however, were not sufficient to produce the experience of cognitive dissonance—people also had to attribute the cause of the behavior to themselves (Collins & Hoyt, 1972). Cooper and Fazio (1984) proposed that people arrive at attributions of personal responsibility when they conclude that (a) the action was carried out freely and not driven by environmental influences and (b) the aversive consequences were a foreseeable product of one's behavior. Thus, dissonance is the result of feeling personally responsible for engaging in a behavior that brings about aversive consequences.

Having sketched out the necessary conditions for dissonance, Cooper and Fazio (1984) set out to create a comprehensive process model of dissonance. If an individual determined that their behavior brought about aversive consequences and accepted responsibility for the behavior, they experienced *dissonance arousal*—a nonspecific state of arousal. However, the manner in which this arousal was construed was important. For example, when participants were led to label their arousal as positive, dissonance effects were greatly attenuated (Rhodewalt & Comer, 1979). It is only after an individual labels the state of arousal as being negative and attributes it to bringing about negative consequences for which they are responsible that *dissonance motivation*—the uncomfortable psychological state that Festinger (1957) described—is activated.

This comprehensive process model provided a great deal of structure to the dissonance literature. It turned the many moderators of the classic dissonance effect—what some may regard as a limitation of the theory (e.g., “Well, dissonance effects are limited to situations involving aversive consequences”)—into a coherent road map by which a behavior can instigate attitude change. As with the work on arousal and dissonance discussed above, the broader impact of this model was that its process-focused perspective became a part of the zeitgeist that fostered the rise of the social cognition movement.

## Toward a Comprehensive Model of Persuasion

Next, we focus on research and theory development in the field of persuasion to examine synergies between social cognition and attitudes.

### Cognitive Response Approach

During this same time period, the persuasion literature underwent rapid development. The popularity of the message learning approach waned as it became apparent that persuasion was often unrelated to learning of the message. For example, multiple studies reported that recall of the message was unrelated to persuasion (e.g., Insko, 1964) and, eventually, people realized that some of the seminal studies in this tradition found persuasion in the absence of differences in learning the content of the message (Greenwald, 1968; Hovland et al., 1953).

In response, the field embraced the cognitive response approach to studying persuasion. Its central thesis was that people relate information presented in the persuasive communication to their existing knowledge and are ultimately persuaded by these cognitive responses—the favorable and unfavorable thoughts—

generated in response to the message (Greenwald, 1968). The more numerous and intense the favorable cognitive responses to a message, the greater the persuasive impact. Consistent with this idea, the cognitive responses reported after reading a persuasive message significantly predicted postmessage attitudes, and recall for one's cognitive responses (but not recall for the content of the message) significantly predicted postmessage attitudes (Love & Greenwald, 1978). Soon, the cognitive response approach was applied to the study of a wide variety of persuasion variables (Briñol & Petty, 2012). In fact, it became so popular that the resulting research was compiled into a book edited by Petty, Ostrom, and Brock (1981).

### The Elaboration Likelihood and Heuristic-Systematic Models

Despite the progress made by the cognitive response approach, contradictory and confusing findings continued to pile up in the persuasion literature. Virtually every variable studied had been shown to increase, decrease, or have no effect on persuasion across different studies. Moreover, the resulting change in attitudes was sometimes short-lived and sometimes quite persistent (see Briñol & Petty, 2012, for a more thorough discussion). As was the case in the dissonance literature, however, a concern for process allowed persuasion researchers to make significant progress. One key insight came from a review of the literature conducted by Petty and Cacioppo (1981): Persuasion could occur either more or less thoughtfully. Accordingly, they proposed that—in contrast to prior perspectives—persuasion occurred through one of two routes. The *central route to persuasion* involves a careful consideration of the central merits (i.e., the arguments) of the persuasive message. The *peripheral route to persuasion* involves a less thoughtful reaction to peripheral cues (e.g., source expertise) present in the persuasive message.

These ideas were refined and expanded to form the elaboration likelihood model (ELM; Petty & Cacioppo, 1986). The ELM proposed that though people are motivated to hold correct attitudes (Festinger, 1950), they do not always *elaborate*—think deeply and go beyond the information provided—on the contents of a persuasive message. The ELM places the central and peripheral routes as endpoints of an elaboration likelihood continuum. When the likelihood of elaboration is relatively high, persuasion occurs through central route processes, whereas persuasion occurs through peripheral route processes when elaboration likelihood is relatively low. Importantly, the likelihood of elaboration is a function of a person's motivation (e.g., personal relevance) and ability (e.g., distraction) to evaluate the communication presented.

The ELM has received a great deal of empirical support. In a study by Petty, Cacioppo, and Goldman (1981), undergraduate students listened to a message advocating for the implementation of a senior comprehensive exam requirement for graduation, after which they reported their attitudes toward the policy. The experimenters manipulated the expertise of the source delivering the message (high school class vs. Carnegie Commission on Higher Education), the quality of the arguments presented (pretested to be strong vs. weak), and the personal relevance of the message (policy to be instituted next year vs. 10 years from now). Consistent with the predictions of the ELM, when personal relevance was high, argument quality was a more important factor in driving postmessage attitudes. However, when personal relevance was low, source expertise was more important. Subsequent research has consistently found that argument quality is a key factor in driving attitude change under conditions that promote elaboration, but peripheral cues are more important under conditions that do not (see Petty & Wegener, 1998, for a review).

Many of the advances made in this program of research are the product of a paradigm designed to detect the operation of more thoughtful processes. As exemplified above, argument quality is manipulated by selecting arguments that have been pretested to be strong (those generating favorable thoughts) or weak (those generating counterarguments), and their effect on attitude change is measured. The extent of effortful processing of the message is indicated by the size of the argument quality effect on postmessage attitudes. The level of effortful processing is sometimes also assessed through a thought-listing procedure in which participants write down the thoughts they generated in response to the persuasive communication.

Effortful processing is indicated by a greater number of thoughts reflecting the quality of the presented arguments, which in turn form the basis for subsequent attitudes (e.g., Harkins & Petty, 1981).

Consistent with other predictions of the model, attitudes formed under high elaboration conditions result in stronger attitudes—they show greater stability over time (persistence; Haugtvedt & Strathman, 1990), greater correspondence with behavior (predictive; Petty et al., 1983), and are less likely to change when attacked (resistance; Haugtvedt & Wegener, 1994). Moreover, classic persuasion variables can exert their effect by playing multiple roles: they can act as persuasive arguments or peripheral cues and/or influence the amount and direction of elaboration (e.g., attractiveness can act as a cue and an argument; e.g., Petty & Cacioppo, 1984). By mapping the processes through which persuasion occurs and the consequences associated with those processes, the ELM provided answers for the puzzling findings that plagued the persuasion literature.

Perhaps not surprisingly, Richard Petty and John Cacioppo were not the only social psychologists who took a process-focused perspective to understanding persuasion. Shelly Chaiken (1978) developed a similar line of thinking with her heuristic–systematic model (HSM). This work very explicitly linked persuasion to then-current developments within cognitive psychology. At the time, there was a growing recognition that instead of processing information deeply, people sometimes relied on heuristics—with perhaps the most prominent demonstration of such heuristic use being featured in Tversky and Kahneman’s (1974) groundbreaking research in the field of judgment and decision-making. Like the ELM, a core idea of the HSM is that persuasion can occur through processes that are relatively more thoughtful (involving the careful consideration of available information in an effort to understand it) or less thoughtful (involving the application of low-thought heuristics; Chaiken, 1980, 1987; see Chaiken & Ledgerwood, 2011, for a review). In this context, heuristics were conceptualized as decision rules stored in memory (e.g., length = strength, experts can be trusted, people I like are usually right). This conceptualization led to several points of contact with the social cognition literature. Specifically, subsequent work examined how accessibility and applicability—central constructs in the social cognition literature (Higgins, 1996)—influenced heuristic use and the extent to which such heuristic use might be characterized as automatic (see Chen & Chaiken, 1999, for a review). Though differences exist between the HSM and ELM, these two influential models of persuasion generally explain the same phenomena, but do so using different language (Briñol & Petty, 2012; Petty & Wegener, 1999).

Along with the developments in the dissonance literature we have covered, the process-focused approach adopted by the ELM and HSM and the resulting progress formed part of the zeitgeist that both facilitated and benefited from the rise of the social cognition movement.

## Later Synergies and Extensions

p. 678 The developments described above also functioned to bring the attitudes literature closer with other literatures tied to social cognition. Much like the attitudes literature came to make a key distinction between people's in-the-moment cognitive responses to a persuasive message and their memory for its content, the impression formation literature made a parallel distinction between stimulus- and memory-based judgments (Lingle & Ostrom, 1979; Wegener & Petty, 2013). To better understand the inconsistent relations between memory and judgment that had been reported across a variety of research domains, Hastie and Park (1986) proposed that there are two types of judgment tasks. In online judgment tasks, the individual processes the information as it is encountered and forms judgments in the moment (i.e., "online"). In contrast, in memory-based tasks individuals must rely on their recollection of the information that was presented to form a judgment. This crucial distinction between online and memory-based processing made by Hastie and Park was incorporated into the persuasion literature and applied to better understanding the conditions under which memory for a message versus people's cognitive responses better correspond with attitude change (Mackie & Asuncion, 1990) and the individual difference variables (e.g., need to evaluate) that can guide individuals to preferentially engage in online versus memory-based processing when evaluating a target (Tormala & Petty, 2001).

Similarly, the HSM and ELM were by no means the only dual- and multiprocess models in social psychology. In fact, the late 1980s and early 1990s saw a handful of such models introduced to the field, many of which were developed in the attitudes, stereotypes, and impression formation literatures (Chaiken & Trope, 1999) —undoubtedly a result of a shared social cognitive focus. The continuum model (Fiske & Neuberg, 1990), an influential framework in the impression formation literature, aimed to accommodate the seemingly contradictory Gestalt (Asch, 1946) and information integration perspectives (Anderson, 1981). It proposed that perceivers first automatically categorize targets using salient social categories when forming an impression—a relatively low-effort process—and then proceed to increasingly more resource-intensive scrutinizing of attribute information if the perceiver is sufficiently motivated and able to do so (see Fiske et al., 1999, for a review). Parallel to the central ideas of the ELM and HSM, the continuum model emphasizes that evaluation of a target can occur through relatively more and less thoughtful processes and that motivation and ability to process information determine which processing mode is activated (Wegener & Petty, 2013). However, the continuum model differs from its persuasion counterparts in that it proposes a serial sequence in which processing becomes increasingly more cognitively demanding. In contrast, the persuasion models allow for such a sequence to occur (e.g., low-motivation perceivers are unable to rely on cues and must process arguments), but maintain that perceivers need not initially engage in low thought processing to reach more cognitively demanding routes.

Yet another development that highlights the value of a social cognition perspective regarding persuasion and attitude change concerns the increasing focus on *metacognition*—thoughts about one's thoughts. Subsequent research involving the ELM framework emphasized not only the extent and content of thoughts in response to a persuasive message, but also the level of confidence people have in those thoughts. According to the *self-validation hypothesis*, message-relevant thoughts should influence postmessage attitudes to a greater extent when they are regarded as valid rather than invalid (Petty et al., 2007). Across multiple studies, Petty et al. (2002) found that when participants reported higher confidence in their thoughts, the relation between thought content (valence) and postmessage attitudes was stronger. Moreover, overt head movements while listening to a message were found to either enhance (head nodding) or undermine (head shaking) confidence in one's thoughts about the message (Briñol & Petty, 2003). This emphasis on metacognition added a layer of complexity to persuasion models by demonstrating that generating thoughts in response to a message is not sufficient to influence attitudes; people must have some degree of confidence in those thoughts for change to occur (see Briñol & Petty, 2009, for a review).



## The Attitude Concept and the Attitude-to-Behavior Relation

Having examined synergies in the context of attitude formation and change, we turn our attention to the consequences of attitudes in the section below.

### Attitudes as Object–Evaluation Associations in Memory

In the wake of Wicker’s (1969) critique, the field began to study attitude–behavior relations more carefully. It eventually became clear that attitudes did predict behavior, under the right set of circumstances. That is, research on attitude–behavior consistency had moved beyond a first-generation question of “Is there a relation?” to a second-generation question of “when” a relation is observed (Zanna & Fazio, 1982). A lengthy catalog of variables had been identified as moderators of the attitude–behavior relation. The goal of understanding why these variables influenced attitude–behavior consistency drove developments regarding a third-generation question of “How do attitudes influence behavior?” Asking this process question, as with the others we have noted, promoted linkages with the emerging social cognition movement.

Consideration of the process issue led to efforts to reconceptualize the attitude construct (Fazio et al., 1982; Zanna & Rempel, 1988). Though many specific definitions existed, the common theme among them was that an attitude involved the categorization of an object along an evaluative dimension. As such, attitudes could be conceptualized as object–evaluation associations stored in memory. This view made it clear that attitudes are evaluative knowledge (Fazio, 2007), not hypothetical constructs the existence of which was evident through a person’s verbal and overt behavior—as was the dominant view at the time (Greenwald & Nosek, 2008). Naturally, there is variability in the strength of the association between an attitude object and an evaluation across individuals and objects. This variability in strength is represented by the *attitude–nonattitude continuum* (Converse, 1970; Fazio et al., 1986). At the nonattitude end of the continuum, individuals lack an evaluative representation of the object in question. As one moves along the continuum, an attitude becomes available in memory and its accessibility increases—the attitude becomes stronger. At higher ends of the continuum, presentation of the object is sufficient to activate the attitude from memory automatically.

This new theoretical perspective on the attitude construct was heavily influenced by distinctions made by cognitive psychologists, particularly Schneider and Shiffrin (1977), between automatic and controlled processing. A long list of features was proposed to characterize automaticity, but chief among them was *inescapability*. That is, automatic processes were considered to be those triggered by the presentation of a certain set of stimuli, despite any attempt by the individual to control their activation (Shiffrin & Dumais, 1981; cf. Bargh, 1994). Like in the attitudes literature, issues of automaticity were beginning to be introduced to the study of impression formation and the self (e.g., Bargh, 1982; Bargh & Pietromoncano, 1982). A concern with automaticity characterized both literatures for years to come, once again bridging the gap between these related areas.

To test whether attitudes could be conceptualized as object–evaluation associations of varying strength, researchers once again turned to cognitive psychology. Though response latencies had been used to study mental processes for at least a century (Donders, 1868/1969), they gained popularity in cognitive psychology in the 1960s and 1970s (Shiffrin & Schneider, 1977; Sternberg, 1966). One approach taken by attitudes researchers was to assess the speed with which participants could respond to attitudinal queries. As predicted, people with stronger attitudes (e.g., by virtue of having formed their attitudes through direct experience with the attitude object) were faster to respond when asked to report their evaluations (Fazio et al., 1982). Likewise, rehearsal of one’s object–evaluation associations in the form of having to express

one's attitudes repeatedly across multiple survey items produced faster latencies of response to subsequent attitudinal queries (Powell & Fazio, 1984).

A subsequent approach relied on early priming paradigms that in many ways marked the very beginning of the social cognition movement. Priming a construct in one context (i.e., through its recent activation) resulted in an increased likelihood that the construct would be used to disambiguate subsequently presented information (Higgins et al., 1977; Srull & Wyer, 1979). In a parallel fashion, presentation of an attitude object was found to affect the interpretation of ambiguous information in a subsequent, unrelated study. Participants exposed to a positively valued object offered a more positive interpretation of the subsequent ambiguous information than those primed with a negatively valued object. However, such a priming effect emerged only if participants' attitudes toward the primed object could be considered to involve a relatively strong object–evaluation association, either because the attitudes had been formed through direct experience or because the participants had been induced to rehearse their attitudes (Fazio et al., 1983). These findings suggested that attitudes may be activated automatically from memory on mere observation of the attitude object, provided that individuals had developed a sufficiently strong association between their evaluations and the attitude object.

More compelling evidence of automatic attitude activation was provided by a third methodological approach. Previous research in cognitive psychology had demonstrated that being primed (e.g., with the category “bird”) facilitated the categorization of a subsequently presented target (e.g., the exemplar “robin”) as a word, when the prime was relevant to the target (Neely, 1977). Fazio and colleagues (1986) adapted this paradigm and found that the presentation of an object toward which an individual had a strong positive attitude facilitated the classification of adjectives that had a clearly positive connotation. Conversely, the presentation of an object toward which an individual had a strong negative attitude facilitated the classification of negative target adjectives. Importantly, across the three experiments, the associative strength that characterized the attitude objects presented as primes was either based idiosyncratically on the objects having been ones to which the participant had responded relatively fast versus relatively slow in an earlier attitudinal query task or experimentally manipulated via attitude rehearsal. Primes involving stronger associations exhibited greater evidence of automatic attitude activation than did those involving weaker associations. That is, the former facilitated identification of the connotation of evaluatively congruent adjectives to a greater extent than the latter did. Together, these experiments demonstrated that attitudes could be automatically activated upon presentation of an attitude object, with the likelihood of activation being a function of the strength of the object–evaluation association stored in memory. Decades of research using this evaluative priming paradigm have supported this conclusion—evaluative primes facilitate responses to evaluatively congruent targets (see Herring et al., 2013, for a review).

Use of response latency measures also gained popularity in other areas of social psychology (Fazio, 1990a), with those areas most closely aligned with the social cognition movement primarily accounting for their use. For instance, an investigation of the cognitive representation of impressions found that people were faster to categorize traits as being descriptive of a target when they had already incorporated that trait into their impression of a target (Park, 1986). Similarly, the more participants had been induced to consider the honesty apparent in a target individual's behavior, the greater the savings they exhibited in terms of their latencies to label the target as honest (Carlston & Skowronski, 1986).

The stereotypes literature particularly benefited from adaptation of the priming paradigm. Research found that being primed with racial categories facilitated the categorization of stereotype–congruent traits (Dovidio et al., 1986) and being primed with stereotypical gender traits, roles, or features facilitated the categorization of stereotypically congruent names (Blair & Banaji, 1996). Later work demonstrated the relevance of associative strength as a moderator of such stereotypically driven priming. For example, in an experiment in which participants' task was to indicate whether a given item (e.g., a skirt) would be

considered masculine versus feminine, priming with male versus female names yielded greater facilitation on stereotype-congruent trials than on stereotype-incongruent trials (Macrae et al., 2002). However, this priming effect was stronger for very familiar names (e.g., John, Sarah) than for names that connoted gender just as accurately but were less familiar (e.g., Felix, Glenda). Moving beyond the priming paradigm, the extent to which individuals associated male and female names differentially with the categories *career* versus *household*—as assessed with an Implicit Association Test (IAT)—predicted the extent to which they relied on gender stereotypes, as opposed to more individuating information, when assessing a target person (Gawronski et al., 2003). Thus, the literatures regarding both attitudes and stereotypes came to highlight automatic activation and the role of associative strength in moderating the likelihood of such activation.

## The MODE Model

The view of attitudes as object–evaluation associations of varying strength formed the core of the MODE model (motivation and opportunity as determinants of which processing mode links attitudes to behavior), which attempted to delineate the processes through which attitudes guide judgment and behavior (Fazio, 1986, 1990b). One such process is spontaneous in that it requires no conscious reflection on the attitude. An attitude that is automatically activated by the presentation of an attitude object shapes the construal of an object in the immediate situation (i.e., how the object is perceived). In turn, this construal shapes an individual's behavior toward the object. The consequence is that correspondence between automatically activated attitudes and behavior should be relatively stronger when the spontaneous process is in operation.

The other attitude-to-behavior process is deliberative in the sense that individuals engage in effortful cost–benefit analyses when constructing a behavioral plan, and attitudes toward alternative courses of action are constructed and serve as conscious inputs to this process (Ajzen & Fishbein, 1980). Additionally, there are “mixed processes” that involve automatic and deliberative components (Fazio, 1990b; Fazio & Olson, 2014). For example, a largely deliberative process may contain automatic components, or an automatic process may contain deliberative components. Last, as the name of the model suggests, an individual's motivation and opportunity to deliberate about the available information serve as the determinants of which process is likely to operate.

Early tests of the model provided supportive evidence. As discussed above, multiple studies demonstrated that, provided they were sufficiently strong, attitudes could be automatically activated from memory upon mere presentation of an attitude object (Fazio et al., 1982, 1986; Powell & Fazio, 1984). Research also supported the proposition that automatically activated attitudes could shape people's construals of situations. One study found that attitudes toward presidential candidates predicted perceptions of their performance during a presidential debate, and this relation was all the more evident among those with the most accessible attitudes (Fazio & Williams, 1986). Moreover, accessible attitudes shape people's construal of multiply categorizable objects (Smith et al., 1996; Young & Fazio, 2013). Last, motivation and opportunity were found to moderate the relation between automatically activated attitudes and behavior. When motivation and opportunity to deliberate were experimentally manipulated to be high, people effortfully retrieved detailed information that they had received to make a decision about a consumer product. However, when either motivation or opportunity was relatively lower, people's earlier formed attitudes predicted their decision about a consumer product (Sanbonmatsu & Fazio, 1990). The MODE model has continued to receive support in the decades after its introduction (Fazio & Olson, 2014) and now has illuminated research domains well beyond those in which it was initially tested, including close relationships (e.g., McNulty et al., 2013; Hicks et al., 2021) and, most recently, suicidality (McNulty, Olson, & Joiner, 2019; Olson et al., 2022).

## Accessible Attitudes Are Functional

The view of attitudes as object–evaluation associations also prompted work on the functional value of attitudes—an issue that had long been emphasized in the literature, but suffered from a relative lack of empirical work. What came to be emphasized is that accessible attitudes serve an object–appraisal function (Fazio, 2000). Attitudes that are activated from memory can efficiently deliver evaluative information about an object that can be used to guide approach/avoidance decisions, instead of requiring a more resource-intensive effort to construct an evaluation every time the object is encountered (as has been advocated by scholars who promoted a constructionist view of attitudes; e.g., Schwarz & Bohner, 2001; see Fazio, 2007, for a rebuttal of this perspective). Indeed, research suggests that accessible attitudes ease decision-making: Individuals who rehearsed their attitudes toward a set of paintings during an initial task showed less cardiovascular reactivity—a measure of effort expenditure—during a subsequent demanding, pairwise preference task relative to those who were exposed to the paintings to the same extent, but whose attitudes were not rehearsed (Fazio et al., 1992; see Blascovich et al., 1993, for related evidence).

Another branch of this research program examined the role of attitudes in orienting visual attention. Roskos-Ewoldsen and Fazio (1992) adapted a visual search task developed by cognitive psychologists (Schneider & Shiffrin, 1977) to study the deployment of attention in the presence of attitude-evoking objects. Participants were tasked with searching for the presence or absence of a target item, but importantly, they were led to understand that the target—if present—would appear only in certain locations in the visual display. Despite this knowledge, the presence of an attitude-evoking object in these to-be-ignored, distractor positions led to interference (i.e., slower reaction times) on the search task, suggesting that accessible attitudes are indeed capable of capturing attention automatically. By guiding attention to objects that have hedonic value, accessible attitudes allow people to maximize positive outcomes and minimize negative outcomes (see Fazio, 2000, for a review of this program of research).

This line of work on functionality in the attitudes literature foreshadowed subsequent work on the functionality of stereotypes. Multiple studies demonstrated that stereotypes were functional in the sense that they increased processing efficiency—for example, allowing for quicker detection of stereotypic information in a complex array—and preserved processing resources—for example, enhancing performance on a concurrent mental task (Macrae et al., 1994).

## Ushering in a New Generation of Attitude Measures

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Last, synergies between social cognition and attitudes are examined in the relatively new area of research on implicit measures.

### The Rise of Implicit Measures

Since the early days of attitude measurement, it has been acknowledged that, under certain circumstances, self-reports of attitudes may not accurately reflect an individual's evaluations (Thurstone, 1928). One approach intended to circumvent the issue of unreliable self-reports involved the use of *indirect measures of attitudes*—those that do not directly ask individuals to report their attitudes, but rather infer them from responses (e.g., judgments, physiological changes). One such early indirect measure is the information error test (also known as the error choice test; Hammond, 1948). Indirect measures like the information error test enjoyed some popularity in the 1950s and 1960s, but their use waned over time (Porter, 2010)—driven in part by concerns over their psychometric properties and the ethics of their use (Kidder & Campbell, 1970).

Though their use declined, interest in obtaining measures relatively free of social desirability concerns remained alive and well. Building on advances in cognitive psychology and technological developments, a new class of attitude measures was introduced. These so-called *implicit measures of attitudes* were similar to the previous generation of indirect measures in that participants were presumably unaware of what construct was being assessed, but differed in that researchers specifically intended to assess automatically activated attitudes (Petty et al. 2009).

### Evaluative Priming Measure

In 1995, the evaluative priming measure (EPM) was introduced into the literature (Fazio et al., 1995). This implicit measure of attitudes was a direct outgrowth of the paradigm that had been used to examine automatic attitude activation as a function of the strength of the object–evaluation association. As discussed in an earlier section of this chapter, the aim of that early work was to use the paradigm as a means of assessing what had been automatically activated from memory upon presentation of an attitude object. The resulting index of activation offered an estimate of people’s attitudes without ever having to ask them for the attitude. In this way, the paradigm represented an advance beyond the use of latency of response to an attitudinal query.

The first empirical test of the measure saw it applied to an intergroup context in which it was used to determine the extent to which the presentation of faces of Black individuals—relative to the faces of White individuals—facilitated responding to evaluative adjectives (Fazio et al., 1995). The measure showed encouraging signs of validity. First, the distribution of attitude scores of White participants showed variability, but it was shifted in the direction of negativity toward Black individuals. In contrast, the attitude scores of Black individuals showed positivity toward Black individuals. This known-groups approach revealed a pattern of results that matched what one would expect given in-group preferences. Second, the attitude measure proved to be predictive of behavior. After completing the EPM, participants interacted with a Black experimenter (who was unaware of their attitudes) during a debriefing session. After the debriefing, the experimenter rated the participant’s friendliness and interest in psychology. The results revealed that implicitly measured racial attitudes predicted the experimenter’s rating of the quality of the interaction such that those with more positive attitudes were seen as having more positive interactions. A subsequent study revealed that the measure of automatically activated racial attitudes was predictive of verbal expressions of prejudice (i.e., scores on the Modern Racism Scale; McConahay, 1986), provided that individuals were characterized by relatively low motivation to control prejudiced reactions.

These findings had important implications not only for attitude theories, but also for theoretical perspectives regarding stereotypes and prejudice—thus once again illustrating the synergistic interface between the two literatures. The evidence of meaningful variability in participants’ automatically activated racial attitudes stood in contrast to frameworks that prioritized the more negative cultural stereotype and viewed individuals who expressed less prejudice as having done so via a controlled process that countered the influence of the automatically activated cultural stereotype (Devine, 1989). Participants varied in the extent to which they exhibited automatically activated negativity in response to Black faces, and this variability was predictive. Thus, the cultural stereotype does not enjoy any advantage over personal attitudes in terms of the likelihood of automatic activation. People can indeed develop attitudes—even ones that are capable of automatic activation—that run counter to the cultural stereotype. However, more consistent with the framework postulated by Devine (1989), the findings did identify a *subset* of individuals characterized by negative racial attitudes, but who were motivated to counter the influence of that automatically activated negativity.

Subsequent studies used the EPM to study the role of automatically activated attitudes in shaping judgment and behavior across a variety of domains, including impression formation (see Fazio & Olson, 2014; Fazio &

Towles-Schwen, 1999; Olson & Fazio, 2009, for reviews). For example, when the motivation to control prejudiced reactions was relatively low, more negative automatically activated attitudes toward Black individuals predicted more negative evaluations of the typical Black male undergraduate, more negative impressions of a Black target, and greater anticipated discomfort when interacting with a Black partner (Dunton & Fazio, 1997; Olson & Fazio, 2004; Towles-Schwen & Fazio, 2003). When the motivation to control prejudiced reactions was high, the relation between automatically activated attitudes and the outcomes of interest could be attenuated or even reversed—suggesting the operation of correction processes (Wegener & Petty, 1997), in accord with the predictions of the MODE model. Furthermore, a study on cross-race roommate relationships—a context in which the opportunity to deliberate on one’s reactions is naturally restricted by the demands of daily life—found that White individual’s racial attitudes predicted the longevity of the relationship: More negative automatically activated attitudes toward Black individuals predicted dissolution of the roommate relationship (Towles-Schwen & Fazio, 2006).

### The Implicit Association Test

Drawing inspiration from work conducted by cognitive psychologists on implicit memory (a phenomenon in which performance is affected by prior experience in the absence of memory of this experience) and social psychological findings like those reviewed in the previous section, Greenwald and Banaji (1995) introduced the concept of implicit social cognition—the idea that prior experiences that were not accessible to the individual were nonetheless a key driver of behavior. Though this seminal paper focused not only on attitudes, but also on stereotypes and self-esteem, the tool designed to assess implicit social cognition—the IAT—was first employed in the attitudes domain (Greenwald et al., 1998). In contrast to earlier priming-based measures, the IAT relies on the ease with which individuals can map two psychological constructs onto the same response button during a classification task. If a participant were to respond faster when “buckeyes” and “pleasant” are on one response key and “wolverines” and “unpleasant” are on the other than when the pairings are flipped, this would be taken as evidence of a relatively more positive attitude toward buckeyes.

Initial tests of the IAT provided evidence for the validity of the instrument: the IAT revealed more positive associations with normatively liked objects (flowers) than normatively disliked objects (insects) and individuals of Japanese and Korean ancestry showed more positive attitudes toward their respective in-groups (Greenwald et al., 1998; see Keuhnen et al., 2001; and Rudman et al., 1999, for related evidence). The IAT was also found to be predictive of behavior. White individuals with more negative attitudes toward Black individuals had poorer interactions with a Black experimenter, as indicated by ratings from both the experimenters and independent judges, as well as behavioral indicators of interaction quality (McConnell & Leibold, 2001). A meta-analysis synthesizing decades of IAT research reported a moderate correlation between attitudes as assessed by the IAT scores and judgment, behavior, and physiological reactions (Greenwald et al., 2009).

The broad focus of early theorizing about implicit social cognition ensured that the use of the IAT spread beyond the boundaries of the attitudes literature. The IAT was used to study the self (Greenwald & Farnham, 2000) and the impact of stereotypes on discrimination, among others (Rudman & Glick, 2001; see Greenwald et al., 2009, for additional examples). The theoretical and methodological development that the IAT and other implicit measures represented essentially served to mitigate any sense of distance between the attitudes literature and the topics originally considered to be the domain of social cognition. As we will see next, there are also situations in which they helped propel these classic social cognitive literatures forward.

## The Affect Misattribution Procedure

The development of the third prominent implicit measure of attitudes—the affect misattribution procedure (AMP; Payne et al., 2005)—was almost accidental. In search of a task to test a model of judgmental correction, Payne and colleagues used a priming paradigm in which participants first saw emotional images and then rated the pleasantness of a neutral stimulus (Payne & Lundberg, 2014). To their displeasure, attempts at producing judgmental correction were unsuccessful. However, the observation that priming events influenced responses to neutral targets led them to adapt the paradigm to the measurement of attitudes. In a typical trial of an evaluative AMP, participants are primed with an attitude-evoking object (e.g., a piece of cake), after which they are presented with a neutral object (e.g., a Chinese ideograph) and asked to categorize it as pleasant or unpleasant. Thus, this measure relies on participants misattributing the evaluation activated by the attitude object to the neutral object, and not on response latency like the EPM and IAT. In an impressive introductory article, Payne and colleagues (2005) showed that the scores on the AMP mirrored normative evaluations of objects, used a known-groups paradigm to demonstrate that the evaluations of Black and White individuals showed in-group bias, and showed significant relations with explicit political attitudes and voting intentions. Later, a meta-analysis of the priming measure literature (including work using the AMP) by Cameron and colleagues (2012) found a moderate correlation between implicitly measured attitudes and criterion variables. Importantly, however, they also reported significantly stronger associations between implicit measures and relevant outcomes under the conditions predicted by the MODE model (i.e., relatively low motivation or opportunity to deliberate).

The use of the AMP was not restricted to studying attitudes. In fact, relatively early work aimed at better understanding the mechanisms producing responses on the AMP interfaced with impression formation (Payne et al., 2013). More importantly, however, the AMP (and to a lesser extent other implicit measures) became an important tool for the assessment of impression updating. Providing diagnostic information that was incongruent with the initial impression formed by perceivers led to rapid and robust reversals in impressions of a target, as assessed by the AMP (Cone & Ferguson, 2015). Similarly, information that led perceivers to reinterpret the information they had acquired to that point (e.g., the person pouring water on property and taking precious things from bedrooms was doing so to put out a fire; Mann & Ferguson, 2015) also yielded evidence of impression updating as indexed by the AMP (see Brannon & Gawronski, 2017, for related evidence). Thus, implicit measures not only brought the attitudes literature closer to other research areas typically considered to fall within the bounds of social cognition, but also sometimes played a crucial role in the theoretical developments taking place in these very research areas.

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In recent years, some psychologists have taken a new approach to conducting research with implicit measures by aggregating scores across large areas (e.g., states, countries). One early study found that nations with stronger stereotypes linking males to science had wider gender achievement gaps in math and science among children in the eighth grade (Nosek et al., 2009). More recent work has tracked shifts in implicitly measured gender stereotypes over time (Charlesworth & Banaji, 2021) and linked the strength of gender stereotypes present in different languages to the strength of gender stereotypes among residents of countries that primarily speak that language (Lewis & Lupyan, 2020).

Implicitly measured attitudes have also featured prominently in this burgeoning area of study. For instance, Hehman and colleagues (2018) demonstrated that more negative aggregate-level attitudes toward Black people, as assessed by the average IAT score within a metropolitan area, significantly related to more police officers' disproportionate use of lethal force against Black (relative to White) individuals (see Payne et al., 2019, for a review of related evidence). These findings, in conjunction with criticisms regarding the low test–retest reliability and weak correlations with behavior when studied at the level of the individual (Bosson et al., 2000; Gawronski et al., 2017; Kawakami & Dovidio, 2001; Oswald et al., 2013), led Keith Payne and colleagues (2017) to propose that implicit measures of attitudes toward social groups measure associations primed by one's environment, rather than associations that are chronically accessible (as

would be the case with an attitude). Stated differently, the bias-of-crowds model proposes that implicit measures of intergroup attitudes assess the bias of situations, not persons. Since its publication, this model has received some support (B. K. Payne et al., 2019; Vuletich & Payne, 2019), but recent empirical work and theorizing suggests that the exciting aggregate-level correlations on which this research rests may be an artifact of the aggregation process (Connor & Evers, 2020).

Ultimately, it appears that implicit measures provide noisy estimates of people's automatically activated attitudes. What's more, researchers interested in using implicit measures of attitudes to predict judgment and behavior are wise to consider the postulates of the MODE model before generating their hypotheses, because motivation and opportunity to deliberate have consistently been shown to moderate the strength and direction of the attitude-criterion relation (provided that the environment does not naturally restrict the influence of these factors; see Cameron et al., 2012; Fazio & Olson, 2014; Fazio & Towles-Schwen, 1999; Olson & Fazio, 2009, for reviews). Such moderation, and even more critically the tendency for some motivated individuals to overcorrect for their automatically activated negativity, render the observation of weak simple correlations between an implicit measure and a criterion variable across an entire sample rather meaningless (Granados Samayoa & Fazio, 2017).

## Conclusions

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As we hope we have demonstrated, social cognition and the study of attitudes have enjoyed a remarkably synergistic relation. A social cognitive approach to studying attitudes led to theoretical and methodological developments that propelled the field past its many crises and controversies. For instance, a process-focused perspective benefited the dissonance literature by helping settle the debate surrounding the presence of negative arousal in explaining dissonance effects (Zanna & Cooper, 1974) and led to the development of a comprehensive mechanistic model of cognitive dissonance (Cooper & Fazio, 1984). In the attitude change literature, a social cognitive lens provided clarity to a body of confusing and contradictory findings by acknowledging the importance of cognitive responses (Greenwald, 1968) and introducing theoretical models that posited the existence of different routes to persuasion (Chaiken, 1980; Petty & Cacioppo, 1986). Moreover, a consideration of the process underlying the attitude-behavior relation led to a powerful new conceptualization of the attitude construct in which it was viewed as an object-evaluation association stored in memory. This new perspective on the structure of attitudes formed the core of the MODE model (Fazio, 1990a)—a theoretical account of the multiple processes by which attitudes guide behaviors—and sparked research into the functional value of attitudes (Fazio et al., 1992), a relatively understudied area of the attitudes literature at the time. This very same conceptualization of the attitude also spurred the subsequent development of implicit measures of attitudes. By capturing automatically activated attitudes, these measures enabled researchers to test the postulates of the MODE model. They also armed researchers with unobtrusive indices that bypassed the social desirability issues inherent to explicit measures of attitudes.

The impact of adopting a social cognitive perspective to studying attitudes extended beyond these direct substantive advances to our understanding of cognitive dissonance, persuasion, and the attitude-behavior relation. As these programs of research unfolded through the 1970s and 1980s, they helped form part of the zeitgeist within the field that enabled the rise of the social cognition movement.

Moreover, this adoption of a social cognitive lens brought the attitudes literature closer to the more traditional content areas of social cognition (e.g., impression formation, stereotypes, and the self). Such melding of literatures was perhaps presaged in the 1960s when research concerning information integration reduced any sense of distance between the attitude formation and impression formation literatures (Anderson, 1965a, 1971). Later, these literatures were once again joined by a theoretical



distinction between in-the-moment and memory-based processing and by the rise in popularity of dual- and multiprocess models (Chaiken, 1980; Fiske & Neuberg, 1990; Hastie & Park, 1986; Petty & Cacioppo, 1986). The conceptualization of the attitudes as object–evaluation associations in memory spurred theoretical and empirical work regarding the automatic activation of attitudes (Fazio et al., 1986) and triggered research on attitude functionality (Fazio et al., 1992). Both of these developments were later mirrored in the stereotypes literature as researchers focused on the automatic activation of stereotypical associations (e.g., Blair & Banaji, 1996), as well as the functional value of stereotypes for the perceiver (e.g., Macrae et al., 1994).

Using these insights regarding the automatic activation of attitudes and research on implicit memory in cognitive psychology, a new class of attitude measures was introduced (Fazio et al., 1995; Greenwald et al., 1998). The use of these implicit measures extended beyond the attitudes domain to the impression formation, self, and stereotypes literatures (e.g., Dunton & Fazio, 1997; Greenwald & Farnham, 2000; Rudman & Glick, 2001). Notably, the adoption of the implicit measures into traditional social cognition research areas enabled further theoretical development regarding prejudice and discrimination.

It is clear, then, that the study of attitudes and the study of social cognition have enjoyed a synergistic relationship that has benefited the field's knowledge of both attitudes and the collective body of literatures often considered to fall within the realm of social cognition. The theoretical and methodological developments that accompanied the adoption of a social cognitive perspective by attitudes researchers in the 1970s and 1980s not only shed light on issues that were central to the times, but also continue to benefit our understanding of both attitudes and social cognition more generally. Importantly, more modern synergies involving topics like metacognition and implicit bias hold promise for continuing to push our understanding forward.

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