

Citation in APA format: Tormala, Z. L., & Rucker, D. D. (2025). Attitudes: Form, function, and the factors that shape them. In D. T. Gilbert, S. T. Fiske, E. J. Finkel, & W. B. Mendes (Eds.), *The handbook of social psychology* (6th ed.). Situational Press. <https://doi.org/10.70400/EOQW7740>

Attitudes: Form, Function, and the Factors that Shape Them

Zakary L. Tormala, Stanford University

Derek D. Rucker, Northwestern University

Attitudes reflect people's likes and dislikes; their favorable and unfavorable opinions; their support, opposition, or even neutrality on a topic. In other words, attitudes capture the extent to which people view something positively or negatively, or as good or bad. People can hold attitudes toward virtually anything. For example, someone might support a political candidate, approve of a workplace policy, like a consumer brand, fancy a painting, love their hometown, or be in favor of a new law. In each case, we would say that the person has a positive attitude toward the object or issue in question. Someone else might oppose the political candidate, disapprove of the workplace policy, dislike the brand, detest the painting, hate their hometown, or be against the new law. Here, we would say that the person has a negative attitude.

Attitudes have been at the center of social psychology research for decades. In the first-ever handbook of social psychology, published almost a century ago, Gordon Allport (1935, p. 198) famously declared that attitudes are “probably the most distinctive and indispensable concept in contemporary American social psychology.” Although this statement would pack more punch today if Allport had omitted the words “probably,” “contemporary,” and “American,” attitudes have been and continue to be one of the most heavily studied topics in social psychology. They have been featured in every edition of *The Handbook of Social Psychology*, and they headline the first section of the leading empirical outlet in the field—the Attitudes and Social Cognition section of the *Journal of Personality and Social Psychology*. As both a research domain and a part of human existence, attitudes remain as indispensable today as they were at the time of Allport's famous statement.

In fact, many social psychologists are studying attitudes without realizing it. Even for scholars working in other domains who do not place attitudes at the center of their work or situate their research questions in the context of attitudes, understanding attitudes—for example, how people come to like or dislike something and how that attitude affects their choices, behaviors, interactions with others—can be critically relevant. The reverse is also true: The knowledge gained from research on other topics (e.g., prejudice reduction, goals, emotions, judgment and decision-making, self-esteem) often has implications for our understanding of attitudes. Thus, the relationship between attitudes research and other domains of social psychology is reciprocal.

More broadly, studying attitudes offers insight into a vast array of topics and phenomena that are critical to society. For example, understanding attitudes and the factors that shape them can help illuminate moral values, voting, political polarization and extremism, consumer decision-making, organizational behavior, and more. If a political candidate seeks to determine whether they will be appealing to voters in a particular county, for instance, they can look to people's attitudes on key issues and gauge their overlap. If that overlap seems insufficient, the candidate might campaign in an effort to change voters' attitudes or they might shift their own (professed) attitude to boost perceived alignment. Understanding attitudes and the forces that shape them can also help us understand political polarization and may shed light on promising avenues for depolarizing political opponents. In addition, attitudes play a crucial role in guiding people's interactions with others—both individuals and groups—which informs our understanding of interpersonal relationships, attraction, belonging, and prejudice, among other topics. As a final example, attitudes play an important role in health behavior, influencing, for instance, whether people exercise, eat healthy food, or get vaccinated to protect themselves from disease. In short, attitudes are pertinent not only to social psychology research but also to the everyday lives of ordinary people.

DEFINITION AND SCOPE

Over the years, numerous scholars have offered definitions of attitudes (see Eagly & Chaiken, 2007). For example, Eagly and Chaiken (1993) proposed that attitudes are psychological tendencies expressed by evaluating a target entity with some degree of favor or disfavor. Fazio (1995) described attitudes as object-evaluation associations that vary in strength and are stored in memory. Petty and Cacioppo (1986) referred to attitudes as general and enduring positive or negative feelings about a person, object, or issue. Petty and Wegener (1998) later simplified this conceptualization and defined attitudes as people's overall evaluations of persons, objects, or issues.

Ultimately, the common theme across these perspectives is that, at their core, attitudes are evaluations (see also Petty et al., 2007). Thus, we adopt the broad definition of attitude as *someone's general evaluation of a target entity*. By *general*, we mean that an attitude reflects a person's overall or summary assessment of the target entity. This assessment could be based on a variety of factors such as a person's thoughts, beliefs, feelings, memories, and/or perceptions of their own behaviors. By *evaluation*, we mean that an attitude has valence; it can be positive, negative, or neutral overall (or ambivalent, as explained later in the chapter). By *target entity*, we mean that people can and do hold attitudes toward virtually anything: other people, ideas, objects, issues, places, and more. As we will discuss, these general evaluations of target entities can vary in their underlying strength. Sometimes people hold weak attitudes and sometimes they hold strong attitudes. Attitude strength has been a major focus of attitudes research over the past few decades, and it will be discussed at length in this review. As a visual depiction of two hypothetical attitudes, see Figure 1.

Figure 1: Example Attitudes Toward Two Hypothetical Attitude Objects



Note: The top panel depicts someone's attitude toward a specific person (Susan). The bottom panel depicts someone's attitude toward a new service policy at their workplace or university (weekend community service). As illustrated, attitudes can be construed as general evaluations that summarize the affective, cognitive, and behavioral associations one has with the attitude object. We have labeled these associations and marked them by color. The valence of each association can be positive, negative, or neutral, which we have indicated with a sign at the top of each association. The strength of each association is indicated by the length (shorter is stronger), thickness (thicker is stronger), and type (solid is stronger) of line between the attitude object and that association. In these examples, the attitude toward Susan is relatively strong. It is based on more associations (more information) that are similar in valence (mostly positive) and strong. Moreover, the presence of behavioral associations for Susan suggests that the attitude holder has direct experience with the object. In contrast, the attitude toward the service policy is relatively weak. It is based on fewer associations (less information) that are more mixed in valence (similar number of positive and negative) and weaker. In addition, the lack of behavioral associations suggests that the attitude holder has no direct experience with the object. Thus,

although both attitudes are positive overall, the attitude toward Susan is more extreme and generally stronger than the attitude toward the service policy.

Some definitions of attitudes have incorporated the notion that attitudes are relatively enduring (e.g., Petty & Cacioppo, 1986; Petty et al., 2013). This notion comes from the idea that attitudes can be stored in memory for at least some period of time. Indeed, although studies have documented individual differences in attitude stability (e.g., Xu et al., 2020) and some scholars have argued that attitudes are simply constructed on the spot each time they are required (e.g., Schwarz, 2007; see also Converse, 1970), the general consensus is that attitudes are stored (or at least *storable*) in memory and can be retrieved and utilized as needed (e.g., Fazio, 2007; Petty et al., 2013). This observation is not meant to suggest that attitudes are unmalleable. A voluminous literature has been dedicated to understanding the factors that drive attitude formation and change (for reviews from the last two editions of *The Handbook of Social Psychology*, see Albarracín & Vargas, 2010; Banaji & Heiphetz, 2010; Eagly & Chaiken, 1998; Petty & Wegener, 1998). Rather, the point is that considerable evidence exists for attitude durability (see Petty & Krosnick, 1995), and contemporary theorizing suggests that although some attitudes might be constructed anew in the presence of an attitude object, others are stored in and retrievable from memory (e.g., Nayakankuppam et al., 2018).

A common view in the attitudes literature is that people are aware of their attitudes and can report them when asked. This view was first put forth by Thurstone (1928), who introduced a self-report method for measuring attitudes, and explicit attitude measures have been the subject of a great deal of research ever since (for reviews see Krosnick et al., 2005; Osgood et al., 1957; Schwarz, 2008). Of importance, though, some researchers have argued that attitudes can be implicit and might escape detection on explicit measures. In their seminal writing on this topic, Greenwald and Banaji (1995, p. 4) defined an implicit attitude as an “introspectively unidentified (or inaccurately identified) trace of past experience that mediates” evaluative responding. They argued that unlike explicit attitudes—attitudes that people know they have and can consciously report—implicit attitudes come to mind automatically and have origins and influences that people might not fully track or that escape awareness altogether. Implicit attitude measures—such as the evaluative priming procedure (Fazio et al., 1995), the Implicit Association Test (Greenwald et al., 1998), and the Affect Misattribution Procedure (Payne et al., 2005), among others (see Banaji & Heiphetz, 2010; Gawronski et al., 2020)—were designed to assess automatically activated attitudes in a manner that circumvents explicit self-reporting. Since the introduction of the implicit attitude construct, and stimulated by the proliferation of implicit measures, implicit attitudes have garnered extensive research attention. The result is a large literature on this topic, which mostly emphasizes implicit measures and understanding their value in assessing attitudinal processes.

Perspectives have varied as to whether it is the attitudes themselves (Greenwald et al., 2002) or the measures used to assess them (Fazio & Olson, 2003) that should be called “implicit.” The distinction essentially boils down to whether people truly lack introspective access to some attitudes or have access to those attitudes but are reluctant to report them (Petty et al., 2003). Either way, implicit measures are useful to the extent that they tap into people’s evaluative responses without directly asking for them. Indeed, research suggests that although attitudes assessed via implicit and explicit (e.g., self-reports via attitude-rating scales) measures are empirically separable, both can be stable or malleable and both can play an important role in driving behavior. There are many excellent reviews of this literature (see Banaji & Heiphetz, 2010; Gawronski & Bodenhausen, 2006, 2014; Gawronski et al., 2020; Petty et al., 2009), and other chapters in this *Handbook* discuss implicit

attitudes at greater length (see Bodenhausen & Cheryan, 2025; Devine et al., 2025). Interested readers are encouraged to consult these sources for further discussion and insight.

In this review, the emphasis is on explicit attitudes—that is, attitudes that people know they hold and can consciously report. We aim to provide a general overview of this domain that sheds light on the questions researchers have asked and the insights they have gained. That said, a caveat is warranted: The attitudes literature is vast. Attitudes are among the most studied topics (if not *the* most studied topic) in social psychology. No single review or *Handbook* chapter can cover everything. Thus, we seek to provide a representative rather than exhaustive review. We highlight some of the main questions attitudes researchers have asked, share some of the key answers their studies have yielded, and discuss new developments and opportunities for research in this domain. This review is organized around the following topics:

1. **Why people hold attitudes.** Here, we discuss the functions attitudes serve. We review prior work on the role of attitudes in driving behavior, and we discuss research and theory on the psychological functions of attitudes—that is, the utility they provide beyond driving behavior.
2. **How attitudes vary.** In this section, we discuss attitude strength and the structural bases of attitudes (e.g., affect and cognition). Attitude strength and structure have been a dominant focus in attitudes research over the past two decades; thus, we devote significant attention to this topic.
3. **What shapes people's attitudes.** Prior work has distinguished attitude formation and attitude change, as though the processes governing one have nothing to do with the other. We take a different tack. We submit that the factors that guide attitude formation can also change attitudes that have been formed. Likewise, the factors that produce attitude change can also affect the attitudes people form in the first place. Thus, we offer a unified treatment of attitude formation and change by discussing the factors that *shape* people's attitudes.
4. **New themes in attitudes research.** We close by highlighting emerging themes in attitudes research. In particular, we review developments in research on attitudinal receptiveness (i.e., openness to information or viewpoints that differ from one's own) and attitudinal advocacy (i.e., the motivation to advocate on behalf of one's attitude). Moreover, throughout our review, we highlight opportunities for future study in the hope of stimulating researchers to continue their work in this important domain.

WHY DO PEOPLE HOLD ATTITUDES?

The ability to form and hold an attitude is crucial to human functioning. To be able to evaluate something as good or bad helps one determine whether to approach or avoid it. To be able to store that evaluation in memory as a summary assessment is useful in enabling immediate and consistent action. Indeed, having a summary assessment obviates the need to reassess something or retrieve all of one's information or all the experiences one has had every time one encounters an attitude object. Imagine that someone has a positive attitude toward a particular political candidate. This positivity should lead them to approach that candidate—for example, read about their opinions, listen to their speeches, vote to elect them to office, and so on—which in theory could improve the person's well-being (e.g., if the person enjoys these activities or gains hope or a sense of purpose from them). Moreover, storing that positive attitude in memory as a summary assessment would eliminate the need to assess the political candidate each time the person encounters them. If someone asks the person how they feel about the candidate, for example, the person knows and can report their opinion. If the candidate recommends a particular policy or chooses a running mate, the person is inclined to give that policy or running mate the benefit of the doubt.

In general, people approach things they like and avoid things they dislike. Thus, forming, holding, and changing attitudes directly affects one's behavior and daily experience. Imagine a world in which attitudes did not exist. In the absence of attitudes, people might be paralyzed by uncertainty as they tried to make sense of incoming information. Each time someone came across a stimulus (say, a person or food), they would have to pause to assess it before taking action. Doing so would make daily life overwhelming and in some cases could even jeopardize survival (e.g., if one pauses to consider their attitude toward a charging predator). Alternatively, rather than pause to assess everything, people without attitudes might approach, or avoid, everything indiscriminately. At best, life would be chaotic as the world becomes a minefield of gambles and uncertainty. At worst, people would undermine their survival prospects—for example, by failing to avoid dangers or approach necessities. Attitudes provide efficient summaries that enable people to navigate their surroundings without assessing every stimulus anew or having to remember every fact or feeling they associate with the attitude object. Indeed, once attitudes are formed, people often forget much of the information, beliefs, and experiences that underlie them (e.g., Lingle & Ostrom, 1979).

Given the centrality of attitudes in the human experience, it is perhaps unsurprising that attitudes can be activated automatically in response to the mere presence of an attitude object. For example, people's attitudes toward various stimuli can be activated even when those stimuli are presented for very brief exposure times and people are not consciously focused on evaluating them (Bargh et al., 1992; see also Fazio et al., 1986). In one study (Bargh et al., 1992), participants were asked to quickly classify a series of adjectives (e.g., beautiful, hideous) as good or bad when those adjectives were displayed on a computer screen. Immediately preceding each adjective, a prime word appeared on the screen that constituted an attitude object (e.g., strawberries, bombs). The primes (i.e., attitude objects) were flashed for just milliseconds. Nonetheless, the primes had a consistent effect on the speed with which participants could classify the target adjectives as good or bad. When the primes were evaluatively congruent with the target adjectives (i.e., both positive or both negative), responses were facilitated and participants were quicker to classify the adjectives. When the primes were evaluatively incongruent with the target adjectives (e.g., positive prime and negative target), responses were inhibited and participants were slower to classify the adjectives. The logic was that similarly valenced concepts were more likely than dissimilarly valenced concepts to activate each other because they were more closely associated in memory. This activation, in turn, facilitated evaluative responding.

Follow-up studies replicated this core effect when participants' task was simply to pronounce the target adjective—specifically, to say the word out loud into a microphone (Bargh et al., 1996). Thus, even with zero evaluative intent, exposure to an attitude object can activate one's attitude toward that object and influence downstream reactions to other stimuli. In fact, people can have automatic evaluative reactions to stimuli they have never encountered (e.g., foreign words, novel paintings; Duckworth et al., 2002) and before conscious or reflective thought processes unfold (Zajonc, 1980).

To be sure, not all evaluation happens automatically. Some studies demonstrate that priming effects from attitude activation are more likely when the attitude in question is high rather than low in accessibility (e.g., when that attitude has been expressed repeatedly rather than just once in a previous task; e.g., Fazio et al., 1986). Likewise, there are individual differences in the tendency to form and use attitudes (Jarvis & Petty, 1996; Xu et al., 2021). The need to evaluate (NE), for example, captures individual differences in people's general tendency to engage in evaluative responding. The original studies on NE suggested that high NE individuals were more likely than low NE individuals to report having attitudes and were more likely to generate evaluative thoughts when sharing their reactions to unfamiliar stimuli or describing a typical day in their lives (Jarvis & Petty,

1996). Subsequent research provided further insight into NE, elucidating individual differences in the tendency to have, learn, and express attitudes (Xu et al., 2021). Finally, it is well-documented that people sometimes engage in extensive information processing before arriving at an attitude in the first place (see Petty & Cacioppo, 1986; Petty & Wegener, 1998). In short, not everyone automatically evaluates everything they encounter all the time. Nonetheless, ample evidence exists for the notion that attitudes are pervasive, useful for the successful navigation of our social and physical worlds, and at least sometimes automatic in their activation and application.

The Attitude-Behavior Relationship

As noted, one of the central functions of attitudes is that they guide behavior. For example, the more positive one's attitude toward a particular job, the more likely one is to pursue that job and the less likely one is to pursue another job. Similarly, the more negative one's attitude toward meat, the less likely one is to eat meat and the more likely one is to admonish others for doing so. Put differently, the more favorable (unfavorable) one's attitude toward an object or issue, the more favorable (unfavorable) their behavior toward the object or issue is expected to be. This premise has received considerable support, and attitude-behavior correspondence has been advanced as a central argument for the value of the attitude construct itself (Ajzen, 2005; Ajzen & Fishbein, 2005; Eagly & Chaiken, 1998; Petty et al., 2013). That is, attitudes are thought to be important at least partly because they guide people's choices and behaviors.

The attitude-behavior relationship has now been studied for over a century and thousands of articles have been published on the topic (see Allport, 1935; Ajzen & Fishbein, 2005; Beatty & Kahle, 1988; Bechler, et al., 2021; Briñol & Petty, 2012; Glasman & Albarracín, 2006; Thomas & Znaniecki, 1918; Thurstone & Chave, 1929). Not all of this research supports the notion that attitudes play a key role in directing behavior. For a time, in fact, as research on attitude-behavior correspondence proliferated, so did studies revealing that attitudes sometimes predicted behavior rather poorly (e.g., Ajzen & Fishbein, 2005; Bernberg, 1952; Corey, 1937; Dean, 1958; DeFleur & Westie, 1958; Freeman & Ataoev, 1960; LaPiere, 1934; Linn, 1965; Wicker & Pomazal, 1971). For example, in a seminal study on the relationship between attitudes and actions, LaPiere (1934) observed that proprietors of hotels and restaurants across the United States displayed a substantial gap between their reported attitudes toward serving a young couple from China and their actual behavior when a young couple from China arrived at their establishments. Notably, the proprietors' attitudes were decidedly more negative than their actual behavior. These findings, among many others, led some to outright question the value of studying attitudes (e.g., Wicker, 1969). For many, however, the seeming fragility of the attitude-behavior relationship triggered a systematic effort to understand *when* and *how* attitudes guide behavior. That is, rather than discard attitudes as a predictive construct, some researchers sought to identify moderators and mediators of the attitude-behavior relationship. This work has been extremely useful in delineating the conditions under which attitudes predict behavior and the reasons why they sometimes do not.

Classic Attitude-Behavior Models

Early efforts to shed light on attitude-behavior correspondence revealed that the attitude-behavior relationship could be strengthened by improving attitude and behavior measurement. Historically, researchers interested in this relationship measured attitudes toward some entity (e.g., a policy or candidate for public office) and then correlated those attitudes with some specific behavior (e.g.,

voting for that policy or candidate). An initial insight in the effort to improve attitude-behavior correspondence was that attitudes might sometimes be poor predictors of behavior because behavior is multiply determined. For instance, in a political context, voting for a candidate can be affected not only by attitudes toward that candidate but also by attitudes toward competing candidates. To effectively predict behavior, then, it is important to consider people's attitudes toward the focal entity along with their attitudes toward relevant alternatives (Petty & Cacioppo, 1981).

In addition, it is important to consider people's attitudes toward the *behavior* in question. Attitudes toward a political candidate might not predict voting for that candidate very well, for example, because voting for the candidate is also determined by one's attitude toward *voting* itself, which might differ from one's attitude toward the candidate. Similarly, attitudes toward Yosemite National Park might not predict visiting the park very well, because visiting the park is also determined by attitudes toward *visiting* the park, which can be shaped by factors such as driving distance, crowds, traffic, and monetary costs—aspects of visiting the park that have nothing to do with one's fondness for the park itself. Consistent with this logic, higher attitude-behavior correlations tend to be observed when researchers measure attitudes toward the specific behavior of interest (e.g., visiting Yosemite National Park) rather than a more general attitude object (e.g., Yosemite National Park; see Ajzen, 2005; Kraus, 1995). Thus, if one wants to predict a particular behavior, measuring attitudes toward that behavior tends to offer a more useful guide.

Relatedly, the specificity versus generality of the attitude and behavior measures affects their correspondence. Higher attitude-behavior correlations tend to be observed when attitude and behavior measures are equally specific or general (Ajzen, 2005; Ajzen & Fishbein, 1977; Kraus, 1995). Ajzen and Fishbein referred to this phenomenon as the *principle of compatibility*. Imagine that someone is interested in predicting conservation behavior from people's attitudes toward environmental conservation. If they tried to predict a single specific behavior (e.g., buying solar panels for one's home or recycling on Tuesday mornings) from people's general attitudes toward conservation, they might observe a low correlation and conclude that attitudes have little impact on behavior. However, the problem might not be that attitudes fail to guide behavior in this domain, but rather that the attitude and behavior measures are incompatible—that is, they are mismatched in specificity. Indeed, attitudes toward a more specific aspect of conservation (e.g., attitudes toward solar panels or a city's Tuesday morning recycling program) might be highly correlated with behavior, which would yield a very different conclusion about the attitude-behavior relationship.

One way to better align attitude and behavior measures is to use general attitudes to predict multiple behavioral criteria (Fishbein & Ajzen, 1974). That is, attitude-behavior correspondence can be improved by measuring and aggregating multiple behavioral outcomes rather than focusing on a single specific act or criterion. As an empirical example, Fishbein and Ajzen (1974) measured participants' attitudes toward "being religious" in several different ways (e.g., a single 11-point scale ranging from extremely unfavorable to extremely favorable and a multi-item index of semantic differential scales [e.g., good-bad; foolish-wise; see Osgood et al., 1957]). In addition, they assessed 100 different behaviors related to religion. These behaviors, included praying before meals, donating money to religious institutions, and many more. The results suggested that attitudes were poor predictors of individual behaviors but proved highly predictive of an aggregate index (a "multiple-act criterion") that included all 100 behaviors. Returning to the conservation example, this finding suggests that if someone is interested in people's general attitudes toward conservation, they would likely observe stronger attitude-behavior correspondence if they measured and aggregated multiple environmental behaviors (e.g., recycling, using solar power, composting) as

opposed to focusing on just one. Attitudes toward a specific behavior predict that behavior, whereas attitudes toward a general class of behaviors (e.g., taking a variety of eco-friendly actions) would better predict that general class of behaviors. Indeed, this is a potential benefit to understanding a person's global attitude, which can be used to make inferences about how they might act across a range of behaviors.

Aside from making attitude and behavior measures more compatible, numerous other factors can serve as input into behavior and, thus, shape the attitude-behavior relationship. The Theory of Reasoned Action (and later the Theory of Planned Behavior; Ajzen, 1985, 1996; Ajzen & Fishbein, 1980; Fishbein, 1980) identified important roles for subjective norms, perceived control, and behavioral intentions. In essence, the theory suggests that attitudes are more likely to guide behavior when people believe that others approve of the behavior, when people perceive control over the behavior in question, and when people form explicit behavioral intentions, which are the proximal predictors of behavior in these models. Breaks in any one of these links could disrupt the influence of attitudes on behavioral outcomes. For instance, a homeowner might have a very favorable attitude toward solar panels but be unlikely to purchase them for their home if people in their community disapprove of solar panels or if solar panels are prohibitively expensive. In this scenario, a lack of supportive norms and control (i.e., the ability to pay the required amount) could prevent the favorable attitude from triggering a purchase, which would disrupt the attitude-behavior link.

Automatic Versus Deliberative Responding

Both attitudes and behaviors can vary in the extent to which they are automatic or deliberative, and this variation can affect the attitude-behavior relationship. Fazio's MODE model (Fazio, 1990), for example, suggests that highly accessible, automatically activated attitudes guide behavior when the motivation and opportunity to deliberate over behavior are low; whereas less accessible, more deliberative attitudes come into play and drive behavior when the motivation and opportunity to deliberate are high. A related stream of research reveals that explicit attitude measures better predict deliberative behaviors (carefully considered behaviors that people think about; e.g., an assessment of an applicant one has interviewed), whereas implicit attitude measures better predict more automatic or less consciously controlled behaviors (e.g., eye gaze or how far one sits from someone else; Dovidio et al., 1997; Dovidio et al., 2000; see also Vargas et al., 2004). Here too, a compatibility principle exists—the more compatible the attitude and behavior measures, the stronger the attitude-behavior relationship—but in this case compatibility stems from a match between how automatic versus deliberative the attitude and behavior measures are. The argument is similar to the notion of structural fit (Payne et al., 2008): The more structurally similar two measures are (and the more matched their demand for cognitive resources), the more correlated responses to those measures will be. When a mismatch is present, such as when explicit attitudes are used to predict automatic behaviors, the correlation is reduced. Related insights have been derived from work on habits. This research suggests that habitually performed behaviors often become automatized, meaning their enactment requires little attitudinal intervention, which can disrupt the attitude-behavior link (Neal et al., 2006; Ouellette & Wood, 1998; see also Anderson & Wood, 2021).

Attitude Strength

Another important development in our understanding of the attitude-behavior relationship is the concept of attitude strength. Briefly, attitude strength refers to the durability and impact of an attitude (Krosnick & Petty, 1995). Most germane to the attitude-behavior relationship, extensive literature suggests that strong attitudes have more impact on behavior than weak attitudes. In fact, one of the best-established accounts for the inconsistent relationship between attitudes and behavior is that attitudes vary in their underlying strength. Multiple dimensions of attitudes can affect attitude strength—for instance, attitude importance, attitude certainty, and attitude accessibility (see Petty & Krosnick, 1995)—and each has been shown to moderate the attitude-behavior relationship (e.g., Fazio et al., 1989; Glasman & Albarracín, 2006; Kraus, 1995; Krosnick, 1988a; Tormala & Rucker, 2018). For example, as attitude certainty and attitude accessibility increase, attitude-behavior correlations (and the steepness of the slope of the attitude-behavior relationship) tend to rise as well.

In a series of experiments investigating online versus memory-based evaluation (Bizer et al., 2006), participants read a list of statements about a target person. In one condition (online evaluation condition), participants were instructed to evaluate the statements as they were received to form an impression of the person. In another condition (memory-based evaluation condition), participants assessed the statements on another dimension that had nothing to do with impression formation. Following the statements, participants reported their attitudes, attitude certainty, and behavioral intentions with respect to the target person. Across studies, participants showed greater attitude certainty, higher attitude accessibility, and a stronger relationship between attitudes and behavioral intentions in the online rather than memory-based evaluation condition. Attitude strength has been a focal point in attitudes research over the past few decades, and it is discussed at length later in this review.

Nonlinearity

Finally, it is possible that the attitude-behavior relationship is sometimes nonlinear, and that conventional approaches to studying this relationship—most notably, assessing attitude-behavior correlations—fail to capture this nonlinearity. If true, the attitude-behavior relationship might be stronger at some points along the evaluative continuum than others. Bechler et al. (2021) found evidence consistent with this possibility. In one study, participants reported their attitudes and voting intentions for real U.S. congressional candidates running for office in an upcoming election. A few weeks later, participants reported their actual votes—that is, whether or not they voted for each candidate in the election. Results indicated that as attitudes moved from extremely negative to extremely positive, the slope of the attitude-behavior relationship was relatively flat at first as attitudes moved from extremely to just slightly negative (i.e., 1 to 4 on a scale ranging from 1 [extremely against] to 9 [extremely in favor], with a neutral midpoint of 5), steepened as attitudes crossed neutral and shifted from negative to positive (4 to 6 on the scale), and flattened out again as attitudes moved from just slightly positive to extremely positive (6 to 9 on the scale). In other words, the attitude-behavior relationship assumed a cubic form such that attitudes that differed across valence were associated with greater differences in behavior than attitudes that differed within valence.

This pattern of nonlinearity in the attitude-behavior relationship is consistent with a categorical, or qualitative, perspective on how people perceive attitudes. Specifically, differences across valence categories seem greater than differences within valence categories, so attitudes that differ across valence are associated with greater differences in behavior. This finding also follows directly from

prior studies showing that people perceive attitude change as greater when it involves a shift across valence (e.g., negative to positive) rather than within valence (e.g., somewhat positive to more positive; Bechler et al., 2019, 2020). Ultimately, though, the cubic relationship likely represents just one of many potential curves that could characterize the attitude-behavior relationship in a given context. For instance, although voters' attitudes toward particular candidates might predict their likelihood of voting for those candidates in a cubic pattern, those same attitudes should predict the likelihood that voters would turn out to vote at all in a quadratic, U-shaped fashion (Bechler et al., 2021). In the latter case, the more extreme people's attitudes are in either direction, the more likely they are to turn out to vote. In other contexts, the curve could assume a different form. For example, making a high-stakes purchase, such as a new car, presumably requires an extremely favorable attitude. Perhaps in this situation there is a flat relationship between attitude and behavior until an attitude becomes extremely favorable, at which point a steep rise in purchase likelihood occurs. In a case like this, it might seem that attitudes are not highly predictive of behavior when, in fact, they are critical, but the relationship is not linear (see also Rocklage et al., 2021).

Functional Theories Of Attitudes

In addition to guiding behavior, attitudes are thought to serve psychological functions. Functional theories generally suggest that attitudes serve five main functions: a utilitarian or object-appraisal function, a knowledge function, an ego-defense function, a value-expression function, and a social-adjustment function (Katz, 1960; Shavitt, 1989; Smith et al., 1956). The *utilitarian (or object-appraisal) function* is arguably the most fundamental. This function captures the value attitudes have in (a) allowing people to store their positive and negative associations with objects and entities, and (b) guiding them toward the positive and away from the negative. For example, a person's attitude toward ice cream might be tied to the rewards and punishments associated with eating ice cream, which then leads them to approach or avoid ice cream in their daily lives. The *knowledge function* refers to the idea that attitudes help individuals organize, understand, and predict their surroundings. In essence, the idea is that attitudes allow individuals to simplify, categorize, and make sense of an incredibly complicated world (Allport, 1935; Sherif, 1936). Together, the utilitarian and knowledge functions can be viewed as the behavioral and cognitive functions that attitudes serve.

In addition, attitudes have been argued to have more motivational functions. For instance, the *ego-defense function* (or self-esteem maintenance function; Shavitt, 1990) suggests that attitudes have self-protective utility; they can help people defend their self-concepts against perceived threats. When a person's ego is threatened, for example, they might adopt a negative attitude toward an outgroup to bolster their self-esteem (Crocker et al., 1987). Attitudes can also facilitate people's personal and social needs. The *value-expression function* refers to the notion that attitudes allow people to express their core values and self-concepts. People see some attitudes as symbolic of the self (Shavitt, 1989; see also Wicklund & Gollwitzer, 1989), and holding and expressing those attitudes allows people to affirm their values and establish their identities. The *social-adjustment function* suggests that attitudes can enhance (and presumably undermine) social relations. For example, holding and expressing the same attitude as a peer (say, liking the same movie or supporting the same politician) can elicit approval and strengthen social bonds (Byrne, 1969; Smith et al., 1956). Thus, aligned attitudes can enhance social relationships and promote stronger group ties. Misaligned attitudes, by contrast, can create distance, weaken group ties, and steer people away from disagreeing others and toward those with more similar views.

In short, holding and expressing attitudes can be psychologically adaptive. To be clear, the argument is not that all attitudes serve all functions all of the time, but rather that these functions tend to capture the various forms of utility attitudes can provide. While the utilitarian (object-appraisal) function would seem to be tied to the basic purpose of having attitudes, the more motivational functions (such as ego defense or value expression) are likely to be more variable from one person, attitude, or topic to another (see also Eagly & Chaiken, 1998). Indeed, the specific function an attitude serves has been shown to depend on individual difference factors (e.g., Snyder & DeBono, 1985), situational factors (e.g., Crocker et al., 1987), and even the attitude object itself (e.g., an air conditioner has more utilitarian than value-expressive function; Shavitt, 1990). Generally speaking, though, attitudes are inherently important because they help people navigate the world and fulfill their psychological needs.

Surprisingly, little empirical attention has been devoted to understanding the implications of attitude functions for the attitude holder. The work that has been done, however, suggests that attitude functions are consequential. As an example, people pay more attention to and often are more persuaded by messages that match rather than mismatch their attitude functions (DeBono & Harnish, 1988; Petty & Wegener, 1998; Shavitt, 1990; Snyder & DeBono, 1985). For instance, high self-monitors—people who are prone to monitor social cues and self-presentation—are more persuaded by messages from attractive sources, whereas low self-monitors—people who are prone to monitor their own internal states—are more persuaded by messages from expert sources (DeBono & Harnish, 1988). This result suggests that high and low self-monitors' attitudes might be differentially geared toward more social-adjustive and utilitarian functions, respectively. In addition, attitude functions can influence people's advocacy decisions. For instance, people are more likely to express their attitudes when they frame those attitudes in terms of support (e.g., I support banning guns) rather than opposition (e.g., I oppose allowing guns) because support-framed attitudes feel more value-expressive and social-adjustive than opposition-framed attitudes (Catapano & Tormala, 2021). Relatedly, people are more likely to advocate for attitudes that fulfill a self-defining function, and attitudes feel more self-defining when they are positive compared to negative (Zunick et al., 2017).

HOW DO ATTITUDES VARY?

As described earlier, an attitude represents a person's general evaluation of a target entity—that is, some object, issue, or idea. This evaluation can vary in both valence and extremity. *Valence* refers to whether the attitude in question is positive, negative, or neutral overall. For example, voters can like a candidate (positive), dislike a candidate (negative), or have no leaning one way or the other (neutral). Neutrality could be further unpacked as reflecting indifference (not caring one way or the other) or ambivalence (seeing the candidate as both good and bad; Thompson et al., 1995). *Extremity* refers to the extent to which an attitude deviates from neutrality (Abelson, 1995) and is independent of attitude valence. Two voters could both like a political candidate, for instance, but differ in how extreme they are. Perhaps one views the candidate as moderately good overall, whereas the other views the candidate as outstanding. If so, the first voter would have a moderately positive attitude and the second would have a more extremely positive attitude. Valence and extremity are core structural features that are built into an attitude.

Beyond valence and extremity, attitudes vary in other consequential ways. In this section, we review past research on two other aspects of attitudes: attitude basis and attitude strength. These topics have received extensive attention in research efforts over the past twenty years, and they are

intertwined in the sense that attitude basis can affect attitude strength. We cover these topics separately here based on their traditional conceptualizations in the attitudes literature.

Cognitive Versus Affective Basis

First, attitudes can vary in their underlying basis—that is, the information or content upon which they are based. Most of the research on attitude basis has distinguished between *cognitive* attitudes—those rooted primarily in cognition—and *affective* attitudes—those rooted primarily in emotion or affect. For example, early probabilistic theories of attitudes took a cognitive approach and described attitudes as summaries of people’s beliefs about an attitude object. The Expectancy-Value Model is one such theory (Fishbein, 1963, 1967). According to the Expectancy-Value Model, an attitude is a multiplicative function of a person’s beliefs about an object’s attributes—specifically, the perceived probability that the object has certain attributes—and the person’s evaluations of those attributes. Another classic belief-focused theory is the Probabilogical Model (McGuire, 1960a, 1960b; see also Wyer, 1970), according to which an attitude reflects a system of beliefs that hang together in a logically consistent way. In these systems, people hold belief propositions and use syllogistic reasoning to derive their conclusions. As these belief propositions change, the downstream conclusions drawn from them change as well, which affects people’s summary attitudes.

In contrast to the early belief models, which emphasized cognitive processes in attitude formation, other theorizing put affective, or emotional, reactions at the center. Perhaps most notably, Zajonc famously argued that “preferences need no inferences” (Zajonc, 1980, 1984). In essence, Zajonc posited that attitudes and other evaluative judgments often stem from affective reactions that are independent of cognitive processes and precede them in time. Indeed, as reviewed later in this chapter, people can come to hold a positive or negative attitude about something in the absence of any knowledge about or memory of it. For example, mere repeated exposure can enhance people’s attitudes toward a stimulus even when that stimulus is inherently meaningless (e.g., a nonsense word; Zajonc, 1968). Likewise, research on evaluative conditioning reveals that repeated pairing of a neutral stimulus with a positive or negative stimulus can make people’s attitudes toward the initially neutral stimulus more positive or negative, respectively (Staats & Staats, 1958). This process can unfold in the absence of conscious deliberation or explicit memory of the paired stimuli (Olson & Fazio, 2001). Thus, ample evidence exists for the fact that not all attitudes are distilled from beliefs or derived from logical reasoning.

Even when people explicitly think about an attitude object, affect can shape their attitudes. For example, people have been shown to report greater overall life satisfaction when they feel happy as opposed to sad (e.g., because they just recalled a happy or sad event or were asked on a sunny or rainy day; Schwarz & Clore, 1983). Furthermore, people have been found to report more favorable attitudes toward an unfamiliar object if they are in a happy rather than neutral mood immediately before they learn about it. Petty et al. (1993) observed this effect and demonstrated that happiness can affect attitudes through different mechanisms depending on someone’s motivation to process information about the attitude object. In one study, the researchers presented participants with a persuasive message about a new brand of pen. Some participants were informed that the pen would be available in their community and that they would soon make a decision about it (high motivation to process the message). Others were informed that the pen would not be available in their community and that they would make a decision about a different product category (low motivation to process the message). This study revealed that, under high processing conditions, happiness affected attitudes by biasing the thoughts that came to mind as people read the message.

Specifically, because people felt happy, they generated more positive thoughts about the pen, and these positive thoughts made their attitudes more favorable. Under low processing conditions, people used happiness as a simple cue. In this case, people simply concluded that they must have a positive attitude because they felt happy while reading about the pen. Based on these sorts of findings, the Affect Infusion Model (Forgas, 1995) sought to explain when and how people use affect as input into their attitudes and other judgments (see also Martin et al., 1993; Petty et al., 1991).

Ultimately, attitudes can vary in their cognitive versus affective bases. One classic formulation is the *tripartite theory*, which suggests that attitudes have three primary bases: affect, cognition, and behavior (Bagozzi et al., 1979; Breckler, 1984; Rosenberg & Hovland, 1960; Zanna & Rempel, 1988). Attitudes based on affect are primarily rooted in people's feelings and emotions (e.g., "This candidate makes me happy"). Attitudes based on cognition stem primarily from people's beliefs or thoughts—that is, more logical or rational assessments—about an attitude object and its attributes (e.g., "This candidate is highly qualified"). Attitudes based on behavior are primarily rooted in people's perceptions of their past or present behavior (e.g., "I've always voted for this type of candidate," or "I find myself talking more about this candidate than the others"). The thesis is not that all attitudes have all of these bases in equal parts, nor is it that attitudes have only a single basis; rather the idea is that attitudes tend to be based to varying degrees on one or more of these components. In other words, these are continua and attitudes can be rooted in more than one of them. As an illustration, see Figure 1. Both of the attitudes depicted have a stronger cognitive than affective basis, but only the attitude toward the person (Susan) in the top panel has a behavioral basis. It could be that the bottom panel reflects an attitude toward a novel issue—an issue someone has heard about but not experienced firsthand. Thus, there is no behavioral basis at present.

While attitudes can have affective, cognitive, and/or behavioral bases, and while these bases can coexist and interact with each other, the bulk of the literature on the structural properties of attitudes has focused on the distinction between affective and cognitive components (e.g., Crites et al., 1994; Edwards, 1990; Millar & Tesser, 1986, 1989; Zanna & Rempel, 1988). Past research suggests that although affective and cognitive components of attitudes can be correlated, they have distinct influences on people's attitudes and behaviors. For example, affective and cognitive components account for unique variance in predicting people's overall attitudes (Abelson et al., 1982), and they tend to predict different behavioral outcomes. Making the affective component of an attitude salient increases its correlation with affective behaviors ("consummatory" behaviors such as solving puzzles for pleasure), whereas making the cognitive component of an attitude salient increases its correlation with cognitive behaviors ("instrumental" behaviors such as solving puzzles to sharpen the mind; Millar & Tesser, 1986).

Affective-Cognitive Matching And Persuasion

One focal point in research on affective and cognitive attitudes is understanding how they influence persuasion processes and outcomes. Most prominently, researchers have explored the possibility that affective and cognitive attitudes might be differentially susceptible to affective and cognitive messages. Although some debate occurred in early work (see Millar & Millar, 1990), most studies support the idea of a matching effect, whereby messages are more persuasive when they match rather than mismatch the basis of the target attitude. In general, affective attitudes are most amenable to affective messages and cognitive attitudes are most amenable to cognitive messages (e.g., Edwards, 1990; Fabrigar & Petty, 1999; Haddock et al., 2008). In one well-known study (Fabrigar & Petty, 1999), participants read about a fictional marine animal called a "lemphur." All participants

received initial positive information about the lemphur, but for some participants this information was primarily cognitive (emphasizing the lemphur's attributes and effect on the local economy) whereas for others it was more affective (designed to evoke positive emotional reactions). Subsequently, participants received a negative message about the lemphur that was manipulated to be primarily cognitive (negative information in the form of an encyclopedia entry) or affective (brutal depiction of a lemphur's attack on a person). Consistent with a matching effect, the affective and cognitive messages were more persuasive (i.e., caused greater change in participants' initial attitudes) when they targeted affective and cognitive attitudes, respectively.

Later research added further insight into affective-cognitive matching effects in persuasion. For one thing, within the domain of affective matching, the more specific the emotional match, the greater the persuasive impact. For instance, sad and angry messages are most likely to be persuasive when the emotional bases of the target attitudes involve sadness and anger, respectively (DeSteno et al., 2004). Moreover, neither the message nor the attitude actually has to be affective or cognitive for matching effects to occur. For instance, research on so-called "meta-bases" suggests that independent of one's actual attitude basis, *perceiving* an attitude to be affective or cognitive (e.g., believing that one's attitude is based on emotion even when in reality it is based on cognition, or vice versa) predicts increased persuasion in response to affective and cognitive messages, respectively (See et al., 2008, 2013). Likewise, perceiving a message as more affective or cognitive in tone can be sufficient to induce matching effects even when the core message content is held constant. Mayer and Tormala (2010) found that the same arguments in favor of blood donation could be framed affectively ("I feel that...") or cognitively ("I think that...") and, thus, trigger matching effects in persuasion. In short, although some exceptions exist (e.g., Millar & Millar, 1990) and moderators have been identified (e.g., Clarkson et al., 2011; See et al., 2013), the dominant finding is that messages that match rather than mismatch the basis of the target attitude tend to be more persuasive. This finding fits with an extensive body of research showing other matching effects in persuasion (e.g., matching messages to an attitude's dominant function; for a review, see Teeny et al., 2021).

The Primacy Of Affect

For the most part, research on the affective and cognitive bases of attitudes has given each basis equal standing. Yet, consistent with past research on the primacy of affect (Zajonc, 1980, 1984), some evidence suggests that attitudes rooted in affect have special resonance. For instance, people have been found to be more confident about affective than cognitive attitudes (Edwards & von Hippel, 1995), and the attitude basis matching effect in persuasion is sometimes more prominent for affective than cognitive attitudes (e.g., Fabrigar & Petty, 1999). Furthermore, when people have both positive and negative reactions to the same object (i.e., ambivalence), the reaction associated with greater emotionality tends to dominate overall attitudes—that is, overall attitudes are more aligned with the valence associated with greater affect (Rocklage & Fazio, 2016). This finding echoes prior work showing that when people have affective–cognitive discrepancies (e.g., positive affect but negative cognition), the affective component is more predictive than the cognitive component of their overall attitudes and behaviors (Lavine et al., 1998; see also Abelson et al., 1982). In addition, increased emotionality in an attitude is associated with more consistent evaluative responding (greater likelihood of reporting consistent attitudes in two different experimental tasks; Rocklage & Fazio, 2016), higher attitude accessibility (shorter response latencies when reporting attitudes; Rocklage & Fazio, 2018), and increased attitude stability (reduced likelihood of attitude change over time; Rocklage & Luttrell, 2021), even after controlling for attitude extremity. In short, emotionality

appears to be a critical component of people's attitudes (see also Rocklage et al., 2021). In future work, it would be useful to compare affective intensity to cognitive intensity to determine whether deeply rational reactions carry similar weight to deeply emotional ones.

Attitude Strength

Attitudes also vary in their underlying strength. As introduced earlier, *attitude strength* refers to the durability and impact of an attitude (Krosnick & Petty, 1995). Compared to weak attitudes, strong attitudes are more durable—that is, more resistant to persuasion and more persistent over time. They are also more impactful—more influential over a person's choices and behaviors and more likely to bias how people process information. Consider a voter who holds a favorable attitude toward a candidate for office. The stronger the voter's attitude, the more stable that attitude will be over time and the more influential it will be over the voter's thinking and decision-making. Compared to someone with a weak favorable attitude, a voter with a strong favorable attitude will be more likely to resist negative messages from the opposing party and more likely to vote for the candidate in question on election day. The voter with a strong attitude, in other words, will show greater attitude durability and impact than the voter with a weak attitude. Thus, understanding attitude strength is critical to understanding attitudes, how long they last, and how they drive thought and action.

Returning to Figure 1, the attitude toward the person in the top panel is stronger than the attitude toward the policy in the bottom panel. Indeed, the attitude toward the person is based on tighter, more numerous, and more evaluatively consistent associations. In contrast, the attitude toward the service policy is based on weaker, fewer, and less evaluatively consistent associations. Thus, in this particular comparison, we would expect the attitude toward the person to be more resistant to change and more likely to guide behavior than the attitude toward the policy.

In this section, we highlight some of the major insights and developments to emerge from research on attitude strength. Before we do, some clarifications are in order. First, attitude strength is conceptually and empirically distinct from attitude valence—that is, the attitude's positivity or negativity. Although some evidence suggests that negative attitudes are stronger than positive attitudes (Bizer et al., 2011; Bizer & Petty, 2005; Fazio et al., 2004; Snyder & Tormala, 2017), research has also found that positive attitudes are sometimes stronger than negative attitudes (Zorn et al., 2022; Zunick et al., 2017; see also Catapano & Tormala, 2021). Conceptually, the two constructs are clearly separable: Someone could have a positive or negative attitude that is strong or weak.

Second, there is an important distinction between the defining properties of attitude strength (durability and impact) and the dimensions of attitudes that *predict* attitude strength. A voluminous body of research has been dedicated to understanding strength-related dimensions of attitudes, which include attitude extremity, accessibility, certainty, ambivalence, importance, knowledge, and moralization, among others (see Luttrell & Sawicki, 2020; Petty & Krosnick, 1995; Visser & Holbrook, 2012). Although these dimensions are often described as tapping into attitude strength itself, it is more accurate to view them as distinct *predictors* of strength. For example, increasing importance or certainty is generally thought to give rise to the classic attitude strength consequences of durability and impact, but, as reviewed later in this chapter, these effects can be quite nuanced and interact with other variables (e.g., Clarkson et al., 2008; Tourangeau et al., 1989). Furthermore, correlational and factor analytic studies suggest that the various strength-related dimensions of attitudes do not hang together around a single latent construct (Krosnick et al., 1993; Visser et al., 2006), and

experimental evidence suggests that manipulating one dimension sometimes has little effect on other dimensions. Manipulating attitude certainty, for instance, does not necessarily affect attitude ambivalence (Clarkson et al., 2008; Petrocelli et al., 2007). Thus, attitude strength refers to the defining properties of durability and impact. The *dimensions* of attitudes that researchers measure to tap into strength (e.g., attitude certainty) are better viewed as proxies or predictors of strength. Indeed, in theory, an individual might be high on a classic strength-related dimension (e.g., extremity) yet exhibit low attitude durability (e.g., high vulnerability to persuasion; Litt & Tormala, 2010; McGuire, 1964).

Third, strength-related dimensions of attitudes can be objective (structural) or subjective (metacognitive) in nature. For instance, whereas the amount of knowledge one has on a topic can be objective in the sense that some people have objectively more information in working memory than others (Wood et al., 1995), the importance one attaches to one's attitude is inherently subjective in that it reflects the significance one attaches to an attitude or the degree to which one cares about an attitude (Boninger et al., 1995). Even within the same attitude dimension, however, there can be objective and subjective instantiations. For instance, knowledge can be construed in terms of how much information one has or how much information one *perceives* oneself to have (i.e., how knowledgeable one feels; Davidson et al., 1985; Tormala & Petty, 2007). Although some have argued that structural dimensions of attitude strength are more consequential than metacognitive dimensions (e.g., more likely to foster resistance to change; Bassili, 1996), considerable evidence has accrued suggesting that metacognitive dimensions can be highly consequential (for reviews, see Visser et al., 2006; Visser & Holbrook, 2012). Thus, contemporary research in this domain suggests that both objective and subjective strength dimensions matter.

Here, we review the strength-related dimensions of attitudes that have featured most prominently in attitudes research. Generally speaking, with some exceptions that will be reviewed, the greater the strength-related dimension of an attitude, the stronger we would expect that attitude to be. Furthermore, as noted already, although the strength-related dimensions of attitudes are correlated (e.g., more extreme attitudes are likely to be held with greater certainty), these correlations tend to be modest, and prior work suggests that the dimensions can operate independently (e.g., they respond to different manipulations and can interact with each other). Perhaps as a result, individual studies of attitude strength have often focused on one dimension at a time to shed light on that dimension's antecedents and consequences. Consequently, while there may be tradeoffs between lumping and splitting the strength-related dimensions of attitudes, the evidence suggests that these dimensions are distinct and we review them individually. For each dimension, we offer a definition and review representative findings. Notably, over the past two decades, considerably more research has been devoted to attitude ambivalence and attitude certainty. Thus, this review gives extra attention to these dimensions.

Attitude Extremity

Attitude extremity refers to the degree of positivity or negativity one associates with an attitude object, or the extent to which one's attitude deviates from neutrality. Attitudes that are further away from neutral and more polarized (e.g., very positive or very negative) are more extreme than attitudes that are closer to neutral (e.g., slightly positive or slightly negative). It is tempting to think of attitude extremity as something that forms gradually over time as people accrue more information about an attitude object or issue. Interestingly, though, research has found minimal correlations between extremity and attitude-relevant knowledge (e.g., Krosnick et al., 1993).

Moreover, studies highlight a host of situational factors that can push a person's attitude to become more (or less) extreme independent of attitude-relevant knowledge. To offer a few examples: People have been shown to become more extreme when they repeatedly express their attitudes (Downing et al., 1992), when they are reinforced for expressing their attitudes (Insko, 1965), when they are given time to simply think about an issue (Tesser, 1978; Tesser & Conlee, 1975; see also Clarkson et al., 2011), when they discuss an issue with likeminded others (Myers & Lamm, 1976), and, ironically, when they received mixed evidence related to an attitude they hold (which induces biased processing of that evidence; Lord et al., 1979).

For the most part, extremity has been viewed as a strength-related feature of an attitude (Abelson, 1995; Judd & Brauer, 1995). The dominant perspective is that the more extreme an attitude is, the stronger—again, more durable and impactful—that attitude is. Consistent with this view, extreme attitudes have been shown to be more resistant to change and more influential over behavior than their more moderate counterparts (e.g., Bassili, 1996; Lavine et al., 1998; Peterson & Dutton, 1975; Pomerantz et al., 1995). For example, Bassili (1996) tested the pliability of people's attitudes by asking them about their attitudes on three different issues (employment quotas, pornography laws, hate speech), highlighting possible counterpoints to their views, and then asking if those counterpoints would make them feel differently. The more extreme participants' initial attitudes were, the less they adjusted those attitudes in response to the counterpoints. Contemporary theorizing suggests that attitude extremity not only bolsters attitudes against change but also functions as a core feature of ideological extremism and radical behavior (Siev et al., 2022; see also Kruglanski et al., 2021).

Of importance, however, some evidence suggests that extreme attitudes are not always stronger than their more moderate counterparts. For example, past research has identified cases in which extreme attitudes can be more susceptible to persuasion than moderate attitudes. One study revealed that although difficult (versus easy) choices between two options can foster more extremely favorable attitudes toward the chosen alternative (replicating past research on the free-choice paradigm; Brehm, 1956), those extremely favorable attitudes often prove more vulnerable to change in the face of even glancing negative feedback (Litt & Tormala, 2010). Furthermore, as discussed already, research on attitude-behavior correspondence (Bechler et al., 2021) reveals that moving from moderate to extreme attitudes can produce less change in corresponding behavior than moving from one moderate attitude (e.g., slightly negative) to another moderate attitude (e.g., slightly positive).

In short, although the traditional perspective is that extremity breeds strength, there is some evidence to suggest that this relationship does not always hold. Attitude extremity and attitude strength can also be distinguished conceptually. One way to think about this is that extremity—like any attitude-strength-related dimension of an attitude—is but one *predictor* of an attitude's overall strength. A person could have a very favorable attitude toward a new product, for example, but also recognize that it is based on limited information and feel open to change or reluctant to purchase until more information is acquired. For now, we continue to view extremity as one attitudinal dimension that can influence attitude strength. The evidence for this notion exceeds the evidence against it. However, we hasten to add that in theory both moderate and extreme attitudes could be durable and impactful (or flimsy and unimpactful) and hence be considered strong (or weak) by traditional accounts. Classic work on cultural truisms provides one such example. This work revealed that people often reported extreme endorsement of specific widely held beliefs (e.g., it is useful to brush one's teeth daily), but proved highly susceptible to persuasion due to their lack of experience in defending those beliefs (McGuire, 1964).

Attitude Accessibility

Attitude accessibility refers to the strength of the association between an attitude object and one's attitude toward that object in memory. It manifests as the ease or quickness with which one's attitude comes to mind in the presence of the object (Fazio, 1995). The stronger the association and the faster one's attitude comes to mind, the more accessible the attitude and the stronger that attitude is thought to be.

Over the years, attitude accessibility has been the subject of considerable research attention. As an illustration, in a classic study (Fazio et al., 1982), participants were randomly assigned to report their attitudes toward a set of puzzles either once (single-expression condition) or three times (repeated-expression condition). In the repeated-expression condition, participants reported their attitudes on one form and then copied their responses on two additional forms. Following this manipulation, participants completed a response-time task in which they reported their attitudes toward the puzzles, and their response latencies were recorded. Results indicated that participants had shorter response latencies (i.e., faster responses, indicating more accessible attitudes) in the repeated- rather than single-expression condition. In addition to repeated expression, attitude accessibility tends to be higher when people's attitudes are based primarily on emotions (e.g., Rocklage & Fazio, 2018), when people have direct experience with an attitude object (Fazio et al., 1982), and when people engage in online evaluative processing (Bizer et al., 2006; Hastie & Park, 1986; Tormala & Petty, 2001).

Accessibility also has important implications for an attitude's impact and durability (i.e., attitude strength). For example, people are more likely to notice and attend to objects toward which they have highly accessible attitudes (Roskos-Ewoldson & Fazio, 1992). Moreover, compared to less accessible attitudes, highly accessible attitudes tend to be more resistant to attack and persistent over time (Bassili, 1996; Pfau et al., 2003), more predictive of behavior (Fazio & Williams, 1986), and more likely to bias information processing (Houston & Fazio, 1989). These consequences have even been observed in the context of attitudes toward the self—that is, self-esteem. As the accessibility of people's self-esteem increases, people have been shown to become more resistant to the effect of positive versus negative self-thoughts and more likely to interpret ambiguous personality feedback in a biased manner (i.e., consistent with their self-esteem; DeMarree et al., 2010). In other words, accessibility can make people's attitudes toward themselves more durable and impactful.

Attitude Importance

Attitude importance captures the extent to which a person cares about or attaches significance to an attitude. Attitudes are thought to increase in importance when they are linked to an individual's self-interest, core values, and/or social identities (Boninger et al., 1995; Eaton & Visser, 2008). In one experiment (Boninger et al., 1995), participants were randomly assigned to imagine themselves in a car accident or on a vacation that did not go well and then to draw pictures to illustrate the assigned scenario. Subsequently, participants were asked how important traffic safety was to them and how much they cared about that issue. Results indicated that participants rated traffic safety as more important in the car-scenario condition than in the vacation-scenario condition. In essence, the more relevant or central an issue feels to the self, the more important it feels.

The more important an attitude is to someone, the stronger that attitude is presumed to be. Indeed, as attitude importance rises, attitudes tend to become more persistent over time (Krosnick, 1988b),

more resistant to persuasive attack (Zuwerink & Devine, 1996), and more predictive of behavior (Krosnick, 1988a). In addition, highly important attitudes are more likely to affect related attitudes. For instance, the classic similarity-attraction effect (Byrne, 1969), individuals are more attracted to people with attitudes that are similar as opposed to dissimilar to their own, is more pronounced when the attitude in question is high rather than low in importance (Byrne et al., 1968). Additionally, voters' attitudes are more predictive of their candidate preferences when attitude importance is high rather than low (Krosnick, 1988a). Important attitudes are also more likely to trigger an interest in attitude-relevant information and deeper processing of that information when it is received. In fact, deeper processing of attitude-relevant information (and the knowledge accumulation that results) has been shown to be a key factor driving the relationship between attitude importance and attitude strength consequences (Holbrook et al., 2005).

Attitude-Relevant Knowledge

Like some other strength-related dimensions of attitudes, attitude-relevant knowledge can be construed in objective (structural) or subjective (metacognitive) terms. Objective knowledge typically pertains to the actual amount of information someone has about an attitude object or issue. Indeed, one aspect of objective knowledge is working knowledge—the information, ideas, and experiences that come to mind when people think about an attitude object or issue (Wood et al., 1995). Working knowledge does not necessarily reflect the total knowledge one has on a topic or the relevance or complexity of the knowledge one has (see Fabrigar et al., 2006), but it taps into the information, beliefs, ideas, and experiences one can recall or generate on a topic in a particular moment. All else equal, the more knowledge one has, or the more readily it can be accessed, the stronger one's attitude tends to be. For instance, people with more working knowledge on a topic show increased attitude-behavior correspondence (Davidson et al., 1985; Kallgren & Wood, 1986), reduced susceptibility to persuasion (Wood, 1982), and more persistent attitudes over time (Bartle, 2000). Relatedly, the more knowledge people have about an attitude object, the less susceptible they appear to be to classical conditioning (Cacioppo et al., 1992). Furthermore, for topics that elicit intense affect, high knowledge can increase biased processing of attitude-relevant information (Biek et al., 1996).

Separate from actual or objective knowledge, people can vary in their subjective perception of how knowledgeable they are. Interestingly, while acquiring information can cause people to feel more knowledgeable, especially if the information is sufficiently complex and evaluatively congruent (Fabrigar et al., 2006; Smith et al., 2008), actual knowledge and perceived knowledge often manifest low correlations (Krosnick et al., 1993; Radecki & Jaccard, 1995). Low correlations stem in part from the fact that perceived knowledge has sources beyond the amount of objective knowledge one has on a topic. For instance, controlling for actual knowledge, people feel more knowledgeable when the attitude issue has high personal relevance (Radecki & Jaccard, 1995) and they think more deeply about it (Smith et al., 2008), when they believe their friends and significant others are also knowledgeable on the topic at hand (Radecki & Jaccard, 1995), and when they have access to information via the internet (Fisher et al., 2015). In addition, people appear to gauge their perceived knowledge on one topic in light of the information they have on other topics. In one experiment (Tormala & Petty, 2007), participants were presented with a promotional message containing three main arguments about a new department store immediately after having received a promotional message containing one or six arguments about another store. Participants exhibited a contrast effect: They rated their knowledge about the target store as higher (lower) when they first read a message about another store containing less (more) information. Of importance, this difference in

perceived knowledge was consequential for their attitudes toward the target store. The more promotional information participants perceived they had about the target store, the more favorable their attitudes were toward that store.

Even though perceived knowledge is not always grounded in actual knowledge, it has been found to predict attitude strength. For instance, perceived knowledge has been shown to moderate the attitude-behavior relationship; attitudes are more closely aligned with behavior when perceived knowledge is high rather than low (Davidson et al., 1985; Wallace et al., 2020). Likewise, perceived knowledge has been shown to reduce attitude change following the classic analyzing-reasons task in which explaining the reasons for an attitude can change that attitude (Wilson et al., 1989). Furthermore, people higher in perceived knowledge tend to show reduced interest in new information (e.g., Radecki & Jaccard, 1995) and increased bias in their information processing (Vallone et al., 1985).

Attitude Moralization

Attitudes also differ in the extent to which they are moralized—that is, rooted in moral considerations (see Philipp-Muller et al., 2022; Skitka et al., 2021). Two individuals might both like a new electric car, but differ in whether they base that attitude on moral (e.g., “It’s good for the planet, which helps me do the right thing”) or amoral (e.g., practical; “It’s fuel efficient, which helps me save money”) concerns. As a dimension of attitudes, moralization is often framed in terms of moral conviction. Moral conviction refers to the subjective perception that one’s attitude is rooted in moral values and one’s sense of what is objectively right or wrong (Skitka et al., 2015, 2021). It has been theorized to be driven by links between attitude objects and moral values, by specific emotional reactions (e.g., disgust, harm), and by the affective intensity surrounding particular attitude objects and issues (see Skitka et al., 2021). Some evidence suggests that moral conviction might even have genetic origins (Brandt & Wetherell, 2012).

A rapidly growing literature suggests that attitudes held with greater moral conviction are stronger than attitudes held with less moral conviction (Skitka, 2010). For instance, the more moral conviction people have or the more people perceive their attitudes to be based on moral concerns, the more resistant their attitudes are to persuasion (Aramovich et al. 2012; Luttrell et al., 2016), the more intolerant they are of people with opposing views (Skitka et al., 2005), the more impact their attitudes have on their behavior (Luttrell et al., 2016; Skitka & Bauman, 2008), the more persistent their attitudes are over time (Luttrell & Togans, 2021), and the more likely they are to engage in a variety of pro-attitudinal advocacy behaviors such as signing petitions, contacting politicians to advance their views, and sharing attitude-relevant information on social media (Philip-Muller et al., 2020; Skitka et al., 2017).

In fact, as with other dimensions of attitudes, merely perceiving that an attitude has a moral basis, independent of any actual substantive differences in the attitude or its origins, has been shown to increase attitude strength (Luttrell et al., 2016; see also Van Bavel et al., 2012). In one study (Luttrell et al., 2016), participants were given false feedback to manipulate their beliefs that their attitudes were based on morality or tradition. Participants’ attitudes were more predictive of their behavioral intentions when they believed their attitudes were based on morality. Thus, being situationally induced to believe that one’s attitude is rooted in moral considerations can increase its strength.

As a caveat to the notion that moralization strengthens attitudes, moralized attitudes can be quite amenable to persuasive messages that match rather than mismatch the moral basis of the target

attitude (Luttrell & Petty, 2021; Luttrell et al., 2019). For instance, Luttrell et al. (2019) presented participants with a counterattitudinal message about recycling that appealed to either moral or practical considerations (e.g., highlighting moral harm or cost and feasibility). Participants with a moral attitude basis were more persuaded by the moral rather than practical message, whereas the opposite was true for participants with a practical attitude basis. Research on moral reframing has also revealed that tailoring a persuasive message to the specific moral convictions of the message recipient (e.g., liberal or conservative values) can boost persuasion (e.g., Feinberg & Willer, 2015; for a review, see Feinberg & Willer, 2019). Thus, although moralized attitudes are generally more resistant to persuasion than their nonmoralized counterparts, they appear to be more malleable in the face of moral messages.

Attitude Ambivalence

Attitude ambivalence is another strength-related attitude dimension that can be conceptualized in objective or subjective terms. Objective ambivalence refers to the actual presence of both positive and negative reactions to the same entity, whereas subjective ambivalence refers to the feeling of being torn or conflicted about whether that entity is good or bad (Priester & Petty, 1996; Thompson et al., 1995). In early work on ambivalence, researchers focused largely on objective ambivalence: how people can hold conflicting evaluative reactions to a single entity (and behave differently when they do), and how bipolar attitude scales fail to capture such mixed reactions (Kaplan, 1972; Thompson et al., 1995). A concern with bipolar measures was that they failed to distinguish between neutrality or indifference on the one hand, and ambivalence or attitude conflict on the other. That is, a neutral response on a bipolar attitude scale could reflect indifference (not caring) or ambivalence (caring but feeling torn). Thus, much of the early work on ambivalence had a methodological focus and sought to uncover better methods for using unipolar attitude scales to calculate people's ambivalence on a given topic. Over the years, researchers turned their attention toward understanding the causes and consequences of *subjective* ambivalence, which can operate separately from objective ambivalence.

Subjective ambivalence is a sometimes-aversive state that has important consequences for a host of attitude-relevant outcomes (van Harreveld et al., 2015; van Harreveld et al., 2009). For instance, when people experience subjective ambivalence, their attitudes tend to be less persistent over time, less resistant to persuasion, and less predictive of behavior (e.g., Armitage & Conner, 2000; Visser & Mirabile, 2004). In addition, when people feel ambivalent, they tend to be less inclined to take action (e.g., more likely to delay a decision; Durso et al., 2016; cf. Reich et al., 2022) and more inclined to carefully process attitude-relevant information (Jonas et al., 1997; Maio et al., 1996), especially if doing so seems likely to reduce ambivalence (e.g., proattitudinal information; Clark et al., 2008). When it is difficult to resolve ambivalence through deeper information processing of the ambivalence-provoking stimulus, people may turn to other compensatory mechanisms such as perceiving greater order in stimuli that are unrelated to the ambivalence itself (e.g., visual imagery; van Harreveld et al., 2014).

Although considerable research portrays ambivalence as a negative state that people are motivated to avoid or reduce (see van Harreveld, et al., 2009, 2015), growing evidence suggests that there are upsides to feeling ambivalent. As one example, people sometimes cultivate ambivalence as a way to reduce self-threat. Reich and Wheeler (2016) found that when people were uncertain that they would accomplish a desired goal (e.g., getting hired), they became more ambivalent about that goal, which in turn protected their self-views if they received bad news. Likewise, when ambivalence

toward a target was experimentally manipulated, participants under high-ambivalence conditions suffered less following negative outcomes (e.g., being rejected by the target). In addition to offering protection from threats, ambivalence appears to be a debiasing agent. It reduces susceptibility to confirmation and attributional biases (Hohnsbehn et al., 2022; Schneider et al., 2021), increases judgment accuracy (Rees et al., 2013), and can make people seem more competent (Pillaud et al., 2018; but see Siev et al., 2024).

A major emphasis in ambivalence research over the past two decades has been to understand the sources of subjective ambivalence. Here, we offer a review of research exploring its numerous antecedents.

Conflicting evaluative reactions

Subjective ambivalence can stem from the simultaneous presence, or coactivation, of positive and negative information or reactions (Conner & Armitage, 2008). That is, subjective ambivalence can result from objective ambivalence. Generally speaking, the more conflicting positive and negative associations one has with an object, the more conflicted one will feel about that object. Imagine a consumer who likes coffee because of the taste and pep it gives them. However, over time they begin to experience unpleasant side effects from caffeine consumption (e.g., headaches, jitteriness, difficulty sleeping). The more the consumer experiences these negative side effects or the more intense the side effects become, the more conflicted the consumer would be about coffee (at least up to a point, after which the introduction of further negatives would begin to reduce subjective ambivalence and tilt the attitude in a negative direction; see Snyder & Tormala, 2017).

Conflicting positive and negative reactions can assume many forms: evaluative–cognitive inconsistency (beliefs that conflict with one’s overall attitude), evaluative–affective inconsistency (feelings that conflict with one’s overall attitude), affective–cognitive inconsistency (incongruent feelings and beliefs), and even intra-affect or intra-cognition conflict. Each form of inconsistency has the potential to produce telltale signs of subjective ambivalence and, thus, undermine attitude strength (e.g., Chaiken et al., 1995; Conner et al., 2021; See & Luttrell, 2021).

To understand subjective ambivalence, some researchers have proposed a computational or formulaic approach to predict the subjective ambivalence people experience based on their particular combination of positivity and negativity (Priester & Petty, 1996; Thompson et al., 1995; see also Refling et al., 2013). Regardless of the formula applied, the correlation observed between objective and subjective ambivalence is often modest. Thus, researchers have devoted significant attention to identifying moderators of this relationship. As one example, objective ambivalence is more likely to produce subjective ambivalence when both positive and negative reactions are highly accessible (Newby-Clark et al., 2002; see also de Liver et al., 2007). Evaluatively incongruent reactions are also more likely to spark subjective feelings of conflict when a decision is required—such as when one has to take a stand or choose a side (van Harreveld et al., 2009; van Harreveld et al., 2009). In addition, mixed positive and negative information is more likely to cause subjective ambivalence when the mixture is unexpected rather than expected. Durso and colleagues (2021) presented participants with mixed (i.e., both positive and negative) information about a target person’s behaviors. For example, the target person (“Bob”) helped someone who fell off a bike but also pretended to be homeless to get a free meal. When participants had been led to expect Bob’s behavior to be mixed (because they had been alerted in advance to the fact that Bob has both good and bad qualities), the mixed information created significantly less subjective ambivalence. When participants had no such expectations, their subjective ambivalence was higher.

There are also valence asymmetries. In particular, due to positivity offset and negativity bias (Cacioppo et al., 1997), subjective ambivalence is higher when people have exclusively negative rather than positive reactions because negative reactions conflict with positivity offset or the default positive expectations people have. However, subjective ambivalence rises faster when people add negative reactions to an otherwise positive attitude rather than vice versa, and it appears to peak when one's positive reactions slightly exceed one's negative reactions. In a study exploring these asymmetries (Snyder & Tormala, 2017), participants were assigned to one of 13 conditions varying the number of positive and negative traits presented about a target person. Across conditions, participants received 12 positive traits and 0 negative traits, 11 positive traits and 1 negative trait, 10 positive traits and 2 negative traits, and so on all the way to 0 positive traits and 12 negative traits. This study revealed that participants felt more ambivalent about the target person when they received all negative rather than all positive traits, but showed a steeper rise in subjective ambivalence as negative traits were added to an otherwise positive description rather than the opposite, and peaked in subjective ambivalence when the positive traits slightly outnumbered the negative traits (i.e., 7 positive + 5 negative).

Past and anticipated future evaluative conflict

Subjective ambivalence can arise even when people lack awareness of evaluative conflict. For instance, research on implicit ambivalence reveals that people can hold univalent attitudes and report little to no conscious conflict yet show signs of feeling ambivalent if they previously held an attitude that conflicts with their current one. Petty et al. (2006) presented participants with information designed to create positive or negative attitudes toward two target individuals: Eddie and Phil. They then induced attitude change among half the participants by telling them that the information had been switched and that what they had learned about Eddie (e.g., positive information) actually applied to Phil and what they had learned about Phil (e.g., negative information) actually applied to Eddie. This procedure produced attitude change toward the targets. Participants who initially liked Eddie, for example, updated their views and switched to a negative attitude. Interestingly, despite currently holding the same attitudes as participants in a control condition (in which no switch occurred) and reporting no conscious conflict, participants with changed attitudes showed evidence of feeling ambivalent. Specifically, compared to control participants, they more carefully processed new information about the target individuals. Thus, despite now holding seemingly identical attitudes as those in the control condition, conflict between present and prior attitudes created a state of implicit ambivalence among those who had changed their attitudes.

Anticipating future evaluative conflict can also foster subjective ambivalence. Even people who hold univalent attitudes might expect or be concerned that they will eventually encounter conflicting information, which can be sufficient to cause conflict. In one study (Priester et al., 2007), participants who were very fond of a product but wondered if it had unknown negative qualities reported more subjective ambivalence than those who were equally fond of the product but had no concerns. In another study, participants learned about a novel product and received information about either one or seven of its positive attributes. Participants who learned about just one positive attribute were more likely to anticipate encountering future negative attributes and, thus, felt more subjective ambivalence. Even when one's current attitude is univalent, then, the anticipation of future evaluative conflict can augment current feelings of ambivalence.

Actual-desired attitude discrepancies

Just like changing or expecting to change an attitude can trigger subjective ambivalence, so too can the desire for a new or different attitude. Research on actual–desired attitude discrepancies suggests that people often desire to have attitudes other than the ones they have, and these discrepancies can produce subjective ambivalence. People might dislike exercising but wish they liked it, and thus feel conflicted about their attitude toward exercising (e.g., DeMarree et al., 2014). Desired attitudes have been shown to affect thought and behavior independently of actual attitudes (DeMarree et al., 2017), and actual-desired discrepancies have a host of ambivalence-relevant consequences, such as reducing attitude-behavior correspondence (DeMarree et al., 2014) and increasing people’s susceptibility to subtle change inductions (DeMarree et al., 2016).

Nonevaluative conflicts

Nonevaluative conflicts can elicit subjective ambivalence as well. That is, sometimes people feel attitude tension that is not directly linked to valence inconsistency. One form of nonevaluative conflict is semantic incongruence—defined as inconsistency in the content of two attributes, independent of their valence (Gebauer et al., 2013). The idea is that attitude objects can possess attributes that are perceived to be conceptually or normatively inconsistent even if they are not of conflicting valence. For instance, a person might be perceived as both shy and warm, or a new product as both inexpensive and high quality. These traits are not evaluatively inconsistent, but they are semantically incongruent in the sense that they are not typically found together and might appear to be unusual combinations. When an attitude object possesses semantically incongruent attributes, it can foster subjective ambivalence (Gebauer et al., 2013).

People’s perceptions of the information on which they have based their attitudes can also affect subjective ambivalence. When people with a preference to base their attitudes on one type of information (e.g., the arguments in a persuasive message) believe that they have based their attitudes on something else (e.g., the source of that message), a feeling of attitudinal conflict can arise even if the two bases are evaluatively congruent. In an experiment testing this possibility (Tormala & DeSensi, 2008), undergraduates received a moderately counterattitudinal message about a campus issue that they were led to believe came from a source representing a minority of students on campus. Following the message, participants were induced to perceive that they had or had not relied on the source information as a basis for their attitudes. Individuals with a high need for cognition (who are accustomed to thinking deeply about message content; see Cacioppo et al., 1996) felt more ambivalent when they believed they had (versus had not) relied on the source information. However, individuals with a low need for cognition showed the opposite pattern: more ambivalence when they had *not* relied on the source information. Thus, people appear to have attitude-basis preferences and can feel conflicted when they believe they have deviated from their preferences.

As a final example, implemental (versus deliberative) mindsets can lower subjective ambivalence (Henderson et al., 2008). Research on goal pursuit has established that people adopt different mindsets for different phases of action (Gollwitzer, 1990). They tend to be deliberative early on, considering various options and actions, and more implemental later, when they reduce deliberation and focus on planning an action. Studies suggest that relative to deliberative or neutral mindsets, an implemental mindset can reduce subjective ambivalence and increase attitude-behavior correspondence for a variety of attitude objects, even those unrelated to the goal in question (Henderson et al., 2008). Thus, planning the implementation of an action appears to produce a generalized reduction of attitude ambivalence.

Interpersonal attitude discrepancies

For the most part, ambivalence has been conceptualized as an intrapersonal phenomenon whereby people's internal positive and negative reactions foment a feeling of subjective conflict. However, ambivalence can be an interpersonal phenomenon as well. Even when people's attitudes toward something (e.g., exercising, donating blood) are univalent, they can feel ambivalent if liked and important others (e.g., a spouse) disagree with them, or if disliked others (e.g., a rival) agree with them (Priester & Petty, 2001). In other words, perceiving interpersonal attitude discrepancies can increase or decrease subjective ambivalence depending on whether those discrepancies are associated with desirable or undesirable others. This finding echoes Heider's Balance Theory (1958; see discussion later in this chapter), which proposed that psychological tension can arise when people disagree (agree) with liked (disliked) others.

Attitude Certainty

Attitude certainty has been the subject of considerable research attention over many decades (Gross et al., 1995) and has seen a steep rise in interest in the past 20 years (see Rucker et al., 2014; Tormala & Rucker, 2007, 2018), making it arguably the most studied dimension of attitude strength in the past two decades. At the most general level, attitude certainty refers to the subjective sense of confidence or conviction a person has about their attitude (Tormala & Rucker, 2007, 2018). At a deeper level of precision, this general feeling of certainty can reflect an assessment of *attitude correctness* and/or *attitude clarity* (Petrocelli et al., 2007). Attitude correctness refers to the perception that one's attitude is correct or valid. People with high correctness believe they have the correct position on an issue and feel that other people should adopt the same view. In contrast, attitude clarity refers to the perception that one knows what one's attitude truly is. People with high clarity might feel very certain that their position is clear in their mind but not necessarily that their opinion is objectively correct or that others should agree with them. Clarity and correctness are correlated yet distinct components of global attitude certainty (Petrocelli et al., 2007; see also Cheatham & Tormala, 2015; Itzchakov et al., 2018; Rios et al., 2014).

Attitude certainty is a highly consequential property of an attitude. First, high-certainty attitudes are more durable than low-certainty attitudes. They are more resistant to persuasion (e.g., Babad et al., 1987; Kelley & Lamb, 1957; Petrocelli et al., 2007; Tormala & Petty, 2002; Tormala et al., 2006) and more persistent over time even when not directly challenged (Bassili, 1996; Luttrell et al., 2016). Second, high-certainty attitudes are more impactful than low-certainty attitudes. They are more predictive of behavior (Fazio & Zanna, 1978; Rucker & Petty, 2004; Tormala & Petty, 2004) and other evaluative responses (Bizer et al., 2006; Visser et al., 2003), more likely to bias people's thoughts (Snyder & Tormala, 2017) and information seeking activities (Sawicki et al., 2011), more likely to spark attitudinal advocacy (e.g., efforts to express one's view and persuade others; e.g., Akhtar et al., 2013; Cheatham & Tormala, 2015, 2017), and more likely to make people feel certain of themselves (Clarkson et al., 2009). Finally, compared to low-certainty attitudes, high-certainty attitudes tend to reduce information processing. Indeed, people who have been induced to feel uncertain about their attitudes typically process attitude-relevant information more carefully than do people who have been induced to feel certain about their attitudes (e.g., Briñol et al., 2007; Maheswaran & Chaiken, 1991; Tiedens & Linton, 2001; for exceptions, see He & Rucker, 2022; Tormala et al., 2008; Wan & Rucker, 2013).

Where does attitude certainty come from? Although some research has explored individual differences in the tendency to hold attitudes with certainty (DeMarree et al., 2020; see also Albarracín & Mitchell, 2004; Petrocelli et al., 2010), the bulk of the work in this area has explored situational variations to understand what makes people feel certain or uncertain of a given attitude in a particular situation. For example, research has shown that direct personal experience with an attitude object (e.g., tasting peanut butter) can lead to greater attitude certainty relative to indirect experience with that attitude object (e.g., reading about peanut butter; see Fazio & Zanna, 1978; Wu & Shaffer, 1987). Integrating a wealth of research on this topic, Rucker et al. (2014) proposed an *appraisal-based framework* to outline the core dimensions along which people appraise their attitudes to determine how certain or uncertain they should be. This framework is rooted in prior research on resistance to persuasion.

In early studies on resistance to persuasion and attitude certainty (Tormala & Petty, 2002), participants were presented with a counterattitudinal message and instructed to generate counterarguments against it. Importantly, these participants were randomly assigned to conditions leading them to believe that the message they received contained strong or weak arguments (in reality, the message contained the same arguments across conditions). Results indicated that all participants were able to generate counterarguments and resist the message. In neither message condition were participants' attitudes more favorable than they were in a control condition in which no message had been received and no counterarguments had been generated. However, attitude certainty differed across conditions. Participants were more certain of their attitudes when they had resisted a message believed to be strong compared to when they had resisted a message believed to be weak or were assigned to the control condition. Counterarguing a message perceived to be weak produced no difference in attitude certainty compared to the control condition. In other words, when people successfully defended their attitudes against a counterattitudinal message believed to be strong, they became more certain of their original attitudes against it. They appeared to infer that if they could resist a strong attack on their attitudes, their attitudes must be valid so they should be more certain of them.

These findings parallel classic work on *inoculation theory*. In this work, McGuire (1964) drew a biological analogy and theorized that just as people's immune systems could be inoculated against viruses, so too could people's attitudes be inoculated against persuasive attack through exposure to an initial attack that they could refute. The argument was that refuting the initial attack helped build up people's defenses, or immunity, to later stronger attacks. The findings were consistent with this theorizing. One experiment (McGuire & Papageorgis, 1961) tested different defense strategies against each other. In this experiment, participants were presented with a belief statement and then generated supportive defenses (giving reasons supporting the belief) or refutational defenses (reading arguments against the belief and then refuting those arguments). When the belief was attacked in a follow-up session two days later, participants were more resistant to it (i.e., showed less belief change) when they had engaged in a refutational defense in the earlier session (for further evidence, see Banas & Rains, 2010; Compton et al., 2016; Pfau, 1995). Although inoculation theory did not posit a role for attitude certainty in these effects, the findings were compatible with the perspective that initial resistance boosts attitude certainty, which fosters resistance to later attacks (see Tormala & Petty, 2002).

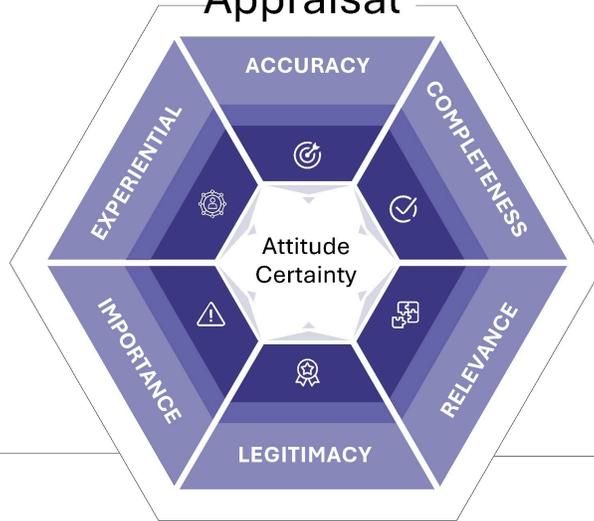
Other studies further illuminated the relationship between resisting persuasion and attitude certainty. For instance, some research explored the effects of *attempted* but ultimately unsuccessful resistance on attitude certainty (Rucker & Petty, 2004). These studies showed that when people tried but failed to resist persuasion (e.g., they attempted to counterargue a message but found little

to no fault in it), they tended to become more certain of their newly changed attitudes. In this case, people appeared to reason that if they tried but failed to counterargue a message, the position advocated in the message must be correct, and they could be certain about their new attitudes. Subsequent research also identified conditions under which initial resistance to persuasion could be associated with a loss of attitude certainty that opened people up to future change (e.g., Tormala et al., 2006; see also Ng et al., 2023). Together, these findings illuminated distinct appraisal processes that people undertake following their interactions with persuasive messages that lead them to adjust their attitude certainty (see also Petty et al., 2004; Tormala, 2008).

Rucker and colleagues (2014) advanced this appraisal perspective and posited a finite set of appraisals that people use to assess their attitudes and the information or evidence upon which those attitudes are based. These appraisals, they argued, could account for the bulk of the research on attitude certainty. In short, people were theorized to appraise their attitudes (and the information or evidence for those attitudes) in terms of accuracy, completeness, relevance, legitimacy, importance, and their subjective experience thinking about or using their attitudes (see Figure 2). When people's reflections lead them to be impressed by the evidence for their attitudes, they form positive appraisals that make them feel more certain; when people are unimpressed by the evidence, they form negative appraisals that make them feel less certain; when people are neither impressed nor unimpressed, they form neutral appraisals that leave certainty unchanged. Next, we outline the core appraisal processes and highlight examples of the antecedents of attitude certainty that reflect each process.

Figure 2: Appraisals Used to Construct Attitude Certainty Along with Their Definitions, Examples of Positive Appraisals, and Examples of Negative Appraisals

Appraisal



Appraisal Definition	Example of a Positive Appraisal	Example of a Negative Appraisal
<p>ACCURACY An assessment of whether one's attitude, or the information upon which one's attitude is based, is accurate or correct.</p>	<p>Most people agree with me. Given the high consensus for my attitude, I must be correct.</p>	<p>Not many people agree with me. Given the low consensus for my attitude, I might be incorrect.</p>
<p>COMPLETENESS An assessment of how much information or evidence one possesses on a topic.</p>	<p>I've considered all of the information on both sides of this issue; I am very informed.</p>	<p>I haven't had a chance to consider all of the perspectives on this issue; I am not very informed.</p>
<p>RELEVANCE An assessment of whether one's information is pertinent to the attitude object or issue.</p>	<p>I based my attitude toward this person on their moral values. That information is very relevant to my attitude toward them.</p>	<p>I based my attitude toward this person on their taste in music. That information is not very relevant to my attitude toward them.</p>
<p>LEGITIMACY An assessment of whether one's information is fair or appropriate to use as a basis for one's attitude.</p>	<p>I used this person's behavior as a basis for my attitude toward them. That information seems appropriate and fair.</p>	<p>I used the behavior of this person's parents as a basis for my attitude toward them. That information does not seem appropriate or fair.</p>
<p>IMPORTANCE An assessment of how much weight should be given to a piece of information or how significant the information is to the issue at hand.</p>	<p>The key piece of information I have about this attitude object is important to me.</p>	<p>The key piece of information I have about this attitude object is unimportant to me.</p>
<p>EXPERIENTIAL INPUTS An assessment that draws upon one's subjective experience while using or thinking about one's attitude or information upon which it is based.</p>	<p>I was able to report my attitude quickly and clearly, so it feels like I know where I stand.</p>	<p>I was unable to report my attitude quickly or clearly, so it does not feel like I know where I stand.</p>

Accuracy appraisals

First, people make accuracy appraisals. The more accurate people believe their attitudes are, or the more accurate they believe the information used to derive their attitudes is, the more certain they feel about those attitudes. As an example of how a variable might influence attitude certainty through an accuracy appraisal, consider the case of attitude consensus. Generally speaking, people feel more certain when they perceive greater consensus for their attitudes—that is, when others agree with them or they learn that they are in the majority on some topic (Cheatham & Tormala, 2015; Festinger, 1954; Petrocelli et al., 2007; Tormala et al., 2009; Visser & Mirabile, 2004). In one study (Petrocelli et al., 2007), undergraduates reported their attitudes toward a new university policy. In a high-consensus condition, regardless of their own attitudes, participants learned that most of the other students surveyed shared their view. In a low-consensus condition, participants learned that very few of the other students surveyed shared their view. Following this manipulation, participants completed measures of attitude certainty. Participants were more

certain of their attitudes—and, in particular, more certain that their attitudes were *correct*—in the high- rather than low-consensus condition. Finding out that others agreed with them, or that they held the majority opinion, provided social validation regarding the correctness of their attitudes (for an exception, see Clarkson et al., 2013).

In addition to social consensus, people also consider information consistency as input to accuracy. In general, people are more likely to assess their information on a topic as accurate if it seems consistent. The more accurate the information seems, the more certain people will feel about their attitudes. In some research, participants have been presented with persuasive messages that contain evaluatively congruent (e.g., all positive or all negative) or incongruent (both positive and negative) arguments. These experiments reveal that people feel more certain of their attitudes after receiving evaluatively congruent rather than incongruent information (e.g., Maheswaran & Chaiken, 1991; Smith et al., 2008; see also Snyder & Tormala, 2017). Other studies have manipulated information consistency in different ways. For example, people feel more certain of their attitudes when a source in the majority on an issue presents strong rather than weak arguments, as well as when a source in the minority on an issue presents weak rather than strong arguments (Tormala & DeSensi, 2009); and people process persuasive messages more carefully—potentially indicative of reduced attitude certainty—when majority and minority sources present counterattitudinal and proattitudinal messages, respectively (Baker & Petty, 1994). It stands to reason that the evidence one receives seems more accurate when it lines up—in this case, when the majority is on one’s side and has strong arguments or when the minority is on the other side and has weak arguments.

People also feel more certain of their attitudes when they believe they have more reliable insight. For example, as noted already, certainty rises when people have direct experience with an attitude object or issue (Fazio & Zanna, 1978; Wu & Shaffer, 1987; see also Kubin et al., 2021). In one study (Wu & Shaffer, 1987), participants were presented with information about the taste of peanut butter or tasted peanut butter themselves. Participants were more certain of their attitudes toward the peanut butter in question after tasting it themselves and gaining direct experience with it. People appear to view direct experience as offering more accurate insight, which builds their certainty in their attitudes. Relatedly, people feel more certain of their attitudes when they receive information from expert rather than nonexpert sources (e.g., Clarkson et al., 2008; Tormala & Petty, 2004). Experts have more accurate information than nonexperts; thus, receiving information from an expert increases confidence that one’s attitude is based on valid information. This informational confidence, in turn, boosts attitude certainty.

Completeness appraisals

People can also make completeness appraisals when assessing their attitude certainty. Completeness appraisals capture people’s perceptions of how much information or evidence they have on a topic. In general, the more informed people believe they are, or the more knowledgeable they feel on a topic, the more certain they tend to be (Krosnick et al., 1993; Prislin, 1996; Smith et al., 2008). Indeed, providing people with more information about something has been shown to increase the certainty of their attitudes toward it (Smith et al., 2008; Tsai et al., 2008), and alerting people to missing information has been shown to reduce attitude certainty (Sanbonmatsu et al., 1992). Likewise, giving people the impression that both the pros and the cons of an issue have been considered increases the perceived completeness of their information and boosts attitude certainty (Rucker et al., 2008; see also Rucker & Petty, 2004).

In addition to the amount of information one has, completeness appraisals can be construed in terms of people's perceptions of how much they have thought about a topic. Just like people's perceptions of others' thoughtfulness can affect their willingness to rely on others' recommendations (Kupor & Tormala, 2018; Kupor et al., 2014; Reich & Tormala, 2013), people's perceptions of their thoughtfulness can affect how certain they feel about their attitudes. Generally speaking, the more people believe they have thought about a given issue, the more certain they tend to be of their attitudes (Barden & Petty, 2008; Barden & Tormala, 2014; Wan et al., 2010; see also Rahinel et al., 2016). In research on the *thoughtfulness heuristic* (Barden & Petty, 2008), participants were led to believe that they had thought a lot or a little about an issue. In one experiment, participants listed their thoughts about an issue and then received feedback that they listed more or fewer thoughts than most other people. Results indicated that participants perceived themselves to have thought more about the issue when they received feedback that they had listed more (versus fewer) thoughts, and this perception of thoughtfulness translated into greater attitude certainty. The more thoughtful people believed they had been, the more certain they felt about their attitudes. The logic is that thinking more carefully about an issue can foster the perception that one has assessed it more completely, which boosts attitude certainty.

The finding that thoughtful processing increases attitude certainty could be viewed as inconsistent with other research suggesting that people sometimes trust their quicker gut reactions more than their slower, deliberative reactions (e.g., Fazio, 1995; Liberman & Förster, 2006). Indeed, to the extent that highly thoughtful processing tends to be slower than less thoughtful processing, there is some tension in the literature regarding whether fast or slow evaluations promote greater certainty. It could be that the effect of fast versus slow evaluation on attitude certainty depends on situational and individual difference factors. Consistent with this possibility, research (Tormala et al., 2011) suggests that when people form their attitudes, evaluate unfamiliar entities, or generally trust rational deliberation, their perception of slow rather than fast evaluation produces greater attitude certainty. However, when people express their attitudes, evaluate familiar entities, or generally trust their gut reactions, perceiving fast rather than slow evaluation promotes greater certainty. Thus, the effect of perceived thoughtfulness on attitude certainty is malleable and the appraisal dimension people use to assess their certainty might vary across contexts.

Relevance, legitimacy, and importance appraisals

In addition to accuracy and completeness appraisals, people assess their information for relevance, legitimacy, and importance. We define information as *relevant* when it pertains to the core merits of an attitude object. For example, an extra bedroom is relevant to assessing whether a house is large enough for one's family, whereas having a flashy sports car in the driveway is irrelevant. Information is *legitimate* when it is fair or appropriate to consider as part of formulating one's attitude. For example, in legal contexts, jurors might be asked to disregard evidence when forming their opinions because that evidence was illegally acquired. Even information that is relevant, in other words, could be deemed illegitimate if one is not supposed to consider it. Finally, information is *important* when it is considered high priority or of great significance to the issue at hand. Information might be relevant but unimportant if it is considered inconsequential or trivial. Limited work on these appraisal dimensions suggests that people feel more certain of their attitudes when they perceive that they have based their attitudes on information that is relevant, legitimate, and important.

When people believe they have rejected a persuasive message for illegitimate reasons, for example, they tend to lose attitude certainty. In one study (Tormala et al., 2007), university students were presented with a message about a campus policy. Participants were told that a recent survey revealed that either a large majority or a small minority of students supported the policy, and that the message they received came from someone in that supportive group. This study revealed that participants largely rejected the message in the minority-source condition, but became significantly less certain of their attitudes after doing so. Follow-up studies demonstrated that this loss of certainty following initial resistance only occurred when people perceived that they had based their attitudes on the minority-source information *and* perceived that this was an illegitimate basis for resistance. In essence, believing that one had resisted a message for an illegitimate reason undermined attitude certainty.

In addition to legitimacy, people appraise their attitudes and information upon which those attitudes are based for importance and relevance. For example, when people form their attitudes based on information perceived as more important (e.g., a patient's general health condition in a decision about patient treatment), they feel more certain of those attitudes (Zakay, 1985). Conversely, when people believe their attitudes have been influenced by information irrelevant to the issue at hand (e.g., the physical attractiveness of an information source), they show reduced attitude certainty (Mello et al., 2020). As with other appraisal dimensions, these appraisals are malleable and subjective. For instance, source factors might be insignificant to one's attitude in some contexts but quite pertinent in others (Mello et al., 2020), and as noted some people appear to prefer to rely on source rather than message factors in determining their attitudes (Tormala & DeSensi, 2008).

Experiential inputs

Finally, people sometimes tune into their subjective experience while using or thinking about their attitudes.^[1] These experiential inputs can affect certainty as well. For instance, as noted already, people have been shown to be more certain about affective than cognitive attitudes (Edwards & von Hippel, 1995; Zajonc, 1980), suggesting that attitudes associated with emotions might tend to stir more conviction than attitudes based on reason (see also Skitka et al., 2021). Within the affective domain, certainty appears to rise when people experience emotions linked to high- rather than low-certainty appraisals—for example, happiness (a high-certainty emotion) as opposed to sadness (a low-certainty emotion; Briñol et al., 2007; Tiedens & Linton, 2001). And people display greater certainty when they feel powerful as opposed to powerless (Anderson & Galinsky, 2006). In fact, merely playing a high-power role (e.g., boss) as opposed to a low-power role (e.g., employee) can boost feelings of confidence (Briñol et al., 2007).

The ease or fluency with which one processes attitude-relevant information is another experience that affects certainty. Generally speaking, the easier it is to think of information that supports one's attitude—for example, to retrieve or generate attitude-congruent arguments—the more certain one feels about that attitude (Haddock et al., 1999; see also Tormala et al., 2002, 2007; Tsai & McGill, 2011). Haddock et al. (1999) instructed participants to generate an easy (three) or difficult (seven) number of arguments in support of their own position on doctor-assisted suicide. They found that participants with initially moderate attitudes felt more certain of those attitudes after generating an easy rather than difficult number of supportive arguments. In essence, when it is easy to generate arguments, people view those arguments as more valid, which increases their certainty about the attitude based on those arguments.

Relatedly, attitudes that are experienced as coming to mind quickly—that is, attitudes that are more accessible—are generally held with greater certainty than attitudes that come to mind more slowly (e.g., Holland et al., 2003; see also Gill et al., 2002). Holland et al. (2003), for example, used a repeated-expression manipulation to vary attitude accessibility. They assigned participants to report their attitudes toward two different issues either once (on a single attitude scale) or six times (on six different attitude scales). Consistent with past research (e.g., Powell & Fazio, 1984), inducing participants to express their attitudes multiple times increased attitude accessibility. Increased accessibility, in turn, gave rise to greater attitude certainty. In short, as attitudes became more accessible, or easier to retrieve, participants felt more certain about them. Subsequent research revealed that the effect of repeated attitude expression on attitude certainty revolves mostly around the specific feeling of attitude clarity (Petrocelli et al., 2007).

A New Look At The Consequences Of Attitude Strength

A voluminous literature has been devoted to understanding attitude strength. As noted, this has been one of the major emphases of attitudes research over the past few decades. A central premise guiding this work is that the strength-related dimensions of attitudes reviewed here are important because they have consequences for strength-related outcomes. Attitude certainty is important, for instance, because it has implications for attitude stability, an attitude's behavioral impact, and a person's information-processing activity. All else equal, people who feel certain of their attitudes are more likely than those who feel uncertain to hold stable attitudes over time, to resist persuasive attack, to behave in line with their attitudes, and to process information in a biased, attitude-consistent manner (Tormala & Rucker, 2018). This is the traditional perspective on strength-related dimensions of attitudes, and it has received widespread empirical support.

Nevertheless, mounting evidence suggests that this perspective is in need of an update (see also Petty et al., 2023). Increasingly, studies reveal that the outcomes associated with various strength-related dimensions of attitudes are somewhat malleable. Becoming more certain of an attitude often boosts an attitude's resistance to change, but it can sometimes *reduce* an attitude's resistance to change (e.g., Clarkson et al., 2008). Likewise, feeling *uncertain* of an attitude often attenuates biased processing, but sometimes augments it (Sawicki et al., 2011). New insights in these areas suggest that there is more nuance than previously known in the relationship between strength-related attitude dimensions and their strength-related consequences. In this section, we highlight some of the major developments in this literature.

Amplification effects: interactions among dimensions

First, numerous studies have revealed that strength-related attitude dimensions can interact to determine attitude strength outcomes. Consider the interaction between attitude certainty and attitude ambivalence. Clarkson et al. (2008, 2011) theorized that although past research had cast attitude certainty as a crystallizing agent that makes attitudes more resistant to change, it might be more accurate to think of certainty as an amplifying agent that facilitates the dominant outcome or effect of an attitude in a particular situation. More concretely, although certainty increases resistance to persuasion when attitudes are univalent (i.e., clearly positive or negative), this effect might reverse when attitudes are ambivalent. In other words, if univalent attitudes lean toward resisting persuasion and ambivalent attitudes lean toward yielding to persuasion, certainty could amplify these response patterns.

To test this possibility, Clarkson et al. (2008) presented participants with information about a new department store and manipulated that information to independently vary participants' ambivalence and attitude certainty. Following this information, participants received a persuasive message designed to challenge their attitudes toward the store. In the low-ambivalence condition, participants were more resistant to persuasion when they were induced to have high- rather than low-attitude certainty, as shown in past research. In the high-ambivalence condition, however, this effect reversed: Participants were more resistant to persuasion when they were induced to have low- rather than high-attitude certainty. In short, attitude certainty increased or decreased resistance to persuasion depending on participants' underlying ambivalence.

Further studies extended this perspective to other attitude-strength outcomes. For example, certainty has been shown to increase the attitude-behavior correlation when attitudes are univalent, but decrease the attitude-behavior correlation when attitudes are ambivalent (Clarkson et al., 2008). Likewise, certainty can increase attitude persistence over time when attitudes are low in ambivalence, but decrease attitude persistence over time when attitudes are high in ambivalence (Luttrell et al., 2016, 2020). In research exploring the interaction between ambivalence and power (which, as noted, can affect feelings of certainty; see Briñol et al., 2007), it appears that power increases people's willingness to take action when their attitudes are univalent, but decreases their willingness to take action when their attitudes are ambivalent (Durso et al., 2016). In sum, across diverse outcomes and paradigms, considerable evidence has accrued suggesting that certainty boosts attitude strength when attitudes are univalent but undermines attitude strength when attitudes are ambivalent.

These findings echo previous research investigating the interaction between ambivalence and attitude importance. In research on context effects in survey responses, for instance, respondents with ambivalent attitudes exhibit less stable attitudes in response to question-wording variations when they consider the issue at hand to be important rather than unimportant (Tourangeau et al., 1989). Thus, although past research suggests that importance confers attitude stability (Krosnick, 1988b), this effect appears to be qualified by one's underlying ambivalence. Similarly, ambivalence and knowledge can have interactive effects on attitude-behavior correspondence. Specifically, although past research generally suggests that ambivalence disrupts attitude-behavior correspondence (e.g., Armitage & Conner, 2000), some evidence suggests that this disruptive effect occurs when people are high in perceived knowledge and disappears when people are low in perceived knowledge (Wallace et al., 2020).

Interactions in this domain do not always revolve around ambivalence. For example, high-knowledge individuals have been shown to engage in more biased processing than low-knowledge individuals, but only when the issue is associated with intense affect (Biek et al., 1996). When affective intensity is reduced, increased knowledge is associated with more objective information processing. These findings are consistent with the notion that affective intensity provides the spark that motivates biased processing, whereas knowledge provides the ability to interpret information in a biased, attitude-congruent way. Also germane, the effect of attitude-relevant knowledge on attitude-behavior correspondence can depend on both the complexity of the knowledge and the relevance of the knowledge to a particular behavior (Fabrigar et al., 2006). In short, although strength-related attitude dimensions are frequently described as having main effects on attitude strength, accumulating evidence suggests that these effects can be interactive in nature.

Bolstering effects: the motivation to strengthen an attitude

Research on bolstering motives underscores the notion of malleability in the relationship between strength-related attitude dimensions and attitude strength outcomes. As background, it is well-established that when people hold weak attitudes, they often take steps to bolster their attitudes to build or restore attitude strength. For example, people who feel uncertain or ambivalent tend to process attitude-relevant information more thoroughly (e.g., Maheswaran & Chaiken, 1991; Maio et al., 1996; Petty et al., 2006; Stavradi et al., 2021) in an effort to reduce their uncertainty or ambivalence. The general interpretation of these findings is that uncertainty and ambivalence are aversive states that people seek to avoid or reduce, and processing pertinent information offers a way to do so. Of note, however, bolstering efforts sometimes produce thought and action patterns that resemble those that stem from attitude strength. For example, although biased processing traditionally has been viewed as a consequence of attitude strength (Brannon et al., 2007; Krosnick & Petty, 1995; Pomerantz et al., 1995), some research reveals that people are increasingly biased as their feelings of uncertainty or ambivalence increase.

Consider the research on selective exposure, whereby people favor proattitudinal over counterattitudinal information when selecting information to process. Historically, selective exposure was viewed as a byproduct of attitude strength (e.g., high-certainty attitudes were more likely to trigger it; Brannon et al., 2007). Interestingly, though, it appears that in some cases biased information selection is especially appealing to *uncertain* individuals because it provides a means of building or restoring certainty. Stated differently, uncertain individuals can be especially drawn to proattitudinal information because that information has the best chance of bolstering their attitudes and reducing uncertainty (Clark & Wegener, 2013). Across several studies testing these effects in a selective exposure paradigm, Sawicki et al. (2011) assessed or manipulated attitude certainty and then allowed participants to choose attitude-relevant information to read. Some of the information was proattitudinal and some was counterattitudinal. The information also varied in how familiar or unfamiliar it was. Most pertinent to the current discussion, when the available information was unfamiliar, low-certainty attitudes fostered more selective exposure than high-certainty attitudes. Thus, under novel information conditions, uncertainty can act as a catalyst for biased information processing.

Subsequent research has uncovered similar phenomena. For instance, attitude uncertainty has been shown to promote both identification with and attraction to similar others, particularly when people are reflecting on their attitudes and see others as relevant to the issue at hand (Clarkson et al., 2017; Sawicki & Wegener, 2018). In addition, attitude ambivalence has been shown to promote selective exposure (Sawicki et al., 2013) and reduce the processing of counterattitudinal messages (Clark et al., 2008). Thus, although past research generally suggests that ambivalence increases interest in and processing of attitude-relevant information, this effect is constrained by the nature of that information. People are drawn to proattitudinal information when they feel ambivalent and tend to avoid counterattitudinal information that risks amplifying the very ambivalence they seek to resolve.

To summarize, classic conceptualizations of attitude strength have primarily taken a main-effect approach in detailing the consequences of strength-related attitude dimensions. As research has evolved, however, it has become increasingly clear that these effects can be quite nuanced. Strength-related attitude dimensions can interact with one another and with other situational factors to influence attitude strength. Future work that merges these insights and develops a coherent framework for understanding when various strength-related dimensions increase strength and when they decrease strength would be highly valuable.

WHAT SHAPES PEOPLE'S ATTITUDES?

Since the early days of attitudes research, one of the largest questions researchers have grappled with relates to how people come to hold their attitudes. Historically, research on this question has been divided into two camps. One has focused on how attitudes are initially formed. This literature has sought to understand how people come to like or dislike something in the first place—for example, how they arrive at a favorable attitude toward bunnies, opposition to social policies, or fondness for deep-dish pizza. A second camp has focused on how attitudes are *changed*. This literature has sought to understand how people's existing attitudes shift from one position to another—for example, from a negative attitude to a positive one, or from a moderately positive attitude to an extremely positive one. Although we use the word “camps,” we do not mean to imply that these are warring factions or even rival traditions. Rather, they reflect distinct foci and a self-ascribed division of labor.

Our view is that the study of attitude formation versus change represents a false and unnecessary dichotomy. First, we contend that whether the focus is on attitude formation or attitude change, the same psychological processes can operate to shape attitudes. That is, identical mechanisms can shape attitude formation and attitude change. For example, associative processes such as evaluative conditioning, which we review momentarily, could be involved in both the initial formation of an attitude as well as its subsequent change. Put simply, the processes that shape attitudes need not differ depending on whether attitudes are being formed or changed. Second, we submit that the paradigms traditionally employed to study attitude formation (change) might often tap into attitude change (formation). For example, as we will review, research studying attitude formation has often used paradigms that involve sequential exposure to valenced information. After a researcher has exposed participants to an initial piece of valenced information, however, does subsequent exposure to more information still contribute to attitude formation or does it now cause attitude change? As another example, research studying attitude change processes has often used novel attitude objects toward which a person would have no prior attitude. As such, these paradigms would seem to speak to attitude formation as much as attitude change.

In short, rather than view research on attitude formation and attitude change as mutually exclusive, we suggest that they are mutually informative. While differences in the definitions exist—for instance, pure attitude formation presumably would involve no prior information or associations—we propose that the processes and paradigms used in either domain ultimately inform the other. That is, the processes and insights are likely more similar than different. As such, we next discuss factors that shape attitudes regardless of whether those factors and their related processes were initially studied in the context of attitude formation or attitude change. Because distinct formal models have been developed to understand persuasion, we separately review some of the major models of persuasion that have been introduced over the years.

Factors That Shape Attitudes

Attitudes are shaped by a variety of factors that trigger distinct processes. One way to categorize the literature, which we adopt here, is that it can be divided into research exploring associative, reflective, and biological factors. We use the term *associative factors* to refer to attitudinal inputs built around the links or associations people form between attitude objects and positive or negative stimuli (e.g., other objects, people, events, and feelings). These associations do not necessarily

depend on any conscious thought or reflection but are essentially “picked up,” even automatically, through exposure to stimuli in one’s immediate context or environment (cf. Mitchell, et al., 2009). In contrast, we use the term *reflective factors* to capture more inference-based attitudinal inputs. Reflective factors tend to involve a more conscious thought process through which people derive their attitudes and decide whether something is good or bad. Reflective thinking can build or stem from associations, but reflective factors generally involve greater consideration of one’s attitude and/or the information one has.

We acknowledge that associative and reflective factors are not mutually exclusive. A given variable or effect could operate through both associative and reflective processes to varying degrees. Consider positive affect. As noted earlier, if someone feels happy while considering a new policy, they might develop a more favorable attitude toward the policy. In theory, this process could be associative, such that the person simply links the positive affect to the policy and feels good about the policy, or the process could be reflective, such that the person observes that they feel happy while considering the policy, and reasons that this must mean it is a good one. Indeed, emotions have been shown to shape attitudes through multiple processes that can depend on factors such as an individual’s level of involvement with a message (e.g., Petty et al., 1993).

In addition to associative and reflective factors, some research suggests that *biological factors* can shape attitudes. For example, inherited characteristics may predispose people to form more positive or negative attitudes toward some objects. Such predispositions capture factors that could shape attitudes independent of or in conjunction with associative and reflective factors.

As a final acknowledgment, we use the distinction between associative, reflective, and biological factors as a simple organizational structure for our review. We categorize the approaches, theories, findings, and phenomena discussed based on what we see as their dominant orientation (i.e., whether they tend to be built more around associations, reflections, or biology) and how they are conventionally discussed in the literature. We do not mean to imply that any given variable shapes attitudes through one, and only one, factor. For many of the phenomena reviewed, there may be an associative pathway, a more reflective one, and even a biological one.^[2]

Associative Factors

Research on associative factors generally explores how people form attitudes based on covariation between, or the co-occurrence of, an attitude object and positive or negative stimuli (e.g., other objects, people, events, feelings.). For example, classic research investigated the roles of learning and exploration in attitude formation and change. The idea was that people learn about attitude objects and associate positivity or negativity with them through their own experiences and their observations of others. They might be aware of the attitudes they are forming, or they might not. Of course, if people pause to reflect on their learnings and consolidate them into an attitude, the process likely shifts from associative to reflective. Nonetheless, much of the learning and exploration process has been viewed as associative in nature, so we treat it as such here. In addition, we review several other associative factors such as social proof, mere exposure, evaluative conditioning, and priming.

Learning and exploration

First, attitudes can be shaped via exposure to information. People like or dislike an attitude object because they obtain positive or negative information about it through learning and/or experience. This proposition is both intuitive and supported by empirical research (e.g., Bettman et al., 1975; Fazio et al., 1983; Regan & Fazio, 1977). In an early demonstration that attitudes can be shaped via associative learning (Insko, 1965), research assistants called undergraduates and asked them whether they agreed or disagreed with statements about creating a new springtime activity at their university. As this was a novel proposition, participants would not have preexisting attitudes toward it and, thus, they had to rely on the information given to them to form their attitudes. The research assistants were trained to verbally reinforce some participants' responses (e.g., saying "good" after participants agreed or disagreed with a statement). Two aspects of the results are noteworthy. First, participants varied in whether they formed positive or negative attitudes based on the information they received, presumably due to differences in their idiosyncratic reactions to the information. Second, participants' attitudes were more extreme when they had been reinforced by the research assistants. This finding offered an early illustration of how people form attitudes based not only on the information they receive about the attitude object but also on social learning—that is, others' reactions to their attitudes.

In another effort to explore the role of learning in shaping people's attitudes, Fazio and colleagues (2004) developed a game that placed participants in a virtual world inhabited by beans. In this game, which the authors called "BeanFest," the goal was to survive by consuming beans that keep one's energy level above zero. The game unfolded across multiple trials. In each trial, participants were given an opportunity to consume one bean. Consuming the bean affected a player's energy in either a positive (i.e., increased) or negative (i.e., decreased) manner. At the start of the game, participants did not know which beans had positive value and which had negative value. However, the beans were shaped and marked differently—some were more circular, some were more oval; some had more speckles, some had less speckles. In each trial, participants picked a bean to consume and received feedback as to its effect. The idea was that participants had no reason to hold attitudes toward the beans at the start of the game. However, over the course of the game, they had to develop positive or negative attitudes to survive.

Several noteworthy results emerged from the Fazio et al. (2004) research. First, there was evidence of learning. As people consumed more beans, they were more likely to continue to select beans that provided energy and avoid those that depleted energy. This finding reinforces one of the central purposes of attitudes: They guide behavior in a manner that facilitates desired outcomes and avoids undesired outcomes. It also reveals that attitude learning can occur in the absence of stated information about the attitude object. Participants in these studies simply observed relationships and formed their attitudes accordingly. Second, participants' attitudes toward the beans generalized. That is, when a novel bean was introduced in the game, its similarity to other beans was used as a means to judge its positivity or negativity. Essentially, as an attitude object is viewed more favorably or unfavorably, people show a propensity to judge objects with the same properties as similar. Finally, there were valence asymmetries in both learning and generalization. Specifically, participants exhibited both better learning and greater generalization of negative rather than positive attitudes. That is, they were more likely to learn negative relationships (beans that depleted their energy) than positive relationships (beans that replenished their energy), and they relied on negative learnings to a greater extent in judging novel objects. These findings are consistent with the idea of a negativity bias (Baumeister et al., 2001; Cacioppo et al., 1997; Taylor, 1991) and may stem from people's tendency to ascribe greater diagnosticity to negative information than positive information (e.g., Skowronski & Carlston, 1989).

Social proof

One form of learning that shapes people's attitudes is observing the behavior of others. For example, imagine that someone is visiting a foreign country and is attempting to discern whether an unfamiliar menu offering would be something they would enjoy. One means to determine their attitude is to observe others in the immediate environment. Indeed, it is well-documented that people often assess how they should behave by observing how others behave (Cialdini, 1993; Goethals & Darley, 1977; Miller, 1984). If one sees that several of their companions are smiling and nodding at a particular dessert on the menu, one might form a positive attitude toward that dessert purely based on that behavior. In short, in the absence of any direct experience, one's attitude can be informed by looking at the behaviors of others.

As an example of the potency of social proof, consider a field experiment by Goldstein and colleagues (2008). In this study, the authors worked with a national chain of hotels to decrease the number of towels people used during their stays. Towel reuse behavior has significant implications for both the environment and hotels' costs. To test the power of social proof, Goldstein and colleagues presented hotel patrons with one of two messages on the towel rack in their room. The first message was a standard environmental message that talked about reusing towels to protect the environment. The second message conveyed the descriptive norm of what others did; specifically, patrons were told that 75% of guests participated in reusing towels. The authors found that whereas 35.1% of guests reused towels after viewing the standard environmental message, 44.1% reused towels in response to the descriptive norm message. Thus, merely learning that others engaged in a behavior provided a source of information that influenced participants' behavior.

It is reasonable to ask whether observing others' behavior and acting accordingly can be viewed as evidence that people's attitudes were shaped in some way. One means to answer this question is through Kelman's (1961, 1974) model of social influence. Kelman postulated that behavior influenced by the presence of others takes three distinct forms: compliance, identification, and internalization. *Compliance* refers to behavior people enact to gain the favor of, or avoid punishment from, another person. In this regard, compliance does not require a particular underlying attitude; rather, the behavior is performed to obtain a desired outcome or avoid an undesired outcome. *Identification* describes instances in which people adopt the behavior of others to establish a relationship with another person or group. Here, one's behavior is not the result of concerns about rewards or punishments, but rather wanting to form or maintain a relationship with a person or group. People's attitudes can be shaped via the identification pathway, but it is not required for behavior change. Instead, people can simply enact the appropriate behavioral script when in the presence of the person or group in question. Finally, *internalization* refers to behavior that results from a desire to act in a way that represents one's value system. Of note, internalization is the most consistent with the idea that observing the behavior of others can influence a person's attitude. That is, whereas behavior that follows from compliance or identification might only occur when others are present, internalization is postulated to produce a behavior change that occurs in the absence of other people. In this regard, internalization can be likened to shaping attitudes that subsequently guide behavior. In the case of Goldstein et al. (2008), given that towel reuse was a relatively private behavior, it is plausible that the communicated social norms influenced people's attitudes.

Mere exposure

Research suggests that attitudes can also be shaped by repeated exposure to an attitude object. In a seminal examination of this idea, Zajonc (1968) presented participants with nonsense words or symbols and manipulated the frequency with which different words were presented. Some were presented once, others five times, others ten times, and so on. Following the presentation, participants rated the extent to which individual words or symbols meant something good or something bad. This study revealed that the more frequently the words and symbols had been presented, the more favorably participants rated them. The phenomenon of liking something more simply because one has been exposed to it more often has been termed the *mere exposure effect*. The mere exposure effect has been observed across a variety of stimuli such as drawings, shapes, music, and paintings (Bornstein, 1989).

Different explanations have been offered for the mere exposure effect. One account is that it is the result of misattribution. The misattribution account posits that stimulus exposure leads the stimulus to become more perceptually fluent, or easier to process. Because individuals have an easy time processing the stimulus, they infer that the stimulus is favorable. In essence, perceptual fluency comes from repeated exposure, and people misattribute perceptual fluency to liking. Consistent with the misattribution account, the mere exposure effect has been shown to occur in situations in which people are not aware that the stimulus has been presented repeatedly. When participants are alerted to the fact that the stimulus has been presented before, they appear to correct for the potential misattribution, and the mere exposure effect is attenuated (Bornstein & D'Agostino, 1994).

Another account for the mere exposure effect is that familiarity with a stimulus reduces uncertainty. This uncertainty reduction account suggests that encountering a novel stimulus can cause arousal as people seek to determine whether the stimulus is a threat. As exposure to the stimulus increases, uncertainty is reduced and the stimulus becomes more familiar. At least in the case of innocuous stimuli, this process is thought to increase liking. Some evidence favors an uncertainty reduction account over a misattribution account. For example, at least with affective judgments, higher and higher exposure levels can lead to more and more favorable judgments in a monotonic fashion (Lee, 2001). That is, the more people are exposed to a stimulus, the more positive their affective responses are, and this effect does not necessarily plateau. This result is not easily explainable by a misattribution account in that after some level of exposure people should realize they have encountered a stimulus previously, which should reduce misattribution. Notably, though, while increased frequency of exposure positively influenced affective judgments in the Lee (2001) study, it had a curvilinear effect on judgments that were more cognitive. It may be that people are more inclined to correct for exposure on cognitive but not affective judgments, which would support the argument that the mere exposure effect on attitudes cannot be explained by misattribution alone.

Researchers have also offered a salience explanation for the mere exposure effect, whereby repeated exposure enhances evaluations by increasing the salience of a stimulus relative to competing stimuli—that is, by making a target stimulus stand out, which increases liking. Indeed, a series of experiments (Mrkva & Van Boven, 2020) demonstrated that fluency and apprehension of novel stimuli, two accounts for exposure effects, accounted for less variance than did salience. In addition, manipulating the absolute exposure (how many times participants saw the target stimulus) and relative exposure (how many times participants saw the target stimulus compared to other stimuli in the context) revealed that liking increased when a stimulus was presented more frequently relative to other stimuli, but not necessarily when its increased exposure was met with similar levels of exposure to other stimuli in the environment.

In sum, several mechanisms have been proposed for the mere exposure effect. Ultimately, it is likely that this effect is driven by a confluence of psychological processes. How these processes affect downstream consequences of exposure-induced liking remains an open question for future research.

Evaluative conditioning

Attitudes also can be shaped through evaluative conditioning. Evaluative conditioning refers to the phenomenon whereby people learn associations (or attitudes) toward a target object as a result of that object's co-occurrence with another stimulus. Evaluative conditioning is rooted in the classical conditioning work of Pavlov (1902). In essence, a neutral object—the conditioned stimulus—is paired with an object with a known valence—the unconditioned stimulus. Evaluative conditioning involves associating the valence of the unconditioned stimulus with the conditioned stimulus. To illustrate, imagine an individual who hands out a paycheck at the end of the month to employees. Assuming the paycheck is a highly positive stimulus (i.e., the unconditioned stimulus), people may come to associate the person who delivers it (i.e., the conditioned stimulus) with that positivity, and thus form a favorable attitude toward the delivery person.

Evaluative conditioning has been the focus of a rich literature within social psychology (De Houwer et al., 2001; Jones et al., 2010; Mitchell et al., 2009). In one of the seminal and best-known studies (Staats & Staats, 1958), participants were told that researchers were studying how people learn words in different modalities. Participants were first given a list of words to read and tested on their comprehension. Next, participants listened to the same list of words being read out loud. Participants were then exposed to one of six nationality names (German, Swedish, Italian, French, Dutch, and Greek). Approximately one second after each nationality appeared, the experimenter announced a word out loud. Some of the announced words were neutral (e.g., chair, twelve), some were positive (e.g., gift, happy), and some were negative (e.g., bitter, failure). Two nationalities—*Dutch* and *Swedish*—served as the conditioned stimuli, with one of these nationalities always paired with positive words and the other always paired with negative words. Subsequently, participants were asked how they felt (pleasant–unpleasant) about each word they had encountered, including the words “Dutch” and “Swedish.” The study revealed that people rated Dutch as more pleasant than Swedish when “Dutch” was paired with positive words and “Swedish” was paired with negative words. However, this pattern reversed when “Dutch” was paired with negative words and “Swedish” was paired with positive words. Given that there is no logical reason to like or dislike something based on its co-occurrence with positive or negative words in an experiment, this finding offers an example of how attitudes can be shaped by seemingly trivial environmental associations.

In another early demonstration of evaluative conditioning (Zanna et al., 1970), participants completed a series of trials in which they were presented with a single word. After a short pause, participants were administered electric shocks, which were followed by a second word indicating the end of that trial. Central to the experiment, the researchers manipulated the words used to signal the onset versus offset of shock. In one condition, the word “light” signaled the onset of shock and the word “dark” signaled the offset of shock. In a second condition, these descriptors were reversed such that “dark” signaled the onset and “light” the offset of shock. Finally, in the control condition the word “begin” signaled the onset of shock and the word “end” signaled the offset of shock. Subsequently, embedded within an ostensibly unrelated task, participants were asked to rate a series of words on their positivity versus negativity. The word “dark” was rated more favorably

when it was the offset word compared to when it was the onset word; similarly, the word “light” was rated more favorable when it was the offset word compared to when it was the onset word. In addition, the conditioning of certain words generalized to related constructs. Specifically, when the word “dark” (“light”) was the onset rather than offset word, people rated the word “black” (“white”) more negatively.

Continuing work on this topic has added more detailed and nuanced insight into evaluative conditioning processes (see Gawronski, 2022; Sperlich & Unkelbach, 2022). As an example, research suggests that the co-occurrence of positive or negative stimuli with an attitude object is most likely to influence attitudes toward that object when the positive or negative stimuli uniquely co-occur with the target object (as opposed to co-occurring with multiple attitude objects; Alves et al., 2020). In other words, distinct stimulus co-occurrence has a unique advantage in creating evaluative conditioning effects.

Evaluative priming

Related to the idea of evaluative conditioning is evaluative priming. Evaluative priming emphasizes techniques that shape attitudes toward a target stimulus by first priming people with another stimulus toward which they have positive or negative associations. In a typical evaluative priming paradigm, people are presented with an initial stimulus to prime—that is, activate or make salient—an attitude. Subsequently, participants are asked to evaluate a neutral stimulus (e.g., a word or image). The idea is that the activation of the prime will carry over to the neutral stimulus; if participants have a favorable (unfavorable) attitude toward the prime, they will evaluate the neutral stimulus more favorably (unfavorably). For example, Murphy and Zajonc (1993) presented pictures of male or female faces expressing either happiness or anger and then asked participants to rate their liking for a Chinese ideograph following the face primes. The researchers found that primes presented for even a brief duration (4 milliseconds) led participants to evaluate the Chinese ideograph in a prime-congruent fashion. That is, happy (angry) face primes led people to evaluate the ideographs more positively (negatively).

In addition to evaluation, the activation of a prime can also influence the speed with which subsequent constructs are identified. If a prime activates a favorable attitude, for example, it facilitates the identification of other favorable information. Fazio et al. (1986) provided a famous example of this sort of response facilitation. These researchers first assessed participants’ attitudes toward 70 objects by asking participants to indicate, as quickly as possible, whether each one was good or bad. Then, for each participant, the researchers selected 16 attitude objects—four for each of the following categories: strong good, strong bad, weak good, and weak bad. The “strong good” and “strong bad” categories consisted of the four attitude objects that participants were fastest in responding to as being good or bad, respectively (i.e., low-response latencies). The “weak good” and “weak bad” categories consisted of the four attitude objects that participants were slowest in responding to as being good and bad, respectively (i.e., high-response latencies). Next, participants judged a new set of words as positive or negative. These words were all adjectives that had clear positive (e.g., “appealing,” “delightful”) or negative (e.g., “repulsive,” “awful”) connotations. However, before judging each word, participants saw one of the 16 attitude objects. This procedure allowed the authors to examine whether the presentation of the prime (attitude object) facilitated or inhibited participants’ responses to the adjectives. The authors found that strong primes led to facilitation and inhibition effects; for instance, a “strong good” prime led participants to identify a subsequent positive word more quickly but a subsequent negative word more slowly. This pattern

was not observed among weak primes. This work suggests that attitudes can be activated automatically and increase the accessibility of other evaluative constructs that are similar in valence.

Along with the study of priming as a means of shaping attitudes, much of the research on priming has been geared toward using it as a tool for attitude measurement (e.g., Fazio et al., 1986; Payne et al., 2005; Payne & Lundberg, 2014). For further insight into using priming procedures to measure attitudes, we refer readers to previous reviews on that topic (e.g., Banaji & Heiphetz, 2010; Petty et al., 2009).

Reflective Factors

In addition to associative factors, reflective factors play a crucial role in shaping attitudes. Compared to associative factors, reflective factors tend to affect attitudes at a more conscious level and involve more inferential reasoning and/or explicit consideration of one's attitude and the information one has. In theory, reflective factors could operate in similar contexts as associative factors. For example, while both learning and exposure can create associations, they can also give people information or arguments that they can reflect on to inform their attitude. Also important, people can reflect on virtually any type of information they have. Consider an individual who receives a message seeking to persuade them to adopt some health behavior. This individual might think about properties of that message (e.g., "The source of this message is an expert, so it must be a good idea" or "The arguments in this message are powerful, so I agree"), think about a feeling they have (e.g., "I feel happy right now, so I must agree with this message"), think about their own thoughts (e.g., "I have positive thoughts about this, so I must support it"), or think about their past or current behaviors (e.g., "I keep looking at social media posts about this idea, so I must be a fan"). Indeed, people can think about external information or their own thoughts, feelings, and behaviors and infer their attitudes based on these reflections (see Petty et al., 2007). This is the essence of a reflective process. In this section, we discuss prominent approaches that highlight the role of reflective factors in shaping attitudes. We begin with the role of heuristics. Subsequently, we turn our attention to several well-known theories that propose a critical role for reflection: cognitive dissonance theory, self-perception theory, balance theory, and correction theories.

Heuristics

People sometimes consult heuristics as a guide for determining how to evaluate something. In the context of attitudes, heuristics are simple decision rules that people follow to assess whether they should hold a positive, negative, or neutral attitude. These decision rules are thought to be stored in memory, rooted in past experience, or learned from others. Past research suggests that heuristics are more likely to shape attitudes under conditions in which people lack other information and are unmotivated or unable to think deeply about the object or issue at hand (Chaiken et al., 1989). Under these conditions, people have been shown to rely on heuristics to gauge the appropriate attitude to hold.

A variety of heuristics have been explored in past research. One common heuristic that people can invoke when evaluating an attitude object is the rule that "experts are usually correct" (Chaiken, 1980; Petty et al., 1981). Applying this heuristic in a given situation would lead people to evaluate something (e.g., a new policy) more favorably when it is endorsed by an expert rather than a nonexpert. Another common heuristic is the price-quality heuristic (e.g., Gneezy et al., 2014; Kardes

et al., 2004; Rao & Monroe, 1989), which refers to the assumption that the more something costs, the higher quality it is. When relying on the price-quality heuristic, people might form a more favorable attitude toward something (e.g., a bottle of wine) when it is more rather than less expensive. As a final example, the “length implies strength” heuristic captures the idea that people sometimes assume that the more arguments there are in favor of something—for example, the more reasons someone gives for their opinion—the better that thing is. When relying on this heuristic, people are more apt to agree with a position when there are more as opposed to fewer arguments to support it (Petty & Cacioppo, 1984; see also the numerosity heuristic; Pelham et al., 1994). For instance, when participants in one study memorized phrases consistent with the “length implies strength” heuristic, they were more persuaded by a message containing ten rather than two arguments (Chaiken, 1987).

Of note, besides heuristics, people can also evaluate information with regard to its relevance to the central merits of the issue at hand—that is, whether it is a weak or strong argument on the topic under consideration. We highlight the importance of argument quality in our discussion of the Elaboration Likelihood Model (ELM) of persuasion later in this review, as argument quality has been featured heavily in this model. Our discussion of the ELM will also reveal how various psychological processes can operate under low and high levels of thought.

Cognitive dissonance

Leon Festinger (1957) introduced the notion of cognitive dissonance to describe the psychological state that exists when people hold two cognitions that are inconsistent with each other. For example, if someone holds the belief that they are an honest person but also recognizes that they lie on their taxes, there is inconsistency in their beliefs. Festinger described cognitive dissonance as an aversive state that arises from inconsistent cognitions and argued that people are motivated to reduce it when it arises. His theory further proposed that people could reduce cognitive dissonance using any of a series of cognitive calculations, including minimizing the importance of one of the cognitions, changing one or both of the cognitions to make them consistent, or adding one or more consistent cognitions. Most germane to the current discussion, Festinger proposed that when people perceived that their behavior was inconsistent with their attitudes (e.g., they smoked a cigarette despite being staunchly anti-smoking), they sometimes changed their attitudes to reduce the resulting dissonance (e.g., deciding that smoking is not so bad after all).

Consider Festinger’s research on the “forced compliance” paradigm. In the canonical experiment on this topic (Festinger & Carlsmith, 1959), participants completed a boring and repetitive task and later reported their attitudes toward this task. The researchers randomly assigned participants to one of three conditions. In the control condition, participants simply completed the task and reported their attitude toward the task. In one experimental condition, participants were paid \$1 to tell another student waiting that the task was fun. In another experimental condition, participants were paid \$20 to tell another student waiting that the task was fun. Later in the study, participants reported more favorable attitudes toward the task if they had been paid \$1 compared to \$20 to lie about it. Participants paid \$20 did not report liking the task any more than those in the control condition.

The explanation for this finding was as follows: All participants found the task to be dull. However, participants in the paid conditions told another person that the task was enjoyable. When participants were paid only \$1, they purportedly experienced cognitive dissonance because the task was boring yet they described it as enjoyable. To resolve this inconsistency, participants who received \$1 concluded that the task was enjoyable. This allowed them to think, “I said I liked the

task because I did.” They formed a positive attitude and presumably felt no more dissonance. In contrast, participants who were paid \$20 felt no dissonance in the first place, or perhaps easily resolved the dissonance without forming a favorable attitude. Indeed, these participants could dismiss the discrepancy due to the greater compensation offered. In essence, they could think, “I didn’t enjoy the task, but it was worth \$20 to say I did.” In this case, there was no need to change their attitude toward the task.

In addition to the forced compliance paradigm, the idea of cognitive dissonance has been tested via the so-called free-choice paradigm (Brehm, 1956; Brehm & Cohen, 1962; Festinger, 1964). In this paradigm, participants are presented with two or more desirable options and asked to decide between them—that is, to choose one. For example, a child might be given two toys that they enjoy but be told they can keep only one. The paradigm is postulated to create cognitive dissonance because people must reconcile the fact that they liked an option that they did not choose. To reduce this dissonance, people can shift their attitudes to become more favorable toward the chosen option and less favorable toward the unchosen option. Thus, even though both options might have been equally desirable to begin with, people reduce dissonance by favoring the chosen option (e.g., “The one I chose really was better”) and/or disparaging the unchosen one (e.g., “Honestly, it wasn’t that great of a choice) after choosing.

Since the original formulation and studies on cognitive dissonance, a wealth of research has been dedicated to understanding it. Some of this research has explored other sources of dissonance. This research has revealed that people experience dissonance when they comply with counterattitudinal requests such as writing essays supporting counterattitudinal positions (Carlsmith et al., 1966; see also Cooper & Fazio, 1984), when they put more effort into an activity than seems warranted (e.g., going through a severe initiation to join a boring group; Aronson & Mills, 1959), and even when they observe members of their ingroup engaging in attitude-inconsistent behavior (Norton et al., 2003). Other research has examined the processes driving dissonance, including aversive physiological arousal (Elliot & Devine, 1994), feelings of personal responsibility for negative consequences following one’s behavior (Cooper & Fazio, 1984), feelings of threat to one’s self-concept (Aronson, 1969; Steele, 1988), and feelings of having violated salient norms or idiographic standards (Stone & Cooper, 2001). Finally, aside from updating or shifting one’s attitude, scholars have argued that dissonance can be reduced through self-affirmation (Steele, 1988), attributing negative arousal to other sources (Zanna & Cooper, 1974), and simply distracting oneself from the dissonance (Cooper et al., 1978).

Self-perception

Another classic reflective account of how attitudes are shaped is self-perception theory (Bem, 1967, 1972). According to self-perception theory, when people are unsure of their attitudes toward something, they engage in attributional reasoning to infer their attitudes based on their observations of, or reflections on, their behavior. In other words, just like someone might make an inference about another person based on that person’s behavior, people make inferences about themselves (e.g., about their attitudes) based on their own behavior. For example, a person might visit a local independent coffee shop for the first time and spend two hours working while enjoying a latte. When they return home and their partner asks how much they liked the coffee shop, the person might reflect on their behavior to infer their attitude. For example, they might think, “I spent two hours there, and I finished my drink down to the last drop... it must have been great!”

Although it has more general relevance to the attitude-derivation process, self-perception theory was originally offered as an alternative explanation for results explained via cognitive dissonance. As an example, consider the free-choice paradigm (Brehm & Cohen, 1962; Festinger, 1964). Recall that in the typical free-choice paradigm, participants are asked to decide between two options. As previously noted, cognitive dissonance theory proposes that people's attitudes become more favorable toward the chosen option and less favorable toward the unchosen option. Cognitive dissonance theory explains this result as an effort to reduce dissonance: If the chosen option was clearly better than the unchosen option, this assuages any concerns about not selecting the unchosen option. In contrast, self-perception theory asserts that dissonance is not required to explain this result. According to self-perception theory, people may simply think back to their decision and infer that because they selected one option over the other, it must have been preferred. Thus, the difference in attitudes following choice is simply a matter of reflecting on the choice and not the result of a need to resolve cognitive inconsistency. Indeed, one difference between the theories is that cognitive dissonance theory suggests the experience of negative arousal (Elliott & Devine, 1994; Zanna & Cooper, 1974), whereas self-perception theory does not.

Bem (1967) reported a series of studies designed to offer evidence for self-perception theory as a viable account of effects previously attributed to cognitive dissonance. In one, Bem presented college students with an adapted version of the free-choice paradigm. In this study, participants watched an 11-year-old child playing with toys before making a choice. The logic was that the college students should have no dissonance around what the child chose—that is, there is no reason the college students would experience inconsistency given that they did not have to make a choice. However, based on self-perception theory, participants may nonetheless use the child's choice as information to infer the child's attitude. Indeed, this is what the study uncovered: Observers inferred that the child liked the chosen toy more than the unchosen toy. This was particularly true when more alternatives were rejected, which could be taken as stronger evidence of the strength of the preferred option. In short, although an effect might appear to stem from cognitive dissonance, it could actually stem from simple attributional processes that have little to do with the experience of cognitive dissonance per se.

Following the original formulation of self-perception theory, other research has demonstrated that people infer their attitudes by reflecting on their behavior in contexts in which the experience of cognitive dissonance might be unlikely. For example, showing people pictures of others and giving them false feedback about their physiological reactions (e.g., elevated heart rate) can lead them to conclude they are more attracted to some of the individuals in the pictures than others (Valins, 1966). This effect is especially likely to emerge under low-relevance conditions when participants are unlikely to be thinking very deeply (Taylor, 1975). Relatedly, people have been shown to conclude that their attitudes toward a given behavior are more favorable when they are induced to perceive that they engage in that behavior more rather than less frequently (Chaiken & Baldwin, 1981). Some research suggests that phenomena previously explained by dissonance and self-perception mechanisms might have additional explanations (e.g., the free-choice paradigm; Chen & Risen, 2010; Silver et al. 2020; cf. Enisman et al., 2021). For example, choice can shape preferences among infants, who presumably would not have the cognitive capacity to experience cognitive dissonance or engage in self-perception (Silver et al., 2020).

Self-perception and cognitive dissonance theories were widely viewed as offering rival accounts of seemingly similar phenomena. As noted previously, a core conceptual difference is that dissonance theory postulated the presence of negative arousal and self-perception theory did not (see Elliott & Devine, 1994; Zanna & Cooper, 1974). Fazio and colleagues (1977) argued that rather than offering

competing accounts, these theories offered complementary accounts of attitude formation under distinct conditions. The question was not whether cognitive dissonance or self-perception explained people's attitudes but *when* each theory was likely to hold. In particular, Fazio et al. proposed that self-perception theory was more likely to apply when people engaged in attitude-congruent behavior, whereas dissonance theory was more likely to operate when people engaged in attitude-discrepant behavior.

Balance

Heider's balance theory (1958) is another cognitive consistency model of attitude change. It proposes that people are motivated to be consistent in their thoughts and that inconsistent cognitions can cause people to reassess and shift their attitudes. In this regard, balance theory has commonalities with cognitive dissonance. Perhaps most emblematic of balance theory is the notion that people think about their attitudes as parts of social systems in which they strive to achieve balance. To illustrate, consider a person (John), another person in the environment (Carol), and a topic or issue (vaccines). According to balance theory, these three entities form a person–other–object triad. The triad is said to be balanced when multiplying the three sides produces a positive value. For example, if John likes Carol (+), John is favorable toward vaccines (+), and Carol is favorable toward vaccines (+), balance is achieved because the product of three positive values is positive. Similarly, if John likes Carol (+), John is negative toward vaccines (-), and Carol is negative toward vaccines (-), multiplying the signs of these values produces a positive outcome. Again, there is balance. However, if John likes Carol (+), John is favorable toward vaccines (+), but Carol is unfavorable toward vaccines (-), the product of these three signs is negative and imbalance is said to be present.

Balance theory was originally proposed to understand attitude change. Specifically, people could achieve balance by changing one or more inconsistent cognitions. To continue with the preceding example, consider the imbalanced situation in which John likes Carol (+), John is favorable toward vaccines (+), but Carol is unfavorable toward vaccines (-). How would John resolve this imbalance? First, according to balance theory, one can change one's attitude toward the attitude object. If John adopts a negative attitude toward vaccines, the imbalance would no longer be present, because now John and Carol would hold the same attitude. Alternatively, if changing one's own attitude toward the object is not feasible, one can change one's attitude toward the other person. In this case, John could adopt a negative attitude toward Carol. The rationale is that there is nothing imbalanced about disagreeing with disliked others. Finally, one can try to achieve balance by persuading the other person. Here, if John can convince Carol to become favorable toward vaccines, balance would be restored.

According to balance theory, people can also take other steps to remedy imbalanced states. In our example, John could lower the importance of an evaluation, thinking something like, "It doesn't matter what Carol thinks about vaccines; it's not important to me." In this regard, balance theory might also have implications for attitude strength. Instead of changing an attitude, people might achieve balance by reducing the importance of that attitude or by lowering their feeling of attitude certainty.

Correction

Reflective factors can also involve correction. Namely, as individuals determine their attitudes, they might be aware of potential biasing influences. As a result, people may attempt to partial out or

correct for these influences, which affects the ultimate attitude they adopt. Imagine that someone named Sam sees an advertisement for a new brand of beer. Sam has never encountered the brand before and has not yet formed an attitude. However, the advertisement shows a beer with a rich golden color and it looks to be a very tasty beverage. In addition, Sam sees an attractive spokesperson describing how great the beer is. Given the information presented, Sam's natural response might be to form a positive attitude toward the advertised beer. However, in thinking about their reaction, Sam might realize that they found the spokesperson attractive and wonder if this biased their attitude. To the extent that Sam views source attractiveness as an improper piece of data to use in forming an attitude, Sam might attempt to correct for potential bias. In other words, Sam might think, "I like that beer, but I wonder if that's just because the spokesperson is attractive. That's not a good reason to buy the beer. Maybe it's not a great beer after all." The result is that Sam's attitude might become less favorable following the correction process, or instead Sam might adjust their attitude certainty downward (e.g., Mello et al., 2020; Tormala et al., 2007).

One early model of correction was the set-reset model (Martin, 1986; Martin & Achee, 1992; see also Schwarz & Bless, 1992a, 1992b). This model was developed to explain assimilation and contrast effects. Assimilation describes a phenomenon whereby one's evaluation of a target stimulus shifts toward one's evaluation of another stimulus in the environment. Contrast describes a phenomenon whereby one's evaluation of a target stimulus shifts away from one's evaluation of another stimulus in the environment. For example, if a target person was judged as more (less) attractive in the presence of another attractive person, this would be an assimilation (contrast) effect. The set-reset model contended that people might often begin with a mixed reaction to a target; for example, because they have positive and negative information about it. "Setting" occurs when the context leads people to add positive or negative information that is assimilated toward the target. That is, when people "set," they assimilate their perception of the target to the context. "Resetting" involves an attempt to partial out the reaction of the target from the reactions to the context. One interesting implication of the set-reset model is that contrast effects were viewed as requiring more effort than assimilation effects; assimilation was thought to happen first, followed by subsequent efforts to engage in correction, which produces contrast (Martin et al., 1990).

An alternative model of correction that has been explored extensively in the domain of attitudes is the Flexible Correction Model (FCM; Petty & Wegener, 1993; Wegener & Petty, 1995, 1997). The FCM holds that people consult their naïve theories about how a variable might bias or affect their judgment and then correct according to these theories (Wegener & Petty, 1997). That is, people use their naïve theories to debias their judgments (see also Wilson & Brekke, 1994). The FCM offers several observations about correction processes. First, individuals must be motivated and able to detect the bias. Second, individuals must be motivated and able to correct for the bias. Third, individuals must apply their naïve theories to correct for the bias. Returning to the example of Sam and the beer ad, Sam's favorable response to the attractive spokesperson might lead Sam to evaluate the beer favorably. To correct for this potential bias, Sam would have to realize that the spokesperson's attractiveness might be a biasing agent (e.g., "I'm attracted to the spokesperson; maybe that is making me like this beer."). Then, Sam would have to decide to attempt to correct for that bias (e.g., "My assessment of the beer shouldn't be affected by my attraction to the spokesperson."). Finally, Sam would need to make an attitude adjustment (e.g., "I'm attracted to the spokesperson, which means I probably like the beer more than I should; I need to adjust my attitude to be less positive.").

An important distinction is that, unlike the set-reset model, the FCM does not view assimilation as a necessary first step, followed by contrast. Whereas the set-reset model proposes that people first

assimilate information toward a context, the FCM posits that, in some cases, people start by contrasting information away from the context. For example, if Sam is naturally skeptical of advertising, they might think that the attractive spokesperson is leading them to judge the beer more negatively; hence, a correction would lead to a more favorable evaluation of the beer (i.e., assimilation). Thus, the default need not be assimilation, and the correction need not result in contrast.

Additional corollaries follow from the general observations of the FCM. To start, being aware of a bias is not in and of itself sufficient to correct for it. People might be aware of bias, but not motivated or able to correct for it. As such, factors that increase people's motivation to correct for bias can affect the enactment of correction processes. In an illustration of one such outcome (Wegener et al., 1998), undergraduates from Ohio State University evaluated a job candidate. In an unambiguous display of bias, these undergraduates showed more negative attitudes when the candidate was a graduate of a rival university (University of Michigan) as opposed to their university. However, alerting participants to correct for the potential influence of university affiliation eliminated the bias. That is, making participants aware of the potential for bias led them to correct for it. As noted, though, people have to be motivated to correct for bias for the correction process to unfold. In a supplementary analysis, Wegener et al. (1998) reported that following their football team's crushing loss to the University of Michigan, Ohio State undergraduates ignored instructions to correct for bias, continued to evaluate the University of Michigan candidate negatively, and reported that they made no effort to correct for their personal feelings about someone from the University of Michigan.

Biological Factors

In addition to associative and reflective factors, research suggests that biological factors can predispose people to adopt some attitudes rather than others. Tesser (1993) highlighted several characteristics believed to be genetically influenced that could reasonably affect the attitudes people form. For example, differences in sensory structures, such as one's taste buds, could affect one's enjoyment of sweet foods and, thus, shape one's attitude toward those foods. Indeed, in everyday vernacular, people sometimes talk about having a "sweet tooth," suggesting that they might have a predisposition to form favorable attitudes toward foods that are sweet. As an extreme example, someone unable to detect taste (ageusia) might be less inclined to enjoy food and, thus, form less favorable attitudes toward most foods.

To study the heritability of attitudes, one approach taken by researchers has been to compare the attitudes between monozygotic (identical) twins and same-sex dizygotic (fraternal) twins (see Eaves et al., 1989; Martin et al., 1986). The core premise is that because both identical and fraternal twins grow up in similar households, they have similar environmental influences. Consequently, if correlations are stronger among identical twins for a given attitude, this would suggest that that attitude is influenced by genetic factors because identical twins are genetically more alike than fraternal twins. As an illustration, Olson and colleagues (2001) measured attitudes for identical and fraternal twins across 30 topics that ranged from doing crosswords to the death penalty as punishment for murder. They found that for 26 of the 30 attitudes assessed, attitude correlations were stronger for identical rather than fraternal twins. In other words, for a majority of the issues assessed, there was evidence for a genetic or heritable component of attitudes (see also Arvey et al., 1989; Staw & Ross, 1985).

In addition to shaping the attitudes people form, genetic factors have been implicated in the development of moral conviction and attitude strength. Specifically, the higher the heritability estimate for a given attitude, the more morally grounded people tend to perceive that attitude to be (Brandt & Wetherell, 2012). Likewise, the more heritable the attitude, the stronger (e.g., more resistant to change) that attitude appears to be (Tesser, 1993). Consistent with the notion that genetic factors might play a role in the development of strong attitudes, genetic effects on attitudes can be quite stable, persisting through childhood and into adulthood (Willoughby et al., 2021).

Formal Models Of Persuasion

Beyond studying the associative, reflective, and biological factors involved in shaping attitudes, researchers have aimed to develop formal models to understand persuasion. By persuasion, we mean the act or process of shaping a person's attitude using a message, communication, or some other information. In this section, we describe models specifically designed to understand persuasion. Prior editions of *The Handbook of Social Psychology* have dedicated entire chapters to reviewing the vast literature on attitude change and persuasion (e.g., Petty & Wegener, 1998). Reviewing that entire literature is beyond the scope of this chapter. Our focus is on prominent theories that highlight distinct psychological processes to give readers a sense of the historical landscape and dominant perspectives in this domain.

Message Learning Approach

Perhaps the most influential perspective in early persuasion research was that of Hovland and colleagues (1953). This perspective, which has been referred to as both the message-learning approach and the Yale Model of Persuasive Communication, was born out of Hovland and colleagues' study of persuasive messaging during World War II. They proposed that understanding persuasion involved understanding "who says what to whom." This phrase was thought to capture three critical aspects of persuasion: the message source (who), the message (what), and the audience (whom). Indeed, these fundamental variables have a rich history dating back to at least Aristotle, who recognized that persuasion involved establishing one's credibility, using logical argumentation, and arousing emotions within the audience. Hovland et al. also argued that the channel (i.e., the medium through which the message was delivered) played an important role (see also Lasswell, 1948).

In one study, Hovland and Weiss (1951) presented participants with a series of persuasive messages on different topics from different sources. In one case, participants received a message about atomic submarines. Participants were told the message reflected the views of theoretical physicist Robert Oppenheimer (high credibility for the audience) or *Pravda*, the official newspaper of the communist party (low credibility for the audience). Although the message content was similar, this sample of participants viewed the source as more trustworthy and were more persuaded by the message when it came from Oppenheimer as opposed to *Pravda*. Importantly, though, four weeks after the initial experiment, participants' attitudes were reassessed. Two interesting results were observed. First, the credibility of the source no longer had an effect; that is, people held similar views regardless of whether the initial source had been high or low in credibility. This finding demonstrates that learning of the message had a potent effect on persuasion that was distinct from the source effect. Second, participants who had initially been exposed to a low credibility source showed greater attitude change four weeks later, which sparked interest in a line of research on the

sleeper effect (see Pratkanis et al., 1988), which referred to the idea that initially discounted messages sometimes became more persuasive over time as recipients forgot who the source was but retained the message arguments.

In addition to identifying variables thought to be central to persuasion, the Yale model proposed a series of stages required for successful persuasion. Specifically, the original model suggested that the persuasion process involved five steps: exposure, attention, comprehension, yielding, and retention. The idea was that people had to be exposed to a message (exposure), actively engage with and process the content of the message (attention), understand what was being presented (comprehension), ultimately succumb to the content of the message (yielding), and later remember the message (retention). Source, message, and audience factors could be used to identify barriers to persuasion and facilitate progress through each of these stages. For example, perhaps someone has a compelling message, but the source delivering the message speaks in a manner (e.g., too fast or too quiet) that is not easy to comprehend. The Yale model suggested that a different source who can present the same information in a more comprehensible fashion will be more persuasive. Alternatively, the audience might comprehend the message but fail to yield to it because the arguments are not persuasive. In this case, rather than change the source, one would need to change the information presented in the message—such as adding stronger arguments—so that people are more likely to yield. Or perhaps an audience does not attend to or listen to the message because they are distracted by other information in their environment. Here, rather than adjust the source or the message, the persuader would benefit by taking steps to grab and hold the audience's attention. Thus, source, message, and audience factors can be coupled with the stages outlined in the Yale model to identify where persuasion efforts break down and how they might be remedied.

The message-learning approach had a notable impact on early attitudes research. For one thing, it highlighted the role of memory (retention) in attitude formation and change. Although subsequent research emphasized a cognitive response approach to persuasion—understanding people's idiosyncratic thoughts and reactions to persuasive messages rather than the learning of those messages (e.g., Greenwald, 1968; Petty et al., 1981)—research has continued to explore the role of memory in evaluative processes. For example, researchers have explored the implications of engaging in online versus memory-based evaluation for both attitudes and attitude strength. This research has revealed that people's attitudes are less memory dependent; more accessible, extreme, and certain; and more predictive of behavior when they evaluate information in an active online fashion as they receive it rather than simply storing information and retrieving it later when an attitude is needed (Bizer et al., 2006; Hastie & Park, 1986; Tormala & Petty, 2001).

Also important, McGuire (1968) later simplified the Yale model to focus on the concepts of reception and yielding, which led to an early “multi-process” theory of persuasion. As an example, McGuire explored the curvilinear relationship between intelligence and persuasion. Specifically, McGuire observed that attitude change in response to a persuasive message was highest among those with moderate intelligence and reduced for those with either lower or higher intelligence. One explanation for this result was that as intelligence increased people were better able to comprehend the message, which enhanced reception, but also better able to counterargue the message, which reduced yielding. Thus, the theory was that maximum persuasion was obtained at a level of intelligence that facilitated comprehension but did not undermine yielding (see also Rhodes & Wood, 1992). This insight offered an early multi-process model that showcased how a single variable (intelligence) could affect persuasion through more than one psychological mechanism. Put differently, attitude change could not be explained merely by attending to a single process (i.e., either comprehension or yielding) but required an understanding of multiple processes (see Rucker

& Petty, 2025). As we will discuss, multi-process accounts have become fundamental to contemporary models of persuasion.

Social Judgment Theory

Another early theory of attitude change was Social Judgment Theory (SJT; Hovland & Sherif, 1980; Sherif & Hovland, 1961). According to SJT, people differ in their perceptions of what positions are acceptable or unacceptable on a given topic, and these perceptions are neither constant across people nor constrained by valence. For example, two people could report moderately favorable attitudes toward the same political candidate but differ in the range of views they find acceptable around that attitude. Perhaps one individual finds it acceptable to be anywhere from neutral to extremely positive toward the candidate, whereas the other believes the only acceptable position is moderately positive and rejects negative, neutral, and extremely positive views. In the parlance of SJT, these different zones reflect people's latitudes of acceptance, rejection, and noncommitment. These latitudes exist along a continuum. The latitude of acceptance refers to the range of attitudes that a person considers acceptable. The latitude of rejection consists of the positions an individual finds unacceptable or objectionable. Between the latitudes of acceptance and rejection is the latitude of noncommitment, a range of viewpoints to which an individual expresses indifference.

SJT aimed to explain attitude change as a function of assimilation and contrast based on people's attitudes and their latitudes of acceptance, rejection, and noncommitment. The theory was that when people are exposed to a persuasion attempt, their response to it varies based on their current attitudes and where the message falls within their latitudes. When a message falls within someone's latitude of rejection, it is viewed as unacceptable and produces a contrast effect whereby people view it as being even further away from their attitude than it is. Alternatively, when a message falls within someone's latitude of acceptance, it is viewed as acceptable and can lead to an assimilation effect whereby people view it as closer to their attitude than it is. SJT also suggested that variables could affect the width of people's latitudes. Consider ego-involvement. SJT suggested that the more a person's ego was involved with the attitude object—that is, the more central their attitude was to their self-concept—the smaller their latitude of acceptance and the larger their latitude of rejection.

SJT has received both support and challenges over the years. Indeed, although some evidence appeared supportive of SJT's predictions (Shaw & Constanzo, 1970), there may have been confounds and presentation effects that give reason to question the findings (Zimbardo & Ebbesen, 1970). Moreover, some of the central predictions of SJT were not borne out as research on SJT progressed (Granberg, 1982). For example, SJT proposed a main effect of involvement, such that the more involved a person was the less persuaded they would be by a discrepant message. Yet, research has shown that in some cases people who are highly involved exhibit *more* attitude change than their uninvolved counterparts. Indeed, the more involved people are, the more deeply they tend to process persuasive messages. If those messages contain strong arguments, the result can be increased persuasion (e.g., Petty & Cacioppo, 1979).

SJT is a classic model of persuasion that has continued to generate research in the years since its inception (e.g., Matthews, 2019; Siero & Doosje, 1993; Smith et al., 2006). However, its prominence appears to have waned in mainstream social psychology, possibly due to the development of more complex and multi-process models of persuasion, to which we turn next.

Elaboration Likelihood Model

From the 1950s to the 1970s, the persuasion literature grew rapidly. Yet, as it grew, complications arose. In particular, while research on source, message, and audience factors had flourished, so too had seemingly contradictory findings. As one example, take the simple hypothesis that experts are more persuasive than nonexperts. While it seems intuitive that an expert would be more persuasive than a nonexpert, independent research streams found mixed evidence. Sometimes experts were more persuasive than nonexperts (Kelman & Hovland, 1953), sometimes there was no difference between experts and nonexperts (Rhine & Severance, 1970), and sometimes nonexperts were more persuasive than experts (Sternthal et al., 1978; see also Tormala et al., 2006). If persuasion researchers could not reliably determine the effect of a variable such as source expertise, of what value was persuasion research?

In the 1980s, two different teams proposed multi-process models that integrated and reconciled the diverse findings in the persuasion literature. These models were known as the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (HSM; Chaiken et al., 1989). The ELM and HSM had differences, but they emerged around the same time and had much in common as well (see Petty & Wegener, 1998, 1999; Chaiken & Chen, 1999). Here, we focus on the ELM as it proved more generative for research on attitudes and persuasion. Although a detailed review of the ELM is beyond the scope of this chapter, it is important to discuss some of the model's core tenets as this is arguably the most influential model of persuasion ever published.

First, the ELM recognizes the importance of people's cognitive responses. That is, persuasion depends not only on the information contained in a message but also on the thoughts people generate in response to that information. Indeed, a core tenet of the ELM is that people's motivation and ability to think about a persuasive message affects how persuasion operates. Second, the ELM is a multi-process theory of persuasion. It recognizes that any given variable can influence persuasion through several distinct processes. Thus, whereas much previous research on persuasion focused on different single process accounts (see also the unimodel; Kruglanski & Thompson, 1999), the ELM incorporates multiple psychological mechanisms (Petty, 1997; Rucker & Petty, 2025). This aspect of the model is crucial to reconciling the contradictory findings from prior persuasion research. A given variable might have a positive effect, no effect, or even a negative effect depending on the mechanism at play.

A central feature of the ELM is the *elaboration continuum*. Elaboration refers to the extent of thinking one engages in—that is, how deeply one processes information in a persuasive message. The idea is that people vary in how much thought they give to a message or topic and that different processes operate at different points along this continuum. Specifically, when people lack the motivation or ability to process information carefully, variables affect persuasion by serving as simple cues. When people are highly motivated to process information carefully, variables are more likely to be evaluated with respect to whether they are strong or weak arguments. In addition, under high elaboration conditions, variables can also bias processing or validate people's thoughts. When elaboration likelihood is more moderate at baseline (i.e., neither high nor low), variables can affect elaboration and increase or decrease how deeply people think. In delineating these different mechanisms at different points on the elaboration continuum, the ELM offers a theoretical architecture that outlines when a variable affects persuasion through a given process (for detailed discussion, see Petty & Briñol, 2012; Petty & Wegener, 1999).

To elaborate, the core idea in the ELM is that any given persuasion variable—such as source expertise, mood, or argument quantity—can influence persuasion through multiple processes and thus have different effects in different circumstances. For instance, when the source of a persuasive message is an expert, that expertise can be treated as a persuasive cue, serve as an argument, influence the amount of processing in which one engages, bias the direction of the processing, or validate one's thoughts. When a variable operates as a cue, it offers a simple decision rule that affects persuasion through the application of a heuristic. For example, as noted earlier, one heuristic might be that "experts are usually correct." A recipient who applies this heuristic might think, "The source is an expert, so I should go along with what they say," which offers a simple cue to persuasion that does not require extensive thinking (Chaiken, 1980; Petty et al., 1981).

When a variable operates as an *argument*, it is evaluated with respect to its logical support; it is assessed with regard to its relevance to the central merits of the object or issue under consideration. Here, the source's expertise might be evaluated for its relevance to the issue at hand. If the topic requires an expert's assessment (e.g., it is highly technical), the source's expertise might seem relevant and be treated as a strong argument. If the topic does not require an expert's assessment (e.g., it is more lowbrow), the source's expertise might seem less relevant and be perceived as a weaker argument. In general, when people are attuned to argument quality, they are more persuaded by strong arguments than they are by weak ones.

As a demonstration of how people can shift the weight they place on cues versus argument quality when they receive persuasive messages, consider a classic experiment on argument quality versus quantity (Petty & Cacioppo, 1984). In this experiment, undergraduate research participants read a message promoting a new policy at their university. However, this message was varied in three ways. First, to manipulate argument quantity, it contained either three or nine arguments. Second, to manipulate argument quality, those arguments were either all strong (i.e., cogent) or all weak (i.e., specious). Third, to manipulate involvement (and thus elaboration), the message pertained to a policy that would go into effect the following year (and thus directly affect the audience; high involvement) or in ten years (and thus have little bearing on the audience; low involvement). Results indicated that when involvement was high, participants were more persuaded by strong as opposed to weak arguments. In contrast, when involvement was low, participants were more persuaded by nine arguments than by three arguments, regardless of how strong they were. In other words, participants were more sensitive to argument quality under high elaboration conditions, and more sensitive to argument quantity under low elaboration conditions.

As noted, aside from cues and arguments, persuasion variables can also affect people's attitudes through other mechanisms. First, they can affect the *amount of processing* in which people engage. That is, a variable might cause people to think more or less deeply about the message or issue at hand. People might think more deeply about a message from an expert than a novice, for instance, if they believe that information from a knowledgeable merits processing (Heesacker et al., 1983). Persuasion variables can also *bias processing*, meaning they cause people to process information in a way that is skewed or slanted. For example, people might generate more positive thoughts when processing an expert's message and more negative thoughts when processing a nonexpert's message (Chaiken & Maheswaran, 1994). Finally, persuasion variables can *validate or invalidate people's thoughts*, leading them to be more or less reliant on their own thoughts in forming their attitudes. For example, a person might view the information in a message as more accurate when it comes from an expert rather than a nonexpert, and thus view their thoughts based on that information as more valid in the former case compared to the latter. As a result, source expertise can increase or

decrease persuasion, depending on the underlying thoughts people generate in response to a message (Briñol et al., 2004; Tormala, et al., 2006).

The ELM explains the general conditions under which variables are likely to serve in each of these roles. Importantly, it also postulates that attitudes can differ in their strength depending on whether they are formed through high or low elaboration mechanisms. In particular, attitudes formed through high-elaboration processes (more thought) tend to be stronger than attitudes formed through low-elaboration processes (less thought; Petty et al., 1995; see also Barden & Tormala, 2014). Thus, as described earlier in our discussion of attitude strength, attitudes formed under high-elaboration conditions are often more likely to influence behavior, persist over time, and resist influence attempts. This is not to say that strong attitudes can only be shaped via high elaboration (see Kwon & Nayakankuppam, 2015; Powell & Fazio, 1984). Rather, all else equal, higher elaboration tends to translate into greater attitude strength.

Self-Validation Theory

Originally formulated as the self-validation hypothesis (Petty et al., 2002), self-validation theory (Briñol & Petty, 2022) offers a metacognitive perspective on persuasion. While the ELM and early cognitive response models recognized that people's idiosyncratic thoughts were important for persuasion (Petty & Cacioppo, 1986; Petty et al., 1976), self-validation theory layers the concept of thought confidence on top of this idea. In other words, the theory suggests that persuasion depends not only on the amount and valence of people's thoughts about a persuasive message or attitude object, but also on the confidence with which people hold those thoughts. As such, a given variable might increase or decrease persuasion by affecting the confidence people have in their thoughts. If people have primarily positive thoughts about a message, increasing their thought confidence would likely increase persuasion. If people have primarily negative thoughts, increasing their thought confidence would likely decrease persuasion. In highlighting the role of thought confidence in persuasion, self-validation theory has similarities to research on attitude certainty. The primary difference is the construct to which the certainty or confidence is attached. In the case of attitude certainty, the certainty is attached to the attitude itself; in the case of thought confidence, the certainty is attached to the thought.^[3]

In their seminal studies on self-validation processes, Petty and colleagues (2002) had undergraduate research participants read a message for a new policy at their university and then list their thoughts about the policy. The message contained strong or weak arguments in support of the policy (Petty & Cacioppo, 1986) to nudge their thoughts in a more positive or negative direction. After participants had listed their thoughts about the policy, they were asked to recall an experience in which they felt confident or doubtful. Subsequently, participants provided their attitudes toward the policy. Petty and colleagues found that when participants' thoughts were largely favorable (i.e., arguments were strong), they had more positive attitudes when they reflected on an experience of confidence (versus doubt). In contrast, when participants' thoughts were largely unfavorable (i.e., arguments were weak), they had more negative attitudes when they reflected on an experience of confidence (versus doubt). In essence, participants misattributed the confidence or doubt they felt from the memory exercise to their thoughts about the university policy. This confidence or doubt served to validate or invalidate their thoughts, which in turn affected their attitudes.

The idea of self-validation has been applied to a wide variety of variables. For example, people's thoughts can be validated by their emotions (Briñol et al., 2007), the credibility of the source (Briñol

et al., 2004), and their sense of power (Briñol et al., 2007), among other variables (for a review see Briñol & Petty, 2022). In one study, Briñol and colleagues (2007) imbued participants with a sense of high or low power after having them list their thoughts in response to a persuasive message. The researchers found that participants imbued with a sense of power felt more confident about their thoughts and, thus, had more favorable attitudes when their thoughts were favorable (i.e., following exposure to strong arguments) compared to when their thoughts were unfavorable (i.e., following exposure to weak arguments). In another line of studies, Briñol and colleagues (2007) presented participants with a persuasive message, had them list their thoughts, and then induced them to feel happy or sad. They found that participants felt more confident about their thoughts when they felt happy rather than sad and had more thought-consistent attitudes in the happy rather than sad condition. Again, these validation effects do not necessarily translate into more persuasion; rather, they foster greater reliance on one's thoughts in determining one's attitude. Thus, imbuing people with a sense of power or inducing them to feel happy can produce more favorable or unfavorable attitudes depending on the valence of the thoughts that come to mind.

NEW THEMES IN ATTITUDES RESEARCH

As we have reviewed, an enormous body of research has been devoted to understanding attitudes. This research has expanded our understanding of numerous facets of attitudes including attitude function, attitude structure, attitude strength, and the factors that shape attitudes and guide persuasion. Researchers have grappled with these topics for decades, and most of them remain vibrant areas of study today. It is noteworthy, however, that the past decade of attitudes research has also witnessed exciting developments in novel domains. In particular, two major themes have emerged: (1) Researchers have grown increasingly interested in discovering what makes people feel receptive to divergent viewpoints and opposing perspectives. (2) Researchers have dedicated growing attention to understanding attitudinal advocacy. These topics have both theoretical and practical import, and we review advances in these areas next.

Attitudinal Receptiveness

An important part of understanding the factors that shape attitudes is understanding what opens people up to forming a new attitude or changing an existing one. The persuasion literature has offered numerous theories to explain this process and has deepened our insight into how people are persuaded, how they correct for their own biases, and how their attitudes following a persuasion attempt might become stronger or weaker. Nevertheless, there remains ample opportunity to build our knowledge of the processes that shape attitudes. We propose that one important element in these processes involves whether people are open to receiving and considering attitude-relevant information in the first place.

The idea that people must be open to information to be influenced by it can be traced back to classic attitudes research and to stages-of-change models in clinical psychology (e.g., Norcross et al., 2011). Consider the contact hypothesis, originally proposed by Allport (1954). Allport hypothesized that friction and prejudice between groups could be reduced by bringing those groups into direct contact with one another. Allport outlined conditions that would increase the effectiveness of intergroup contact. Central to his theorizing was the idea that bringing people together could open them up to one another, make them more open or receptive to different views, and ultimately

soften intergroup tension. Over the many years since the contact hypothesis was originally proposed, it has received a great deal of attention and considerable, though not unqualified, support (e.g., Broockman & Kalla, 2016; Pettigrew & Tropp, 2006; Zhou et al., 2019).

One challenge to the notion of mere contact as a recipe for openness is that people can be remarkably unreceptive to opposing views or divergent perspectives. First, left to their own devices, people seem to go out of their way to avoid counterattitudinal information. Indeed, a wealth of research on selective exposure suggests that people generally prefer to receive and seek out information that is congruent rather than incongruent with their existing attitudes (Frey, 1986; Smith et al., 2008), especially when those attitudes are strongly held (Brannon et al., 2007; cf. Sawicki et al., 2011). When people do encounter counterattitudinal information, they often process it with such bias that their existing views intensify rather than soften (see Ditto et al., 2019). For example, when people receive mixed evidence on a topic (e.g., evidence supporting and opposing capital punishment), they tend to see the attitude-consistent evidence as convincing and the attitude-inconsistent evidence as more specious. Ironically, this can cause people to polarize, or become even more extreme in the direction they were already leaning (Lord et al., 1979). As noted earlier, this biased assimilation of attitude-relevant information is especially likely to occur when people's initial attitudes are strong (Pomerantz et al., 1995; see also DeBono et al., 1995).

The idea that readiness to receive and digest new information is critical to persuasion was also central in early research on resistance. Classic studies on reactance and forewarning effects revealed that resistance is often fostered by the mere fact that people perceive persuasive intent on behalf of a communicator. *Reactance* (Brehm, 1966) refers to the notion that people are often motivated to resist others' input when they perceive that input as a threat to their personal freedom. Stated differently, reactance reduces receptiveness to incoming information if that information is construed as an imposition on one's independent thinking. Brehm's original studies on this topic (e.g., Brehm & Sensenig, 1966) showed that instructing people to choose one item or task over another sometimes backfired and reduced the likelihood that people would choose it, even if there was nothing inherently threatening about the information itself. Similarly, forewarning research revealed that when people are warned of an incoming persuasive message, they can feel reactant and resist the message as a means of establishing their personal freedom (Hass & Grady, 1975). This effect is especially likely when the topic is highly involving (Petty & Cacioppo, 1977). A pair of meta-analyses (Wood & Quinn, 2003) suggested that when people are forewarned about an impending message on a highly involving topic (i.e., an issue about which they care deeply), they adopt a defensive posture and become less open to the incoming information. However, when people are forewarned of a persuasive attempt on a less involving topic, they open up and become more receptive. In this case, people might have impression management motives that lead them to moderate their views and adopt a more agreeable stance.

Extending these insights to attitude formation and change more broadly, we propose that before an attempt is made to shape an attitude, an important first step can be to foster a feeling of attitudinal receptiveness so that people are open to receiving new information and considering an alternative (e.g., opposing) perspective. We define *receptiveness* as a person's willingness to access and consider new information and/or opposing perspectives in an open, unbiased manner. Research has shown a spike in interest in receptiveness (see Hussein & Tormala, 2021; Minson & Chen, 2022; Ottati & Stern, 2023), which we believe represents an exciting area in contemporary attitudes research. To be clear, we do not equate receptiveness with persuasion. Rather, we view receptiveness as a state that increases people's willingness to listen, discuss, or think about a new point of view. In other words, being receptive does not guarantee that someone will adopt the desired attitude, but it might act as

an important step in getting them to consider it. Here, we discuss some of the known antecedents to receptiveness—organized around audience, source, and message factors—with the aim of stimulating further research in this domain.

Audience Factors

First, several streams of research suggest that audience factors can affect whether people are more or less receptive to new or counterattitudinal information. For example, people who believe they can defend their attitudes (i.e., people who are high in defensive confidence) are more open to receiving counterattitudinal information (Albarracín & Mitchell, 2004). In essence, people who believe opposing arguments will not affect them tend to be more likely to approach those arguments. Ironically, when the confronted information is compelling, these individuals exhibit more attitude change. In other words, people high in defensive confidence believe they are more immune to persuasion, which leads them to engage with opposing views that may ultimately change their attitudes. Although defensive confidence is not equivalent to receptiveness as we define it, there is overlap that creates a willingness to access and consider opposing perspectives, which translates into attitude change.

Receptiveness also has been explored through an individual difference lens. This research suggests that people who are higher in their general receptiveness to opposing views are more likely to listen to information from opposing political parties and evaluate pro- and counterattitudinal arguments more impartially (Minson et al., 2020). Similarly, people high in intellectual humility, defined as being willing to acknowledge that their views might be wrong, are more open to disagreeing others, less certain and dogmatic, and more willing to consider the arguments in a persuasive message (Leary et al., 2017). Finally, individual differences in open-minded cognition, defined as a cognitive style that captures a person's willingness to consider different perspectives even if those perspectives contradict one's own, predict a variety of other individual differences, including openness to experience, tolerance for ambiguity, and personal views of outgroup members (Price et al., 2015).

Individual differences in attitude stability exist as well, such that some people's attitudes appear to be more flexible over time than other people's attitudes (Xu et al., 2020). Individual differences in attitude stability have not been couched in terms of attitudinal receptiveness, but the findings are consistent with the notion that some people might generally be more receptive to new and potentially opposing information than others, which allows their attitudes to shift more over time. This research follows previous approaches focused on understanding individual differences in dogmatism (Rokeach, 1966), authoritarianism (Altemeyer & Altemeyer, 1996), and the specific tendencies to bolster one's attitude or counterargue opposing information when one receives persuasive messages (Briñol et al., 2004).

Receptiveness can also be affected by the perspective one adopts in a particular situation. In one study (Catapano et al., 2019), participants were tasked with generating arguments in favor of a counterattitudinal position, after which they reported their receptiveness and attitudes toward that position. Consistent with prior research on self-persuasion (e.g., Janis & King, 1954), generating their own arguments in favor of a counterattitudinal position caused participants to feel more open and receptive to that position. Ironically, though, when participants attempted to take the perspective of someone who actually endorsed that counterattitudinal position, counterattitudinal argument generation backfired and caused them to feel *less* receptive to it. Taking the perspective of someone on the other side of an issue led people to generate arguments that were incongruent with

their own values, which reduced their receptiveness to the opposing position and lowered their willingness to engage with someone who endorsed it.

Other situational factors that can affect the audience include self-affirmation, emotional ambivalence, and mindfulness. In the self-affirmation literature, it has been shown that giving people an opportunity to affirm their self-worth or personal integrity can reduce defensiveness and cause them to process threatening information in a more open-minded manner (see Sherman & Cohen, 2002). Research on emotional ambivalence suggests that people are more open to alternative perspectives when they feel conflicting emotions such as happiness and sadness at the same time (Rees et al., 2013). Thus, consistent with the finding that trait ambivalence reduces attributional biases (Schneider et al., 2021), inducing emotional ambivalence can open the audience to divergent informational inputs. Finally, research suggests that brief mindfulness interventions, representative of those used in meditation practice, can increase feelings of openness and enhance people's evaluations of charities for counterattitudinal political causes (Errmann et al., 2022).

Source Factors

Separate from audience factors, receptiveness can be influenced by people's perceptions of the source of a position or perspective. Generally speaking, the more receptive people believe the source is, the more receptive they are in turn. What determines how receptive the source seems? Some research points to perceptions of the source's attitude as key. For instance, people with counterattitudinal views are perceived to be less receptive to one's position than people with proattitudinal views, especially when those counterattitudinal views are extreme (Bechler et al., 2020; see also Bechler & Tormala, 2021). Beyond attitude position and extremity, people's perceptions of others' attitude bases can play a role (Teeny & Petty, 2022). Specifically, people believe that individuals with attitudes based more on affect than cognition are less open—that is, less likely to listen to an opposing point of view—than individuals with attitudes based more on cognition than affect. This perception, in turn, reduces receptiveness in the form of perceivers' willingness to engage with the individuals in question. Consistent with these findings, the perception that others' attitudes are immutable has been shown to reduce people's likelihood of engaging with them (Akhtar & Wheeler, 2016).

The source's actions also matter. People who ask others about their views, for instance, are seen as more receptive than people who simply state their own views. In a representative study (Chen et al., 2010), participants interacted with an individual who held an opposing view on a social issue. The individual with the opposing view either did or did not ask an "elaboration question" requesting more information from participants about their views. Results indicated that being asked a question about their view increased people's receptiveness and willingness to interact with the question asker (relative to a control condition in which no questions were asked). Moreover, the act of asking disagreeing others about their views led question askers to hold more favorable attitudes toward conversation partners, to feel more receptive to what their partners had to say, and to show increased openness to further conversation. Thus, both asking and being asked elaboration questions can increase receptiveness to opposing views and individuals. Relatedly, discovering that disagreeing others are generally interested in learning about opposing views can increase people's feelings of openness and reduce conversational conflict (Collins et al., 2022), and engaging in high-quality listening can reduce defensiveness and increase receptiveness (Itzchakov et al., 2024; Weinstein et al., 2022).

More broadly, there is growing evidence for the notion that receptiveness begets receptiveness. In other words, when people perceive receptiveness in others, they feel more receptive themselves. What is more, this phenomenon can facilitate persuasion. That is, actions that signal a source's openness to new information or opposing points of view—termed *acts of receptiveness*—can increase recipients' receptiveness and promote persuasion under specifiable conditions (Hussein & Tormala, 2021). In essence, people like and trust others who display receptiveness (see also Heltzel & Laurin, 2021; Itzchakov & Reis, 2021; for an exception, see Hussein & Wheeler, 2024) and are more willing to engage with them and their messages.

Message Factors

Building on the concept of acts of receptiveness, aspects of the message itself can trigger receptiveness. In short, people are more receptive to messages that seem receptive. One investigation revealed that hedging, acknowledging others, and expressing agreement and positive emotion can make a message seem more receptive to others, which in turn causes people to perceive that message more favorably (Yeomans et al., 2020). Relatedly, people perceive greater receptiveness in messages that express uncertainty, acknowledge mistakes, highlight drawbacks to the proposed position, and ask questions that invite audience input (Hussein & Tormala, 2021). Based on a review of wide-ranging persuasion studies, Hussein and Tormala (2021) theorized that this perception of receptiveness is a crucial driver of the facilitative effects of those actions on persuasion.

Even the pronouns people insert into their messages to others can affect how receptive they seem. In particular, in adversarial contexts—for example, when someone expresses criticism or a counterattitudinal sentiment—using the word “you” (e.g., “you’re getting this wrong”) can seem more aggressive than using the word “we” (e.g., “we’re getting this wrong”), which makes recipients of “you” messages feel less receptive than recipients of “we” messages. In research exploring these effects (Hussein & Tormala, 2024), people were found to be less persuaded by a counterattitudinal message, less interested in having a conversation with someone who expressed disagreement, less likely to share a disagreeing message with others, and more likely to censor, or block, a disagreeing message if that message said “you” rather than “we.” It appears that because the word “you” seems accusatory and aggressive in a counterattitudinal message context, it lowers receptiveness. “We,” by contrast, feels more inclusive and increases receptiveness.

Interactive Effects

Ultimately, source, message, and audience factors likely interact to shape attitudinal receptiveness. Consider the effect of one- versus two-sided messages on people's openness to contrary positions. Whereas one-sided messages present just one side of an issue, two-sided messages acknowledge both sides and may even affirm or validate the opposing position (affirmation is known to increase people's receptiveness to threatening information; Sherman & Cohen, 2002). In a line of research testing the effects of these messages on receptiveness, participants were presented with one- or two-sided messages on different topics and then reported their openness to those messages and the positions they espoused. These studies revealed that two-sided messages increased recipients' openness to opposing positions, but only when recipients' attitudes had a strong moral basis (Xu & Petty, 2022) or were otherwise deeply entrenched (Xu & Petty, 2024). Thus, under some conditions, two-sided communications are more likely to encourage people to be open to opposing viewpoints. Going forward, diving deeper into the interactive effects of source, message, and audience on

attitudinal receptiveness will enrich our insight into this construct and have important implications for our understanding of how to navigate political divisiveness and reduce attitude conflict.

Attitudinal Advocacy

Over the past decade, persuasion researchers have also grown increasingly interested in understanding attitudinal advocacy (see Hussein & Tormala, 2023; Tormala & Rucker, 2022). Attitudinal advocacy refers to the expression of support for or opposition to something. For example, in a political context, a person might make a statement or write a message conveying support for a new policy or political candidate. In a consumer context, someone might write a negative review of a new restaurant or product. In a workplace context, someone might speak up at a team meeting to voice their approval or disapproval of a new hire. What causes people to advocate on behalf of their attitudes? How do people advocate when given the opportunity? What are the effects, or downstream consequences, of advocating? In this section, we review some of the key answers to these questions to help shed light on the causes, content, and consequences of advocating.

Causes: What Drives People To Advocate?

First, growing research has explored the antecedents of attitudinal advocacy. In fact, advocacy research has focused largely on this question and has made significant headway in identifying the factors that stimulate people to advocate. Indeed, although some have argued that people inherently enjoy expressing their likes and dislikes (He et al., 2021), researchers have documented individual differences (Xu et al., 2021) and numerous situational factors that can raise or lower advocacy intentions. Here, we highlight some of the central insights that can be gleaned from prior work.

Certainty

One determinant of a person's likelihood of advocating is the degree of certainty they feel about their attitudes toward a particular topic. In general, the more certain people are of their attitudes, the more they engage in a wide variety of advocacy-relevant behaviors (Tormala & Rucker, 2018). For example, as attitude certainty rises, people become more likely to express their views and try to persuade others (Akhtar et al., 2013; Akhtar & Wheeler, 2016; Cheatham & Tormala, 2015); donate money or attend meetings to advance their views (Visser et al., 2003); vote and sign petitions (Barden & Petty, 2008); make phone calls and write letters to promote policies they support (Tormala & Petty, 2004); and wear pins, canvass neighborhoods, and post on social media (Philipp-Muller et al., 2020). Research investigating the messages people write to disagreeing others suggests that people write longer and more forceful messages when they feel certain rather than uncertain (Cheatham & Tormala, 2017). In short, the more certain people are of their attitudes, the more confident they are speaking up for those attitudes and the more they have to say.

Relatedly, psychological states associated with certainty have been shown to foster attitudinal advocacy. One such state is moral conviction. As moral conviction rises, people become more likely to vote (Skitka & Bauman, 2008); more willing to sign petitions, contact politicians, and make phone calls to promote their perspective (Skitka et al., 2017); and more interested in posting attitude-relevant information on social media (Philipp-Muller et al., 2020). Emotions associated with

certainty have been shown to stimulate advocacy as well. For example, the more anger (a high-certainty emotion; Tiedens & Linton, 2001; see also Stavraki et al., 2021) and moral outrage people feel, the more willing they are to engage in advocacy behaviors such as signing petitions and attending protests (e.g., Leach et al., 2006; Lodewijkx et al., 2008; van Zomeren et al., 2011). As a final example, feelings of power—which, as noted, have been shown to increase certainty (e.g., Briñol et al., 2007)—can boost people’s willingness to express their opinions (Anderson & Berdahl, 2002).

Some research has dug deeper to obtain a better mapping of the certainty–advocacy relationship. This research has revealed that the effect of attitude certainty on advocacy intentions depends on whether certainty is conceptualized in terms of attitude clarity or attitude correctness (Petrocelli et al., 2007) and whether one’s motive for advocating is to persuade others or simply share one’s view. Across multiple issues (e.g., gun control, school prayer), Cheatham and Tormala (2015) found that both clarity and correctness predicted sharing intentions (the desire to express one’s view), but only correctness predicted persuasion intentions (the desire to persuade others to bring them in line with one’s stance). Likewise, an experimental intervention that targeted attitude correctness (i.e., attitude-consensus feedback) affected both sharing and persuasion intentions, whereas an intervention that targeted attitude clarity (i.e., a repeated-expression manipulation) affected sharing but not persuasion intentions. Thus, the general association between attitude certainty and attitudinal advocacy might mask a more nuanced mapping of different forms of certainty onto different advocacy motives or styles (see also Itzchakov et al., 2018; Rios et al., 2014).

Compensatory motives

Although considerable evidence points to a positive relationship between certainty and advocacy, some studies reveal that feelings of uncertainty can spark advocacy. This perspective suggests that when people come to doubt their attitudes, they sometimes advocate more forcefully as a compensatory mechanism that helps display or restore certainty. Such a process was thought to explain the classic story of the doomsday cult studied by Festinger and colleagues in their early research on cognitive dissonance (Festinger et al., 1956). In this work, Festinger et al. observed a cult whose members believed that the world was about to end and that they would be saved by aliens. When this prophecy was disproven, cult members did not abandon their beliefs. Instead, they ramped up their advocacy efforts and worked even harder to recruit new members. Thus, the blow to their worldview did not dampen their advocacy effort but rather amplified it.

Since Festinger’s early qualitative work, experimental approaches have also been applied to this problem. Most germane to the present concerns, Gal and Rucker (2010) induced participants to feel certain or uncertain about a personally important attitude by having them write about it with their dominant (certain) or nondominant (uncertain) hand (Briñol & Petty, 2003). They then gave participants an opportunity to advocate on behalf of their views (e.g., write messages to others to persuade them). Results indicated that participants put more effort into advocating (e.g., wrote longer messages) when they had been induced to feel uncertain rather than certain about their attitudes. The authors theorized that advocacy plays a compensatory role in helping people manage doubt, affirm themselves, and restore certainty about their views. In other words, when people feel uncertain, they might advocate more forcefully to compensate and ultimately reestablish their certainty. Subsequent research has echoed the notion that opinion expression can serve a self-protective function, reduce threat, and affirm one’s self-concept (Rios et al., 2012; Simchon et al., 2021).

There is tension between the findings on certainty-driven advocacy and compensatory advocacy: In one case, certainty fosters advocacy; in the other, uncertainty fosters advocacy. As one reconciliation of these findings, it could be that the relationship between attitude certainty and attitudinal advocacy is curvilinear in form. More specifically, the relationship might be J-shaped, such that advocacy peaks at very high certainty, declines as certainty drops to a more moderate level, and then shows an uptick again at very low levels of certainty. Indeed, this pattern has been observed using both correlational and experimental approaches and measuring both advocacy intentions and actual advocacy behavior (Cheatham & Tormala, 2017). Content coding of written messages suggests that people with high certainty advocate because they feel more conviction and have a stronger desire to make their case, whereas people with low certainty advocate as a means of engaging with others and acquiring information that might resolve their uncertainty.

Perceived efficacy and impact

People are also more likely to engage in attitudinal advocacy when they believe that they can advocate effectively and have an impact on others' views. For example, perceived argumentation efficacy—that is, the perception that one can argue effectively for one's position—positively predicts advocacy intentions. In one series of studies (Akhtar et al., 2013), participants read strong or weak proattitudinal arguments and then received an opportunity to advocate for their views. These studies showed that participants were more likely to advocate for their preferred positions, and had more to say when they did so, after receiving *weak* rather than strong proattitudinal arguments. The reason: Weak proattitudinal arguments increased participants' perceptions of their own argumentation efficacy. That is, participants believed they could make a more convincing case after observing others' weak arguments for their position. The perceived malleability of the audience matters as well. When people believe that the intended recipient of their advocacy is potentially open to persuasion, they are more likely to advocate for their view; in contrast, when the recipient is more closedminded or seems difficult to change, people are less likely to advocate (Akhtar & Wheeler, 2016; Gal & Rucker, 2010).

In addition to gauging one's efficacy and the openness of the audience, people consider the size of the impact they will have before making their advocacy decisions. Assuming people believe they can create change, people are more likely to advocate when they believe they will have a greater impact. How do they assess impact? One factor people consider is the type of change their message will cause. As reviewed earlier, people see attitude change as greater in magnitude when that change involves a shift across valence (e.g., negative to positive) rather than within valence (e.g., somewhat positive to extremely positive; Bechler et al., 2019). Consistent with this finding, people are more likely to advocate when they believe their targets are poised to change the valence of their attitudes (Bechler et al., 2020; Bechler & Tormala, 2021). In one study (Bechler et al., 2020), participants who supported Joe Biden for U.S. president received a pro-Biden message and were asked if they would like to send it to other participants who were very opposed to Biden, slightly opposed to Biden, or slightly in favor of Biden. Participants overwhelmingly chose to send the message to people who were slightly opposed. When people believe their advocacy might cause a shift in attitude valence, they see its potential impact as bigger, and the bigger the impact the more likely they are to advocate. Interestingly, this effect emerges despite the fact that people realize it is more difficult to change a person's attitude across rather than within valence.

In related work, Rucker et al. (2024) examined how people think about achieving persuasion in groups. Specifically, they examined persuaders' preferences for (a) strategies that produce a larger

number of people in support of their idea, versus (b) strategies that produced fewer people in support of their idea but with more extreme attitudes. Across multiple studies presenting participants with diverse persuasion scenarios, results indicated that persuaders put a greater emphasis on acquiring more supporters than acquiring more extreme supporters. This result is consistent with the idea that people tend to focus on valence (and achieving greater consensus) more than extremity when persuading a group of people.

Attitude basis and framing

Researchers have also found that advocacy is affected by attitude basis and attitude framing. First, consider attitude basis. As described earlier, attitudes vary in the extent to which they are based on affect or cognition. The affective-cognitive distinction has implications for attitudinal advocacy. To explore these implications, Teeny and Petty (2018) distinguished between two types of advocacy: spontaneous advocacy (e.g., spontaneously contacting a friend to recommend something) and requested advocacy (e.g., recommending something after a friend asks for a recommendation). The authors found that attitudes rooted primarily in affect are more likely to trigger spontaneous advocacy, whereas attitudes rooted primarily in cognition are more likely to trigger requested advocacy. They theorized that emotions (e.g., feeling excited) trigger activity that allows affective attitudes to guide spontaneous advocacy; but when one's opinion is requested, there is greater expectation for thoughtful input, which gives more weight to attitudes grounded in cognition.

Support-oppose framing can impact advocacy as well. As background, people's attitudes can be framed in terms of support (e.g., "I support allowing guns") or opposition (e.g., "I oppose banning guns;" Bizer & Petty, 2005; Bizer et al., 2011; see also Teeny & Petty, 2025). People are more likely to advocate when they frame their attitudes in terms of support rather than opposition (Catapano & Tormala, 2021). The mechanism is twofold: First, support-framed attitudes feel more value expressive than opposition-framed attitudes. Second, people believe they will be better liked when they express support-framed attitudes. Thus, people are more inclined to express their attitudes when they are asked about those attitudes in support rather than opposition terms. As a caveat, some evidence suggests that negative attitudes (e.g., outgroup animosity) are particularly likely to be expressed in some contexts (Rathje et al., 2021). The Catapano and Tormala (2021) findings suggest that those negative attitudes might be especially likely to be expressed when framed in support terms (e.g., "I agree that this idea is terrible.").

Content: How Do People Advocate?

Research has also investigated differences in *how* people advocate, or what they do or say when they advocate. What do people say when they express their views? How much do they say? What do people's advocacy messages look like? Here, we share some of the initial insights from work on these questions.

As a starting point, it seems reasonable to assume that when people advocate, they focus primarily on the arguments or evidence that support their view and downplay the arguments or evidence that oppose their view. Indeed, by definition, attitudinal advocacy is tied to the expression of one's view. Nevertheless, the lengths to which people go to prioritize their views are striking. For example, when people receive information on both sides of a political issue (e.g., the positive and negative effects of increasing the minimum wage) and believe the information on both sides, they are more likely to share the information that is consistent with their political leanings (Ekstrom &

Lai, 2021). In other words, even when people have credible information that opposes their view, they are disinclined to share that information with others. Instead, they selectively communicate and share information that is attitude-congruent. This finding dovetails with past research on biased processing (Lord et al., 1979); it also reveals that bias influences not only how people encode information but also what they choose to share.

In other work, researchers have examined the content or style of the messages people generate when they advocate for their views. One experiment (Cheatham & Tormala, 2017) asked participants to think of an issue about which they felt certain or uncertain and then write a message to someone who disagreed with them on that issue. This experiment showed that people generated more arguments, expressed beliefs and values more clearly, used more emotional and moral language, and adopted a more judgmental tone when they wrote messages to disagreeing others on issues about which they felt certain. In contrast, people generated fewer arguments; used more hedges, qualifiers, and questions; and expressed more interest in the opposing perspective when they wrote messages on issues about which they felt uncertain. Thus, although high- and low-certainty individuals are capable of writing advocacy messages that express their views, the goals of those messages seem to differ, reflecting more forceful versus inquisitive messaging styles, respectively.

Researchers have also explored the effects of expertise on advocacy style. A consistent finding to emerge from this literature is that expertise softens people's messages. For example, compared to novices, experts have been shown to take less extreme positions and use less extreme language (Nguyen et al., 2021). Likewise, compared to novices, experts have been found to use less emotional language when expressing their views. One study (Rocklage et al., 2021) analyzed and compared movie reviews written by critics (experts) versus consumers (novices). Even after controlling for review valence and extremity, critics' reviews used less emotional language than consumers' reviews, suggesting that as people acquire expertise they might become less emotional in their advocacy style. Similarly, a large data set scraped from the internet showed that as individuals posted more reviews their language became less emotional over time. The authors theorized that this change in language arises from the fact that as people gain and apply knowledge, it can foster a kind of emotional numbness that dulls their hedonic experiences.

Building on the emotionality theme, other research has explored contextual variation in the emotional content of people's advocacy messages. For instance, message modality can affect the emotional content of a message. People generally express more emotion when speaking rather than writing (Berger et al., 2022). In addition, sending messages from a smartphone increases emotionality relative to sending messages from a laptop computer (Melumad et al., 2019). A potential account for this effect is that sending messages from a smartphone forces brevity, which leads people to try to capture the gist of their experiences, which in turn makes affective elements more salient. Incentives can affect emotional expression as well. For example, incentivizing people to persuade others can increase their reliance on emotional language (Rocklage et al., 2018), and incentivizing customer reviews has been shown to increase the proportion of positive relative to negative emotion conveyed in those reviews (Woolley & Sharif, 2021). These findings suggest that people believe that emotionality and positivity are conducive to persuasion.

Finally, some people might advocate for their attitude by censoring counterattitudinal information or opposing perspectives—that is, by suppressing or removing attitude-incongruent content from public view. Censoring counterattitudinal information or opposing perspectives could constitute advocacy in the sense that it functions as an expression of one's attitude or an attempt to influence

others' views (Hussein & Tormala, 2023). Ashokkumar et al. (2020) investigated the predictors of censorship using a paradigm in which participants acted as moderators of an online discussion forum and then viewed comments that supported or opposed a particular issue or policy (e.g., gun control). They found that participants were more likely to censor counterattitudinal than proattitudinal comments (see Boch, 2020, for a parallel finding with political identity), an effect that was amplified when participants were high in attitude certainty or importance. Thus, people appear to selectively censor counterattitudinal content, especially when they feel more committed to their attitudes. Exploring further triggers of censorship would be a fruitful direction for ongoing research on attitudinal advocacy.

Consequences: What Are The Effects Of Advocating?

Finally, research has explored the consequences of advocating. One natural consequence of advocating is that someone else's attitude or behavior might change. That is, the recipients of advocacy messages are often affected by those messages. When, how, and why they are affected is what past research on persuasion seeks to understand, and there is a vast literature exploring these effects (for reviews, see Maio et al., 2018; Petty & Wegener, 1998; Petty et al., 2013; Tormala & Rucker, 2022). Another consequence of advocating concerns the advocates themselves. In this case, the interest has been in how the act of advocating can shape the advocate's attitude. Thus, rather than focusing exclusively on how an advocacy message affects recipients, some research has explored how generating an advocacy message might affect the person who generates the message.

Research on this topic largely revolves around the concept of self-persuasion (see Maio & Thomas, 2007). The central premise of self-persuasion research is that when people think or advocate in one direction, they often shift their attitudes in that same direction. For example, if someone generates arguments in favor of a new issue or policy, they might become more favorable toward it. Hence, advocacy affects the advocate. The role-playing effect offers a classic demonstration of this phenomenon. In the original research on role-playing (Janis & King, 1954), participants were randomly assigned to generate or receive counterattitudinal arguments on a variety of issues. For example, participants in one condition were asked to play the role of a sincere advocate for an issue or policy and present the case for it, whereas participants in another condition simply read or listened to that case. This research demonstrated that participants who actively generated arguments showed greater attitude change in the direction of the arguments than participants who passively received those same arguments.

Since the original role-playing findings, considerable research has been devoted to understanding why self-generated messages cause greater attitude change than messages received from another source. Multiple accounts have been proposed. For example, the advantage of self-generated messages has been theorized to stem from cognitive dissonance mechanisms (Carlsmith et al., 1966), self-perception inferences (Cialdini, 1971), biased processing (Cunningham & Collins, 1977; Greenwald, 1969), increased effort in argument generation (Briñol et al., 2012; Zimbardo, 1965), and the fact that self-generated messages contain arguments that people find more compelling (Greenwald & Albert, 1968) and value-congruent (Catapano et al., 2019). Across accounts, however, the common insight is that generating advocacy can produce reliable changes in the attitude of the advocate.

Although role-playing research has generally focused on inducing attitude change through counterattitudinal argument generation, these effects are not limited to counterattitudinal advocacy. For example, asking people to list positive or negative thoughts about a novel topic can

shift their attitudes in a positive or negative direction, respectively (e.g., Killeya & Johnson, 1998; Petty et al., 2002; see also Xu & Wyer, 2012). This result is especially likely to occur when the thoughts are easy to generate (e.g., because just a few are requested; Tormala et al., 2002; Tormala et al., 2007) or people are otherwise inclined to feel confident about their own thinking (Kim et al., 2021; see Briñol & Petty, 2022, for a review). In fact, as previously noted, merely thinking about one's attitude can cause a person to become more extreme in their view because it activates attitude-consistent thoughts about which people feel confident (Clarkson et al., 2011; Tesser, 1978).

In addition to triggering attitude change, engaging in attitudinal advocacy can affect attitude strength. For example, generating thoughts that support one's attitude or oppose a counterattitudinal message has been shown to boost attitude certainty, attitude stability (e.g., resistance to persuasion), and attitude-behavior correspondence (Lydon et al., 1988; McGuire, 1964; Tormala & Petty, 2002, 2004). These effects are especially likely to manifest when people find it easy to generate the thoughts (Haddock et al., 1999; Tormala et al., 2006) and perceive that their advocacy effort has been successful—such as when they successfully persuade others (Infante, 1976; Prislin et al., 2011) or successfully defend their own attitudes against attack (Tormala & Petty, 2002). On the flip side, when people struggle to successfully advocate for their views, they might lose certainty and display evidence of weakened attitudes (e.g., Tormala et al., 2006). In sum, generating advocacy affects the advocate, and the success or failure of the advocacy is instrumental in shaping the nature and direction of this effect. In an era in which people have ever-expanding opportunities to advocate (e.g., on social media), understanding the drivers and implications of doing so is likely to be one of the more pressing directions for attitudes research in the coming years.

CONCLUSION

The attitude construct is among the most central concepts in social psychology. Attitudes are relevant to nearly every aspect of human life, they have been a dominant focus of social psychology research for many years, and they continue to motivate a great deal of research. Roughly a century has passed since the early days of attitudes research. As a field, we have learned much about their origins, consequences, and basic structure and function. For example, from the collective efforts of researchers studying attitudes over the past century, we have gained insight into the factors that shape attitudes, the dynamic role attitudes play in guiding behavior, the core psychological functions attitudes can serve, the varying affective and cognitive bases of attitudes, and the factors that determine how strong or weak a given attitude is. This chapter aimed to offer a representative overview of the knowledge gained on these classic topics, paying special attention to the issues and questions stimulating contemporary research.

In addition to these classic topics, scholars are devoting increasing attention to attitudinal receptiveness and attitudinal advocacy. What causes people to feel open to new information and opposing viewpoints? How do people perceive others who are receptive or unreceptive to divergent perspectives? What prompts people to advocate on behalf of their attitudes—to express their views and/or try to persuade others? How do people advocate and what are the consequences of doing so? These questions have societal relevance and the potential to expand our understanding of basic attitudinal processes. Not surprisingly, then, research seeking answers to these questions is gaining momentum, and these topics could loom large in attitudes research in the coming years.

In closing, the attitude construct has long been and continues to be central in social psychology. Attitudes play an important role in governing human thought and action and are crucial to a vast

array of phenomena investigated by social psychologists. Researchers have made great strides in understanding attitudes over the years, but there remains much to learn. Deepening our insight into attitudes will be critical as we continue to strive toward understanding human behavior in an ever-changing world. Indeed, at least by our account, attitudes remain the most distinctive and indispensable concept in social psychology.

AUTHOR NOTE

We are sincerely grateful to Rich Petty for his valuable insight and feedback on a previous draft of this chapter.

REFERENCES

- Abelson, R. P. (1995). Attitude extremity. In R.E. Petty & J.A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 25-41). Lawrence Erlbaum Associates, Inc.
- Abelson, R. P., Kinder, D. R., Peters, M. D., & Fiske, S. T. (1982). Affective and semantic components in political person perception. *Journal of Personality and Social Psychology*, 42(4), 619-630. <https://doi.org/10.1037/0022-3514.42.4.619>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Khul & J. Beckmann (Eds.), *Action control* (pp. 11-39). Springer. https://doi.org/10.1007/978-3-642-69746-3_2
- Ajzen, I. (1996). The social psychology of decision making. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 297-325). The Guilford Press.
- Ajzen, I. (2005). Laws of human behavior: Symmetry, compatibility, and attitude-behavior correspondence. In A. Beauducel, B. Biehl, M. Bosniak, W. Conrad, G. Schönberger, & D. Wagener (Eds.), *Multivariate research strategies* (pp. 3-19). Shaker Verlag.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888-918. <https://doi.org/10.1037/0033-2909.84.5.888>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and Predicting Social Behavior*. Prentice-Hall.
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173-221). Erlbaum.
- Akhtar, O., & Wheeler, S. C. (2016). Belief in the immutability of attitudes both increases and decreases advocacy. *Journal of Personality and Social Psychology*, 111(4), 475-492. <https://doi.org/10.1037/pspa0000060>
- Akhtar, O., Paunesku, D., & Tormala, Z. L. (2013). Weak > strong: The ironic effect of argument strength on supportive advocacy. *Personality and Social Psychology Bulletin*, 39(9), 1214-1226. <https://doi.org/10.1177/0146167213492430>

Albarracín, D., & Mitchell, A. L. (2004). The role of defensive confidence in preference for proattitudinal information: How believing that one is strong can sometimes be a defensive weakness. *Personality and Social Psychology Bulletin*, 30(12), 1565-1584.

<https://doi.org/10.1177/0146167204271180>

Albarracín, D., & Vargas, P. (2010). Attitudes and persuasion: From biology to social responses to persuasive intent. In S.T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (pp.394-427). John Wiley & Sons, Inc. <https://doi.org/10.1002/9780470561119.socpsy001011>

Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *A handbook of social psychology* (pp. 798-844). Clark University Press.

Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.

Altemeyer, R. A., & Altemeyer, B. (1996). *The authoritarian specter*. Harvard University Press.

Alves, H., Högden, F., Gast, A., Aust, F., & Unkelbach, C. (2020). Attitudes from mere co-occurrences are guided by differentiation. *Journal of Personality and Social Psychology*, 119(3), 560-581.

<https://doi.org/10.1037/pspa0000193>

Anderson, C., & Berdahl, J. L. (2002). The experience of power: examining the effects of power on approach and inhibition tendencies. *Journal of Personality and Social Psychology*, 83(6), 1362-1377.

<https://doi.org/10.1037/0022-3514.83.6.1362>

Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology*, 36(4), 511-536. <https://doi.org/10.1002/ejsp.324>

Anderson, I. A., & Wood, W. (2021). Habits and the electronic herd: The psychology behind social media's successes and failures. *Consumer Psychology Review*, 4(1), 83-99.

<https://doi.org/10.1002/arcp.1063>

Aramovich, N. P., Lytle, B. L., & Skitka, L. J. (2012). Opposing torture: Moral conviction and resistance to majority influence. *Social Influence*, 7(1), 21-34. <https://doi.org/10.1080/15534510.2011.640199>

Armitage, C. J., & Conner, M. (2000). Attitudinal ambivalence: A test of three key hypotheses. *Personality and Social Psychology Bulletin*, 26(11), 1421-1432.

<https://doi.org/10.1177/0146167200263009>

Aronson, E. (1969). The theory of cognitive dissonance: A current perspective. *Advances in Experimental Social Psychology*, 4, 1-34. [https://doi.org/10.1016/S0065-2601\(08\)60075-1](https://doi.org/10.1016/S0065-2601(08)60075-1)

Aronson, E., & Mills, J. (1959). The effect of severity of initiation on liking for a group. *The Journal of Abnormal and Social Psychology*, 59(2), 177-181. <https://doi.org/10.1037/h0047195>

Arvey, R. D., Bouchard Jr, T. J., Segal, N. L., & Abraham, L. M. (1989). Job satisfaction: Environmental and genetic components. *Journal of Applied Psychology*, 74(2), 187-192. <https://doi.org/10.1037/0021-9010.74.2.187>

Ashokkumar, A., Talaifar, S., Fraser, W. T., Landabur, R., Buhrmester, M., Gómez, Á., Paredes, B., & Swann Jr, W. B. (2020). Censoring political opposition online: Who does it and why. *Journal of Experimental Social Psychology*, 91, Article 104031. <https://doi.org/10.1016/j.jesp.2020.104031>

- Babad, E. Y., Ariav, A., Rosen, I., & Salomon, G. (1987). Perseverance of bias as a function of debriefing conditions and subjects' confidence. *Social Behaviour*, 2(3), 185-193.
- Bagozzi, R. P., Tybout, A. M., Craig, C. S., & Sternthal, B. (1979). The construct validity of the tripartite classification of attitudes. *Journal of Marketing Research*, 16(1), 88-95.
<https://doi.org/10.1177/002224377901600113>
- Baker, S. M., & Petty, R. E. (1994). Majority and minority influence: Source-position imbalance as a determinant of message scrutiny. *Journal of Personality and Social Psychology*, 67(1), 5-19.
<https://doi.org/10.1037/0022-3514.67.1.5>
- Banaji, M. R., & Heiphetz, L. (2010). Attitudes. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (pp. 353-393). John Wiley & Sons, Inc.
- Banas, J. A., & Rains, S. A. (2010). A meta-analysis of research on inoculation theory. *Communication Monographs*, 77(3), 281-311. <https://doi.org/10.1080/03637751003758193>
- Barden, J., & Petty, R. E. (2008). The mere perception of elaboration creates attitude certainty: Exploring the thoughtfulness heuristic. *Journal of Personality and Social Psychology*, 95(3), 489-509.
<https://doi.org/10.1037/a0012559>
- Barden, J., & Tormala, Z. L. (2014). Elaboration and attitude strength: The new meta-cognitive perspective. *Social and Personality Psychology Compass*, 8(1), 17-29.
<https://doi.org/10.1111/spc3.12078>
- 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(6), 893.
<https://doi.org/10.1037/0022-3514.62.6.893>
- Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The automatic evaluation effect: Unconditional automatic attitude activation with a pronunciation task. *Journal of Experimental Social Psychology*, 32(1), 104-128. <https://doi.org/10.1006/jesp.1996.0005>
- Bartle, J. (2000). Political awareness, opinion constraint and the stability of ideological positions. *Political Studies*, 48(3), 467-484. <https://doi.org/10.1111/1467-9248.00270>
- Bassili, J. N. (1996). Meta-judgmental versus operative indexes of psychological attributes: The case of measures of attitude strength. *Journal of Personality and Social Psychology*, 71(4), 637-653.
<https://doi.org/10.1037/0022-3514.71.4.637>
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of general psychology*, 5(4), 323-370. <https://doi.org/10.1037/1089-2680.5.4.323>
- Beatty, S. E., & Kahle, L. R. (1988). Alternative hierarchies of the attitude-behavior relationship: The impact of brand commitment and habit. *Journal of the Academy of Marketing Science*, 16(2), 1-10.
<https://doi.org/10.1007/BF02723310>
- Bechler, C. J., & Tormala, Z. L. (2021). Misdirecting persuasive efforts during the COVID-19 pandemic: The targets people choose may not be the most likely to change. *Journal of the Association for Consumer Research*, 6(1), 187-195. <https://doi.org/10.1086/711732>

- Bechler, C. J., Tormala, Z. L., & Rucker, D. D. (2019). Perceiving attitude change: How qualitative shifts augment change perception. *Journal of Experimental Social Psychology*, 82, 160-175. <https://doi.org/10.1016/j.jesp.2019.02.001>
- Bechler, C. J., Tormala, Z. L., & Rucker, D. D. (2020). Choosing persuasion targets: How expectations of qualitative change increase advocacy intentions. *Journal of Experimental Social Psychology*, 86, Article 103911. <https://doi.org/10.1016/j.jesp.2019.103911>
- Bechler, C. J., Tormala, Z. L., & Rucker, D. D. (2021). The attitude-behavior relationship revisited. *Psychological Science*, 32(8), 1285-1297. <https://doi.org/10.1177/0956797621995206>
- Bem, D. J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review*, 74(3), 183-200. <https://doi.org/10.1037/h0024835>
- Bem, D. J. (1972). Self-perception theory. *Advances in Experimental Social Psychology*, 6, 1-62. [https://doi.org/10.1016/S0065-2601\(08\)60024-6](https://doi.org/10.1016/S0065-2601(08)60024-6)
- Berger, J., Rocklage, M. D., & Packard, G. (2022). Expression modalities: How speaking versus writing shapes word of mouth. *Journal of Consumer Research*, 49(3), 389-408. <https://doi.org/10.1093/jcr/ucab076>
- Bernberg, R. E. (1952). Socio-psychological factors in industrial morale: I. The prediction of specific indicators. *The Journal of Social Psychology*, 36(1), 73-82. <https://doi.org/10.1080/00224545.1952.9919090>
- Bettman, J. R., Capon, N., & Lutz, R. J. (1975). Information processing in attitude formation and change. *Communication Research*, 2(3), 267-278. <https://doi.org/10.1177/009365027500200307>
- Biek, M., Wood, W., & Chaiken, S. (1996). Working knowledge, cognitive processing, and attitudes: On the determinants of bias. *Personality and Social Psychology Bulletin*, 22(6), 547-556. <https://doi.org/10.1177/0146167296226001>
- Bizer, G. Y., & Petty, R. E. (2005). How we conceptualize our attitudes matters: The effects of valence framing on the resistance of political attitudes. *Political Psychology*, 26(4), 553-568. <https://doi.org/10.1111/j.1467-9221.2005.00431.x>
- Bizer, G. Y., Larsen, J. T., & Petty, R. E. (2011). Exploring the valence-framing effect: Negative framing enhances attitude strength. *Political Psychology*, 32(1), 59-80. <https://doi.org/10.1111/j.1467-9221.2010.00795.x>
- Bizer, G. Y., Tormala, Z. L., Rucker, D. D., & Petty, R. E. (2006). Memory-based versus on-line processing: Implications for attitude strength. *Journal of Experimental Social Psychology*, 42(5), 646-653. <https://doi.org/10.1016/j.jesp.2005.09.002>
- Boch, A. (2020). The limits of tolerance: Extreme speakers on campus. *Social Problems*, 69(1), 143-163. <https://doi.org/10.1093/socpro/spaa019>
- Bodenhausen, G. V., & Cheryan, S. (2025). Stereotyping and prejudice. In D. T. Gilbert, S. T. Fiske, E. J. Finkel, & W. B. Mendes (Eds.), *The Handbook of Social Psychology* (6th ed.). Situational Press.

- Boninger, D. S., Krosnick, J. A., & Berent, M. K. (1995). Origins of attitude importance: Self-interest, social identification, and value relevance. *Journal of Personality and Social Psychology*, 68(1), 61. <https://doi.org/10.1037/0022-3514.68.1.61>
- Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research, 1968-1987. *Psychological Bulletin*, 106(2), 265-289. <https://doi.org/10.1037/0033-2909.106.2.265>
- Bornstein, R. F., & D'Agostino, P. R. (1994). The attribution and discounting of perceptual fluency: Preliminary tests of a perceptual fluency/attributional model of the mere exposure effect. *Social Cognition*, 12(2), 103-128. <https://doi.org/10.1521/soco.1994.12.2.103>
- Brandt, M. J., & Wetherell, G. A. (2012). What attitudes are moral attitudes? The case of attitude heritability. *Social Psychological and Personality Science*, 3(2), 172-179. <https://doi.org/10.1177/1948550611412793>
- Brannon, L. A., Tagler, M. J., & Eagly, A. H. (2007). The moderating role of attitude strength in selective exposure to information. *Journal of Experimental Social Psychology*, 43(4), 611-617. <https://doi.org/10.1016/j.jesp.2006.05.001>
- Breckler, S. J. (1984). Empirical validation of affect, behavior, and cognition as distinct components of attitude. *Journal of Personality and Social Psychology*, 47(6), 1191-1205. <https://doi.org/10.1037/0022-3514.47.6.1191>
- Brehm, J. W. (1956). Postdecision changes in the desirability of alternatives. *The Journal of Abnormal and Social Psychology*, 52(3), 384-389. <https://doi.org/10.1037/h0041006>
- Brehm, J. W. (1966). *A theory of psychological reactance*. Academic Press.
- Brehm, J. W., & Cohen, A. R. (1962). *Explorations in cognitive dissonance*. John Wiley & Sons Inc. <https://doi.org/10.1037/11622-000>
- Brehm, J. W., & Sensenig, J. (1966). Social influence as a function of attempted and implied usurpation of choice. *Journal of Personality and Social Psychology*, 4(6), 703-707. <https://doi.org/10.1037/h0023992>
- Briñol, P., & Petty, R. E. (2003). Overt head movements and persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, 84(6), 1123-1139. <https://doi.org/10.1037/0022-3514.84.6.1123>
- Briñol, P., & Petty, R. E. (2012). A history of attitudes and persuasion research. In A. W. Kruglanski, & W. Stroebe (Eds.), *Handbook of the history of social psychology* (pp. 283-320). Psychology Press.
- Briñol, P., & Petty, R. E. (2022). Self-validation theory: An integrative framework for understanding when thoughts become consequential. *Psychological Review*, 129(2), 340-367. <https://doi.org/10.1037/rev0000340>
- Briñol, P., McCaslin, M. J., & Petty, R. E. (2012). Self-generated persuasion: effects of the target and direction of arguments. *Journal of Personality and Social Psychology*, 102(5), 925-940. <https://doi.org/10.1037/a0027231>

- Briñol, P., Petty, R. E., & Barden, J. (2007). Happiness versus sadness as a determinant of thought confidence in persuasion: a self-validation analysis. *Journal of Personality and Social Psychology*, 93(5), 711-727. <https://doi.org/10.1037/0022-3514.93.5.711>
- Briñol, P., Petty, R. E., & Tormala, Z. L. (2004). Self-validation of cognitive responses to advertisements. *Journal of Consumer Research*, 30(4), 559-573. <https://doi.org/10.1086/380289>
- Briñol, P., Petty, R. E., Valle, C., Rucker, D. D., & Becerra, A. (2007). The effects of message recipients' power before and after persuasion: a self-validation analysis. *Journal of Personality and Social Psychology*, 93(6), 1040-1053. <https://doi.org/10.1037/0022-3514.93.6.1040>
- Broockman, D., & Kalla, J. (2016). Durably reducing transphobia: A field experiment on door-to-door canvassing. *Science*, 352(6282), 220-224. <https://doi.org/10.1126/science.aad9713>
- Byrne, D. (1969). Attitudes and attraction. *Advances in Experimental Social Psychology*, 4, 35-89. [https://doi.org/10.1016/S0065-2601\(08\)60076-3](https://doi.org/10.1016/S0065-2601(08)60076-3)
- Byrne, D., London, O., & Griffitt, W. (1968). The effect of topic importance and attitude similarity-dissimilarity on attraction in an intrastranger design. *Psychonomic Science*, 11(8), 303-304. <https://doi.org/10.3758/BF03328203>
- Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond bipolar conceptualizations and measures: The case of attitudes and evaluative space. *Personality and Social Psychology Review*, 1(1), 3-25. https://doi.org/10.1207/s15327957pspr0101_2
- Cacioppo, J. T., Marshall-Goodell, B. S., Tassinary, L. G., & Petty, R. E. (1992). Rudimentary determinants of attitudes: Classical conditioning is more effective when prior knowledge about the attitude stimulus is low than high. *Journal of Experimental Social Psychology*, 28(3), 207-233. [https://doi.org/10.1016/0022-1031\(92\)90053-M](https://doi.org/10.1016/0022-1031(92)90053-M)
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119(2), 197-253. <https://doi.org/10.1037/0033-2909.119.2.197>
- Carlsmith, J. M., Collins, B. E., & Helmreich, R. L. (1966). Studies in forced compliance: I. The effect of pressure for compliance on attitude change produced by face-to-face role playing and anonymous essay writing. *Journal of Personality and Social Psychology*, 4(1), 1-13. <https://doi.org/10.1037/h0023507>
- Catapano, R., & Tormala, Z. L. (2021). Do I support that it's good or oppose that it's bad? The effect of support-oppose framing on attitude sharing. *Journal of Personality and Social Psychology*, 121(1), 23-42. <https://doi.org/10.1037/pspa0000266>
- Catapano, R., Tormala, Z. L., & Rucker, D. D. (2019). Perspective taking and self-persuasion: Why "putting yourself in their shoes" reduces openness to attitude change. *Psychological Science*, 30(3), 424-435. <https://doi.org/10.1177/0956797618822697>
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39(5), 752-766. <https://doi.org/10.1037/0022-3514.39.5.752>

- Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.), *Social influence: The Ontario symposium* (pp. 3-39). Lawrence Erlbaum Associates, Inc.
- Chaiken, S., & Baldwin, M. W. (1981). Affective-cognitive consistency and the effect of salient behavioral information on the self-perception of attitudes. *Journal of Personality and Social Psychology*, 41(1), 1-12. <https://doi.org/10.1037/0022-3514.41.1.1>
- Chaiken, S., & Chen, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 73-96). The Guilford Press.
- Chaiken, S., & Maheswaran, D. (1994). Heuristic processing can bias systematic processing: effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of Personality and Social Psychology*, 66(3), 460-473. <https://doi.org/10.1037/0022-3514.66.3.460>
- Chaiken, S., Liberman, A., & Eagly, A. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J.S. Uleman & J.A. Bargh (Eds.), *Unintended thought* (pp.212-252). The Guilford Press.
- Chaiken, S., Pomerantz, E. M., & Giner-Sorolla, R. (1995). Structural consistency and attitude strength. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 387-412). Lawrence Erlbaum Associates, Inc.
- Cheatham, L. B., & Tormala, Z. L. (2017). The curvilinear relationship between attitude certainty and attitudinal advocacy. *Personality and Social Psychology Bulletin*, 43(1), 3-16. <https://doi.org/10.1177/0146167216673349>
- Cheatham, L., & Tormala, Z. L. (2015). Attitude certainty and attitudinal advocacy: The unique roles of clarity and correctness. *Personality and Social Psychology Bulletin*, 41(11), 1537-1550. <https://doi.org/10.1177/0146167215601406>
- Chen, F. S., Minson, J. A., & Tormala, Z. L. (2010). Tell me more: The effects of expressed interest on receptiveness during dialog. *Journal of Experimental Social Psychology*, 46(5), 850-853. <https://doi.org/10.1016/j.jesp.2010.04.012>
- Chen, M. K., & Risen, J. L. (2010). How choice affects and reflects preferences: revisiting the free-choice paradigm. *Journal of Personality and Social Psychology*, 99(4), 573-594. <https://doi.org/10.1037/a0020217>
- Cialdini, R. (1993). *Influence: Science and practice* (3rd ed.). HarperCollins College Publishers.
- Cialdini, R. B. (1971). Attitudinal advocacy in the verbal conditioner. *Journal of Personality and Social Psychology*, 17(3), 350-358. <https://doi.org/10.1037/h0030590>
- Clark, J. K., & Wegener, D. T. (2013). Message position, information processing, and persuasion: The discrepancy motives model. *Advances in Experimental Social Psychology*, 47, 189-232. <https://doi.org/10.1016/B978-0-12-407236-7.00004-8>
- Clark, J. K., Wegener, D. T., & Fabrigar, L. R. (2008). Attitudinal ambivalence and message-based persuasion: Motivated processing of proattitudinal information and avoidance of counterattitudinal information. *Personality and Social Psychology Bulletin*, 34(4), 565-577. <https://doi.org/10.1177/0146167207312527>

- Clarkson, J. J., Tormala, Z. L., & Leone, C. (2011). A self-validation perspective on the mere thought effect. *Journal of Experimental Social Psychology*, 47(2), 449-454.
<https://doi.org/10.1016/j.jesp.2010.12.003>
- Clarkson, J. J., Tormala, Z. L., & Rucker, D. D. (2008). A new look at the consequences of attitude certainty: The amplification hypothesis. *Journal of Personality and Social Psychology*, 95(4), 810-825.
<https://doi.org/10.1037/a0013192>
- Clarkson, J. J., Tormala, Z. L., & Rucker, D. D. (2011). Cognitive and affective matching effects in persuasion: An amplification perspective. *Personality and Social Psychology Bulletin*, 37(11), 1415-1427. <https://doi.org/10.1177/0146167211413394>
- Clarkson, J. J., Tormala, Z. L., DeSensi, V. L., & Wheeler, S. C. (2009). Does attitude certainty beget self-certainty? *Journal of Experimental Social Psychology*, 45(2), 436-439.
<https://doi.org/10.1016/j.jesp.2008.10.004>
- Clarkson, J. J., Tormala, Z. L., Rucker, D. D., & Dugan, R. G. (2013). The malleable influence of social consensus on attitude certainty. *Journal of Experimental Social Psychology*, 49(6), 1019-1022.
<https://doi.org/10.1016/j.jesp.2013.07.001>
- Clarkson, J., Smith, E., Tormala, Z., & Dugan, R. (2017). Group identification as a means of attitude restoration. *Journal of Experimental Social Psychology*, 68, 139-145.
<https://doi.org/10.1016/j.jesp.2016.07.001>
- Collins, H. K., Dorison, C. A., Gino, F., & Minson, J. A. (2022). Underestimating Counterparts' Learning Goals Impairs Conflictual Conversations. *Psychological Science*, 33(10), 1732-1752.
<https://doi.org/10.1177/09567976221085494>
- Compton, J., Jackson, B., & Dimmock, J. A. (2016). Persuading others to avoid persuasion: Inoculation theory and resistant health attitudes. *Frontiers in Psychology*, 7, Article 122.
<https://doi.org/10.3389/fpsyg.2016.00122>
- Conner, M., & Armitage, C. J. (2008). Attitudinal ambivalence. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 261-286). Psychology Press.
- Conner, M., Wilding, S., van Harreveld, F., & Dalege, J. (2021). Cognitive-affective inconsistency and ambivalence: Impact on the overall attitude-behavior relationship. *Personality and Social Psychology Bulletin*, 47(4), 673-687. <https://doi.org/10.1177/0146167220945900>
- Converse, P. E. (1970). Attitudes and Non-Attitudes: Continuation of a Dialogue. In E. R. Tuft (Ed.), *The quantitative analysis of social problems* (pp. 168-189). Addison-Wesley.
- Cooper, J., & Fazio, R. H. (1984). A new look at dissonance theory. *Advances in Experimental Social Psychology*, 17, 229-266. [https://doi.org/10.1016/S0065-2601\(08\)60121-5](https://doi.org/10.1016/S0065-2601(08)60121-5)
- Cooper, J., Fazio, R. H., & Rhodewalt, F. (1978). Dissonance and humor: Evidence for the undifferentiated nature of dissonance arousal. *Journal of Personality and Social Psychology*, 36(3), 280-285. <https://doi.org/10.1037/0022-3514.36.3.280>
- Corey, S. M. (1937). Professed attitudes and actual behavior. *Journal of Educational Psychology*, 28(4), 271-280. <https://doi.org/10.1037/h0056871>

- Crites Jr, S. L., Fabrigar, L. R., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin*, 20(6), 619-634. <https://doi.org/10.1177/0146167294206001>
- Crocker, J., Thompson, L. L., McGraw, K. M., & Ingerman, C. (1987). Downward comparison, prejudice, and evaluations of others: effects of self-esteem and threat. *Journal of Personality and Social Psychology*, 52(5), 907-916. <https://doi.org/10.1037/0022-3514.52.5.907>
- Cunningham, J. D., & Collins, B. E. (1977). The role of biased scanning in counterattitudinal advocacy. *Social Behavior and Personality: An international Journal*, 5(2), 263-271. <https://doi.org/10.2224/sbp.1977.5.2.263>
- Davidson, A. R., Yantis, S., Norwood, M., & Montano, D. E. (1985). Amount of information about the attitude object and attitude-behavior consistency. *Journal of Personality and Social Psychology*, 49(5), 1184-1198. <https://doi.org/10.1037/0022-3514.49.5.1184>
- De Houwer, J., Thomas, S., & Baeyens, F. (2001). Association learning of likes and dislikes: A review of 25 years of research on human evaluative conditioning. *Psychological Bulletin*, 127(6), 853-869. <https://doi.org/10.1037/0033-2909.127.6.853>
- De Liver, Y., van der Pligt, J., & Wigboldus, D. (2007). Positive and negative associations underlying ambivalent attitudes. *Journal of Experimental Social Psychology*, 43(2), 319-326. <https://doi.org/10.1016/j.jesp.2006.02.012>
- Dean, L. (1958). Interaction, reported and observed: The case of one local union. *Human Organization*, 17(3), 36-44. <https://doi.org/10.17730/humo.17.3.2320447q44475876>
- DeBono, K. G., & Harnish, R. J. (1988). Source expertise, source attractiveness, and the processing of persuasive information: A functional approach. *Journal of Personality and Social Psychology*, 55(4), 541-546. <https://doi.org/10.1037/0022-3514.55.4.541>
- DeBono, K. G., Green, S., Shair, J., & Benson, M. (1995). Attitude accessibility and biased information processing: The moderating role of self-monitoring. *Motivation and Emotion*, 19, 269-277. <https://doi.org/10.1007/BF02856515>
- DeFleur, M. L., & Westie, F. R. (1958). Verbal attitudes and overt acts: An experiment on the salience of attitudes. *American Sociological Review*, 23(6), 667-673. <https://doi.org/10.2307/2089055>
- DeMarree, K. G., Clark, C. J., Wheeler, S. C., Briñol, P., & Petty, R. E. (2017). On the pursuit of desired attitudes: Wanting a different attitude affects information processing and behavior. *Journal of Experimental Social Psychology*, 70, 129-142. <https://doi.org/10.1016/j.jesp.2017.01.003>
- DeMarree, K. G., Petty, R. E., & Strunk, D. R. (2010). Self-esteem accessibility as attitude strength: On the durability and impactfulness of accessible self-esteem. *Personality and Social Psychology Bulletin*, 36(5), 628-641. <https://doi.org/10.1177/0146167210364851>
- DeMarree, K. G., Petty, R. E., Briñol, P., & Xia, J. (2020). Documenting individual differences in the propensity to hold attitudes with certainty. *Journal of Personality and Social Psychology*, 119(6), 1239-1265. <https://doi.org/10.1037/pspa0000241>

- DeMarree, K. G., Rios, K., Randell, J. A., Wheeler, S. C., Reich, D. A., & Petty, R. E. (2016). Wanting to be different predicts nonmotivated change: Actual-desired self-discrepancies and susceptibility to subtle change inductions. *Personality and Social Psychology Bulletin*, 42(12), 1709-1722. <https://doi.org/10.1177/0146167216670876>
- DeMarree, K. G., Wheeler, S. C., Briñol, P., & Petty, R. E. (2014). Wanting other attitudes: Actual-desired attitude discrepancies predict feelings of ambivalence and ambivalence consequences. *Journal of Experimental Social Psychology*, 53, 5-18. <https://doi.org/10.1016/j.jesp.2014.02.001>
- DeSteno, D., Petty, R. E., Rucker, D. D., Wegener, D. T., & Braverman, J. (2004). Discrete emotions and persuasion: the role of emotion-induced expectancies. *Journal of Personality and Social Psychology*, 86(1), 43-65. <https://doi.org/10.1037/0022-3514.86.1.43>
- Devine, P. G., Ash, T. L., & Scott, K. E. (2025). Prejudice reduction. In D. T. Gilbert, S. T. Fiske, E. J. Finkel, & W. B. Mendes (Eds.), *The Handbook of Social Psychology* (6th ed.). Situational Press.
- Ditto, P. H., Liu, B. S., Clark, C. J., Wojcik, S. P., Chen, E. E., Grady, R. H., Celniker, J. B., & Zinger, J. F. (2019). At least bias is bipartisan: A meta-analytic comparison of partisan bias in liberals and conservatives. *Perspectives on Psychological Science*, 14(2), 273-291. <https://doi.org/10.1177/1745691617746796>
- Dovidio, J. F., Kawakami, K., & Beach, K. R. (2000). Implicit and explicit attitudes: Examination of the relationship between measures of intergroup bias. In R. Brown & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology* (pp. 175-197). Blackwell. <https://doi.org/10.1002/9780470693421.ch9>
- Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology*, 33(5), 510-540. <https://doi.org/10.1006/jesp.1997.1331>
- Downing, J. W., Judd, C. M., & Brauer, M. (1992). Effects of repeated expressions on attitude extremity. *Journal of Personality and Social Psychology*, 63(1), 17-29. <https://doi.org/10.1037/0022-3514.63.1.17>
- Duckworth, K. L., Bargh, J. A., Garcia, M., & Chaiken, S. (2002). The automatic evaluation of novel stimuli. *Psychological science*, 13(6), 513-519. <https://doi.org/10.1111/1467-9280.00490>
- Durso, G. R., Briñol, P., & Petty, R. E. (2016). From power to inaction: Ambivalence gives pause to the powerful. *Psychological Science*, 27(12), 1660-1666. <https://doi.org/10.1177/0956797616669947>
- Durso, G. R., Petty, R. E., Briñol, P., Siev, J. J., Hinsenkamp, L. D., & Sawicki, V. (2021). Dampening affect via expectations: The case of ambivalence. *Journal of Personality and Social Psychology*, 121(6), 1172-1194. <https://doi.org/10.1037/pspa0000248>
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.
- Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition*, 25(5), 582-602. <https://doi.org/10.1521/soco.2007.25.5.582>
- Eagly, A., & Chaiken, S. (1998). Attitude structure. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 269-322). McGraw-Hill.

- Eaton, A. A., & Visser, P. S. (2008). Attitude importance: Understanding the causes and consequences of passionately held views. *Social and Personality Psychology Compass*, 2(4), 1719-1736. <https://doi.org/10.1111/j.1751-9004.2008.00125.x>
- Eaves, L. J., Eysenck, H. J., & Martin, N. G. (1989). *Genes, culture and personality: An empirical approach*. Academic Press.
- Edwards, K. (1990). The interplay of affect and cognition in attitude formation and change. *Journal of Personality and Social Psychology*, 59(2), 202-216. <https://doi.org/10.1037/0022-3514.59.2.202>
- Edwards, K., & Von Hippel, W. (1995). Hearts and minds: The priority of affective versus cognitive factors in person perception. *Personality and Social Psychology Bulletin*, 21(10), 996-1011. <https://doi.org/10.1177/01461672952110001>
- Ekstrom, P. D., & Lai, C. K. (2021). The selective communication of political information. *Social Psychological and Personality Science*, 12(5), 789-800. <https://doi.org/10.1177/1948550620942365>
- Elliot, A. J., & Devine, P. G. (1994). On the motivational nature of cognitive dissonance: Dissonance as psychological discomfort. *Journal of Personality and Social Psychology*, 67(3), 382-394. <https://doi.org/10.1037/0022-3514.67.3.382>
- Enisman, M., Shpitzer, H., & Kleiman, T. (2021). Choice changes preferences, not merely reflects them: A meta-analysis of the artifact-free free-choice paradigm. *Journal of Personality and Social Psychology*, 120(1), 16-29. <https://doi.org/10.1037/pspa0000263>
- Errmann, A., Seo, Y., & Septianto, F. (2022). "Open to give": Mindfulness improves evaluations of charity appeals that are incongruent with the consumer's political ideology. *Journal of the Association for Consumer Research*, 7(3), 276-286. <https://doi.org/10.1086/719580>
- Fabrigar, L. R., & Petty, R. E. (1999). The role of the affective and cognitive bases of attitudes in susceptibility to affectively and cognitively based persuasion. *Personality and Social Psychology Bulletin*, 25(3), 363-381. <https://doi.org/10.1177/0146167299025003008>
- Fabrigar, L. R., Petty, R. E., Smith, S. M., & Crites Jr, S. L. (2006). Understanding knowledge effects on attitude-behavior consistency: the role of relevance, complexity, and amount of knowledge. *Journal of Personality and Social Psychology*, 90(4), 556-577. <https://doi.org/10.1037/0022-3514.90.4.556>
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. In J. W. Sherman, B. Gawronski, & Y. Trope (Eds.), *Dual-process theories of the social mind* (pp. 155-171). The Guilford Press. [https://doi.org/10.1016/S0065-2601\(08\)60318-4](https://doi.org/10.1016/S0065-2601(08)60318-4)
- Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. *Attitude strength: Antecedents and consequences*, 4, 247-282.
- Fazio, R. H. (2007). Attitudes as object-evaluation associations of varying strength. *Social cognition*, 25(5), 603-637. <https://doi.org/10.1521/soco.2007.25.5.603>
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, 54(1), 297-327. <https://doi.org/10.1146/annurev.psych.54.101601.145225>

- 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(3), 505-514. <https://doi.org/10.1037/0022-3514.51.3.505>
- Fazio, R. H., & Zanna, M. P. (1978). Attitudinal qualities relating to the strength of the attitude-behavior relationship. *Journal of Experimental Social Psychology*, 14(4), 398-408. [https://doi.org/10.1016/0022-1031\(78\)90035-5](https://doi.org/10.1016/0022-1031(78)90035-5)
- Fazio, R. H., Chen, J.-M., 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(4), 339-357. [https://doi.org/10.1016/0022-1031\(82\)90058-0](https://doi.org/10.1016/0022-1031(82)90058-0)
- Fazio, R. H., Eiser, J. R., & Shook, N. J. (2004). Attitude formation through exploration: Valence asymmetries. *Journal of Personality and Social Psychology*, 87(3), 293-311. <https://doi.org/10.1037/0022-3514.87.3.293>
- 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(6), 1013-1027. <https://doi.org/10.1037/0022-3514.69.6.1013>
- Fazio, R. H., Powell, M. C., & Herr, P. M. (1983). Toward a process model of the attitude-behavior relation: Accessing one's attitude upon mere observation of the attitude object. *Journal of Personality and Social Psychology*, 44(4), 723-735. <https://doi.org/10.1037/0022-3514.44.4.723>
- Fazio, R. H., Powell, M. C., & Williams, C. J. (1989). The role of attitude accessibility in the attitude-to-behavior process. *Journal of Consumer Research*, 16(3), 280-288. <https://doi.org/10.1086/209214>
- 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(2), 229-238. <https://doi.org/10.1037/0022-3514.50.2.229>
- Fazio, R. H., Zanna, M. P., & Cooper, J. (1977). Dissonance and self-perception: An integrative view of each theory's proper domain of application. *Journal of Experimental Social Psychology*, 13(5), 464-479. [https://doi.org/10.1016/0022-1031\(77\)90031-2](https://doi.org/10.1016/0022-1031(77)90031-2)
- Feinberg, M., & Willer, R. (2015). From gulf to bridge: When do moral arguments facilitate political influence? *Personality and Social Psychology Bulletin*, 41(12), 1665-1681. <https://doi.org/10.1177/0146167215607842>
- Feinberg, M., & Willer, R. (2019). Moral reframing: A technique for effective and persuasive communication across political divides. *Social and Personality Psychology Compass*, 13(12), Article e12501. <https://doi.org/10.1111/spc3.12501>
- Festinger, L. (1954). A theory of social comparison processes. *Human relations*, 7(2), 117-140. <https://doi.org/10.1177/001872675400700202>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford University Press. <https://doi.org/10.1515/9781503620766>
- Festinger, L. (1964). *Conflict, decision, and dissonance*. Stanford University Press.

- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *The Journal of Abnormal and Social Psychology*, 58(2), 203-210. <https://doi.org/10.1037/h0041593>
- Festinger, L., Riecken, H. W., & Schachter, S. (1956). *When prophecy fails*. University of Minnesota Press. <https://doi.org/10.1037/10030-000>
- Fishbein, M. (1963). An investigation of the relationships between beliefs about an object and the attitude toward that object. *Human Relations*, 16(3), 233-239. <https://doi.org/10.1177/001872676301600302>
- Fishbein, M. (1967). Attitudes and the prediction of behavior. In M. Fishbein (Ed.), *Readings in attitude theory and measurement*. New York: Wiley, 1967.
- Fishbein, M. (1980). A theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation*, 27, 65-116.
- Fishbein, M. E. (1967). *Readings in attitude theory and measurement*. John Wiley & Sons, Inc.
- Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and multiple behavioral criteria. *Psychological Review*, 81(1), 59-74. <https://doi.org/10.1037/h0035872>
- Fishbein, M., & Ajzen, I. (2005). Theory-based behavior change interventions: Comments on Hobbis and Sutton. *Journal of Health Psychology*, 10(1), 27-31. <https://doi.org/10.1177/1359105305048552>
- Fisher, M., Goddu, M. K., & Keil, F. C. (2015). Searching for explanations: How the Internet inflates estimates of internal knowledge. *Journal of Experimental Psychology: General*, 144(3), 674-687. <https://doi.org/10.1037/xge0000070>
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39-66. <https://doi.org/10.1037/0033-2909.117.1.39>
- Freeman, L. C., & Ataöv, T. (1960). Invalidity of indirect and direct measures of attitude toward cheating. *Journal of Personality*, 28(4), 443-447. <https://doi.org/10.1111/j.1467-6494.1960.tb01631.x>
- Frey, D. (1986). Recent research on selective exposure to information. *Advances in Experimental Social Psychology*, 19, 41-80. [https://doi.org/10.1016/S0065-2601\(08\)60212-9](https://doi.org/10.1016/S0065-2601(08)60212-9)
- Gal, D., & Rucker, D. D. (2010). When in doubt, shout! Paradoxical influences of doubt on proselytizing. *Psychological Science*, 21(11), 1701-1707. <https://doi.org/10.1177/0956797610385953>
- Gawronski, B. (2022). Attitudinal effects of stimulus co-occurrence and stimulus relations: Paradoxical effects of cognitive load. *Personality and Social Psychology Bulletin*, 48(10), 1438-1450. <https://doi.org/10.1177/01461672211044322>
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: an integrative review of implicit and explicit attitude change. *Psychological Bulletin*, 132(5), 692-731. <https://doi.org/10.1037/0033-2909.132.5.692>
- Gawronski, B., & Bodenhausen, G. V. (2014). The associative-propositional evaluation model: Operating principles and operating conditions of evaluation. In J. W. Sherman, B. Gawronski, & Y. Trope (Eds.), *Dual-process theories of the social mind* (pp. 188-203). The Guilford Press.

- Gawronski, B., De Houwer, J., & Sherman, J. W. (2020). Twenty-five years of research using implicit measures. *Social Cognition, 38*(Suppl), S1-S25. <https://doi.org/10.1521/soco.2020.38.supp.s1>
- Gebauer, J. E., Maio, G. R., & Pakizeh, A. (2013). Feeling torn when everything seems right: Semantic incongruence causes felt ambivalence. *Personality and Social Psychology Bulletin, 39*(6), 777-791. <https://doi.org/10.1177/0146167213481679>
- Gill, M. J., Swann Jr, W. B., & Silvera, D. H. (1998). On the genesis of confidence. *Journal of Personality and Social Psychology, 75*(5), 1101-1114. <https://doi.org/10.1037/0022-3514.75.5.1101>
- Glasman, L. R., & Albarracín, D. (2006). Forming attitudes that predict future behavior: a meta-analysis of the attitude-behavior relation. *Psychological Bulletin, 132*(5), 778-822. <https://doi.org/10.1037/0033-2909.132.5.778>
- Gneezy, A., Gneezy, U., & Lauga, D. O. (2014). A reference-dependent model of the price-quality heuristic. *Journal of Marketing Research, 51*(2), 153-164. <https://doi.org/10.1509/jmr.12.0407>
- Goethals, G. R., & Darley, J. M. (1977). Social comparison theory: An attributional approach. In J. Suls & R.L. Miller (Eds.), *Social comparison processes: Theoretical and empirical perspectives* (pp. 259-278). Hemisphere Publishing.
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research, 35*(3), 472-482. <https://doi.org/10.1086/586910>
- Gollwitzer, P. M. (1990). Action phases and mind-sets. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 53-92). The Guilford Press.
- Granberg, D. (1982). Social judgment theory. *Annals of the International Communication Association, 6*(1), 304-329. <https://doi.org/10.1080/23808985.1982.11678502>
- Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological Foundations of Attitudes* (pp. 147-170). Academic Press. <https://doi.org/10.1016/B978-1-4832-3071-9.50012-X>
- Greenwald, A. G. (1969). The open-mindedness of the counterattitudinal role player. *Journal of Experimental Social Psychology, 5*(4), 375-388. [https://doi.org/10.1016/0022-1031\(69\)90031-6](https://doi.org/10.1016/0022-1031(69)90031-6)
- Greenwald, A. G., & Albert, R. D. (1968). Acceptance and recall of improvised arguments. *Journal of Personality and Social Psychology, 8*(1, Pt. 1), 31-34. <https://doi.org/10.1037/h0021237>
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychological Review, 102*(1), 4-27. <https://doi.org/10.1037/0033-295X.102.1.4>
- 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*(1), 3-25. <https://doi.org/10.1037/0033-295X.109.1.3>
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of Personality and Social Psychology, 74*(6), 1464-1480. <https://doi.org/10.1037/0022-3514.74.6.1464>

- Gross, S. R., Holtz, R., & Miller, N. (1995). Attitude certainty. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 215-245). Lawrence Erlbaum Associates, Inc.
- Haddock, G., Maio, G. R., Arnold, K., & Huskinson, T. (2008). Should persuasion be affective or cognitive? The moderating effects of need for affect and need for cognition. *Personality and Social Psychology Bulletin*, 34(6), 769-778. <https://doi.org/10.1177/0146167208314871>
- Haddock, G., Rothman, A. J., Reber, R., & Schwarz, N. (1999). Forming judgments of attitude certainty, intensity, and importance: The role of subjective experiences. *Personality and Social Psychology Bulletin*, 25(7), 771-782. <https://doi.org/10.1177/0146167299025007001>
- Hass, R. G., & Grady, K. (1975). Temporal delay, type of forewarning, and resistance to influence. *Journal of Experimental Social Psychology*, 11(5), 459-469. [https://doi.org/10.1016/0022-1031\(75\)90048-7](https://doi.org/10.1016/0022-1031(75)90048-7)
- Hastie, R., & Park, B. (1986). The relationship between memory and judgment depends on whether the judgment task is memory-based or on-line. *Psychological Review*, 93(3), 258-268. <https://doi.org/10.1037/0033-295X.93.3.258>
- He, D., Melumad, S., & Pham, M. T. (2019). The pleasure of assessing and expressing our likes and dislikes. *Journal of Consumer Research*, 46(3), 545-563. <https://doi.org/10.1093/jcr/ucy079>
- He, S., & Rucker, D. D. (2022). How uncertainty affects information search among consumers: a curvilinear perspective. *Marketing Letters*, 1-14. <https://doi.org/10.1007/s11002-022-09657-0>
- Heesacker, M., Petty, R. E., & Cacioppo, J. T. (1983). Field dependence and attitude change: Source credibility can alter persuasion by affecting message-relevant thinking. *Journal of Personality*, 51(4), 653-666. <https://doi.org/10.1111/j.1467-6494.1983.tb00872.x>
- Heider, F. (1958). *The psychology of interpersonal relations*. John Wiley and Sons, Inc. <https://doi.org/10.1037/10628-000>
- Heltzel, G., & Laurin, K. (2021). Seek and Ye Shall Be Fine: Attitudes Toward Political-Perspective Seekers. *Psychological Science*, 32(11), 1782-1800. <https://doi.org/10.1177/09567976211011969>
- Henderson, M. D., De Liver, Y., & Gollwitzer, P. M. (2008). The effects of an implemental mind-set on attitude strength. *Journal of Personality and Social Psychology*, 94(3), 396-411. <https://doi.org/10.1037/0022-3514.94.3.396>
- Hohnsbehn, J.-M., Urschler, D. F., & Schneider, I. K. (2022). Torn but balanced: Trait ambivalence is negatively related to confirmation. *Personality and Individual Differences*, 196, Article 111736. <https://doi.org/10.1016/j.paid.2022.111736>
- Holbrook, A. L., Berent, M. K., Krosnick, J. A., Visser, P. S., & Boninger, D. S. (2005). Attitude importance and the accumulation of attitude-relevant knowledge in memory. *Journal of Personality and Social Psychology*, 88(5), 749-769. <https://doi.org/10.1037/0022-3514.88.5.749>
- Holland, R. W., Verplanken, B., & van Knippenberg, A. (2003). From repetition to conviction: Attitude accessibility as a determinant of attitude certainty. *Journal of Experimental Social Psychology*, 39(6), 594-601. [https://doi.org/10.1016/S0022-1031\(03\)00038-6](https://doi.org/10.1016/S0022-1031(03)00038-6)

- Houston, D. A., & Fazio, R. H. (1989). Biased processing as a function of attitude accessibility: Making objective judgments subjectively. *Social Cognition*, 7(1), 51-66. <https://doi.org/10.1521/soco.1989.7.1.51>
- Hovland, C. I., & Sherif, M. (1980). *Social judgment: Assimilation and contrast effects in communication and attitude change*. Westport: Greenwood.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. Yale University Press. <https://doi.org/10.1007/BF02713272>
- Hovland, C. I., & Weiss, W. (1951). The influence of source credibility on communication effectiveness. *Public opinion quarterly*, 15(4), 635-650.
- Hussein, M. A., & Tormala, Z. L. (2021). Undermining your case to enhance your impact: A framework for understanding the effects of acts of receptiveness in persuasion. *Personality and Social Psychology Review*, 25(3), 229-250. <https://doi.org/10.1177/10888683211001269>
- Hussein, M. A., & Tormala, Z. L. (2024). You versus we: How pronoun use shapes perceptions of receptiveness. *Journal of Experimental Social Psychology*, 110 (January), Article 104555. <https://doi.org/10.1016/j.jesp.2023.104555>
- Hussein, M. A., & Tormala, Z. L. (2023). Attitudinal advocacy. In C. Lambertson, D. Rucker, & S. Spiller (Eds.), *The Cambridge handbook of consumer psychology* (pp. 7-27). Cambridge University Press. <https://doi.org/10.1017/9781009243957.003>
- Hussein, M. A., & Wheeler, S. C. (2024). Reputational costs of receptiveness: When and why being receptive to opposing political views backfires. *Journal of Experimental Psychology: General*, 153(6), 1425-1448. <https://doi.org/10.1037/xge0001579>
- Infante, D. A. (1976). Persuasion as a function of the receiver's prior success or failure as a message source. *Communication Quarterly*, 24(3), 21-26. <https://doi.org/10.1080/01463377609369224>
- Insko, C. A. (1965). Verbal reinforcement of attitude. *Journal of Personality and Social Psychology*, 2(4), 621-623. <https://doi.org/10.1037/h0022485>
- Itzchakov, G., & Reis, H. T. (2021). Perceived responsiveness increases tolerance of attitude ambivalence and enhances intentions to behave in an open-minded manner. *Personality and Social Psychology Bulletin*, 47(3), 468-485. <https://doi.org/10.1177/0146167220929218>
- Itzchakov, G., DeMarree, K. G., Kluger, A. N., & Turjeman-Levi, Y. (2018). The listener sets the tone: High-quality listening increases attitude clarity and behavior-intention consequences. *Personality and Social Psychology Bulletin*, 44(5), 762-778. <https://doi.org/10.1177/0146167217747874>
- Itzchakov, G., Weinstein, N., Leary, M., Saluk, D., & Amar, M. (2024). Listening to understand: The role of high-quality listening on speakers' attitude depolarization during disagreements. *Journal of Personality and Social Psychology*, 126(2), 213-239. <https://doi.org/10.1037/pspa0000366>
- Janis, I. L., & King, B. T. (1954). The influence of role playing on opinion change. *The Journal of Abnormal and Social Psychology*, 49(2), 211-218. <https://doi.org/10.1037/h0056957>
- Jarvis, W. B. G., & Petty, R. E. (1996). The need to evaluate. *Journal of Personality and Social Psychology*, 70(1), 172-194. <https://doi.org/10.1037/0022-3514.70.1.172>

- Jonas, K., Diehl, M., & Brömer, P. (1997). Effects of attitudinal ambivalence on information processing and attitude-intention consistency. *Journal of Experimental Social Psychology*, 33(2), 190-210. <https://doi.org/10.1006/jesp.1996.1317>
- Jones, C. R., Olson, M. A., & Fazio, R. H. (2010). Evaluative conditioning: The "how" question. *Advances in Experimental Social Psychology*, 43, 205-255. [https://doi.org/10.1016/S0065-2601\(10\)43005-1](https://doi.org/10.1016/S0065-2601(10)43005-1)
- Judd, C. M., & Brauer, M. (1995). Repetition and evaluative extremity. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 43-71). Lawrence Erlbaum Associates, Inc.
- Kallgren, C. A., & Wood, W. (1986). Access to attitude-relevant information in memory as a determinant of attitude-behavior consistency. *Journal of Experimental Social Psychology*, 22(4), 328-338. [https://doi.org/10.1016/0022-1031\(86\)90018-1](https://doi.org/10.1016/0022-1031(86)90018-1)
- Kaplan, K. J. (1972). On the ambivalence-indifference problem in attitude theory and measurement: A suggested modification of the semantic differential technique. *Psychological Bulletin*, 77(5), 361-372. <https://doi.org/10.1037/h0032590>
- Kardes, F. R., Cronley, M. L., Kellaris, J. J., & Posavac, S. S. (2004). The role of selective information processing in price-quality inference. *Journal of Consumer Research*, 31(2), 368-374. <https://doi.org/10.1086/422115>
- Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, 24(2), 163-204. <https://doi.org/10.1086/266945>
- Kelley, H. H., & Lamb, T. W. (1957). Certainty of judgment and resistance to social influence. *The Journal of Abnormal and Social Psychology*, 55(1), 137-139. <https://doi.org/10.1037/h0039308>
- Kelman, H. C. (1974). Social influence and linkages between the individual and the social system: Further thoughts on the processes of compliance, identification, and internalization. In J. Tedeschi (Ed.), *Perspectives on social power* (pp. 125-171). Aldine. <https://doi.org/10.4324/9781315129693-6>
- Kelman, H. C. (2017). Processes of opinion change. In A. Pelinka (Ed.), *Attitude change* (pp. 205-233). Routledge. <https://doi.org/10.4324/9781351315364-8>
- Kelman, H. C., & Hovland, C. I. (1953). "Reinstatement" of the communicator in delayed measurement of opinion change. *The Journal of Abnormal and Social Psychology*, 48(3), 327-335. <https://doi.org/10.1037/h0061861>
- Killeya, L. A., & Johnson, B. T. (1998). Experimental induction of biased systematic processing: The directed-thought technique. *Personality and Social Psychology Bulletin*, 24(1), 17-33. <https://doi.org/10.1177/0146167298241002>
- Kim, T., Duhachek, A., Briñol, P., & Petty, R. E. (2021). How posting online reviews can influence the poster's evaluations. *Personality and Social Psychology Bulletin*, 47(9), 1401-1413. <https://doi.org/10.1177/0146167220976449>
- Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin*, 21(1), 58-75.

<https://doi.org/10.1177/0146167295211007>

Krosnick, J. A. (1988). Attitude importance and attitude change. *Journal of Experimental Social Psychology*, 24(3), 240-255. [https://doi.org/10.1016/0022-1031\(88\)90038-8](https://doi.org/10.1016/0022-1031(88)90038-8)

Krosnick, J. A. (1988). The role of attitude importance in social evaluation: a study of policy preferences, presidential candidate evaluations, and voting behavior. *Journal of Personality and Social Psychology*, 55(2), 196-210. <https://doi.org/10.1037/0022-3514.55.2.196>

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1-24). Lawrence Erlbaum Associates, Inc. <https://doi.org/10.4324/9781315807041>

Krosnick, J. A., Boninger, D. S., Chuang, Y. C., Berent, M. K., & Carnot, C. G. (1993). Attitude strength: One construct or many related constructs? *Journal of Personality and Social Psychology*, 65(6), 1132-1151. <https://doi.org/10.1037/0022-3514.65.6.1132>

Krosnick, J., Judd, C., & Wittenbrink, B. (2005). Attitude measurement. In D. Albarracín, B.T. Johnson, & M. P. Zanna (Eds.), *Handbook of attitudes and attitude change* (pp. 21-76). Lawrence Erlbaum. <https://doi.org/10.4135/9781412956321>

Kruglanski, A. W., Szumowska, E., Kopetz, C. H., Vallerand, R. J., & Pierro, A. (2021). On the psychology of extremism: How motivational imbalance breeds intemperance. *Psychological Review*, 128(2), 264-289. <https://doi.org/10.1037/rev0000260>

Kruglanski, A., & Thompson, E. (1999). Persuasion by a single route: A view from the unimodal. *Psychological Inquiry*, 10(2), 83-109. <https://doi.org/10.1207/S15327965PL100201>

Kubin, E., Puryear, C., Schein, C., & Gray, K. (2021). Personal experiences bridge moral and political divides better than facts. *Proceedings of the National Academy of Sciences*, 118(6), Article e2008389118. <https://doi.org/10.1073/pnas.2008389118>

Kupor, D. M., Tormala, Z. L., Norton, M. I., & Rucker, D. D. (2014). Thought calibration: How thinking just the right amount increases one's influence and appeal. *Social Psychological and Personality Science*, 5(3), 263-270. <https://doi.org/10.1177/1948550613499940>

Kupor, D., & Tormala, Z. (2018). When moderation fosters persuasion: The persuasive power of deviatory reviews. *Journal of Consumer Research*, 45(3), 490-510. <https://doi.org/10.1093/jcr/ucy021>

Kwon, J., & Nayakankuppam, D. (2015). Strength without elaboration: The role of implicit self-theories in forming and accessing attitudes. *Journal of Consumer Research*, 42(2), 316-339. <https://doi.org/10.1093/jcr/ucv019>

LaPiere, R. T. (1934). Attitudes vs. actions. *Social Forces*, 13(2), 230-237. <https://doi.org/10.2307/2570339>

Lasswell, H. D. (1948). The structure and function of communication in society. In L. Bryson (Ed.), *The communication of ideas* (pp. 37-51). Harper and Row.

Lavine, H., Thomsen, C. J., Zanna, M. P., & Borgida, E. (1998). On the primacy of affect in the determination of attitudes and behavior: The moderating role of affective-cognitive ambivalence.

Journal of Experimental Social Psychology, 34(4), 398-421. <https://doi.org/10.1006/jesp.1998.1357>

Leach, C. W., Iyer, A., & Pedersen, A. (2006). Anger and guilt about ingroup advantage explain the willingness for political action. *Personality and Social Psychology Bulletin*, 32(9), 1232-1245. <https://doi.org/10.1177/0146167206289729>

Leary, M. R., Diebels, K. J., Davisson, E. K., Jongman-Sereno, K. P., Isherwood, J. C., Raimi, K. T., Deffler, S. A., & Hoyle, R. H. (2017). Cognitive and interpersonal features of intellectual humility. *Personality and Social Psychology Bulletin*, 43(6), 793-813. <https://doi.org/10.1177/0146167217697695>

Lee, A. Y. (2001). The mere exposure effect: An uncertainty reduction explanation revisited. *Personality and Social Psychology Bulletin*, 27(10), 1255-1266. <https://doi.org/10.1177/01461672012710002>

Liberman, N., & Förster, J. (2006). Inferences from decision difficulty. *Journal of Experimental Social Psychology*, 42(3), 290-301. <https://doi.org/10.1016/j.jesp.2005.04.007>

Lingle, J. H., & Ostrom, T. M. (1979). Retrieval selectivity in memory-based impression judgments. *Journal of Personality and Social Psychology*, 37(2), 180-194. <https://doi.org/10.1037/0022-3514.37.2.180>

Linn, L. S. (1965). Verbal attitudes and overt behavior: A study of racial discrimination. *Social Forces*, 43(3), 353-364. <https://doi.org/10.2307/2574765>

Litt, A., & Tormala, Z. L. (2010). Fragile Enhancement of Attitudes and Intentions Following Difficult Decisions. *Journal of Consumer Research*, 37(4), 584-598. <https://doi.org/10.1086/653494>

Lodewijkx, H. F., Kersten, G. L., & Van Zomeren, M. (2008). Dual pathways to engage in 'silent marches' against violence: Moral outrage, moral cleansing and modes of identification. *Journal of Community & Applied Social Psychology*, 18(3), 153-167. <https://doi.org/10.1002/casp.916>

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37(11), 2098-2109. <https://doi.org/10.1037/0022-3514.37.11.2098>

Luttrell, A., & Petty, R. E. (2021). Evaluations of self-focused versus other-focused arguments for social distancing: An extension of moral matching effects. *Social Psychological and Personality Science*, 12(6), 946-954. <https://doi.org/10.1177/1948550620947853>

Luttrell, A., & Sawicki, V. (2020). Attitude strength: Distinguishing predictors versus defining features. *Social and Personality Psychology Compass*, 14(8), Article e12555. <https://doi.org/10.1111/spc3.12555>

Luttrell, A., & Togans, L. J. (2021). The stability of moralized attitudes over time. *Personality and Social Psychology Bulletin*, 47(4), 551-564. <https://doi.org/10.1177/0146167220935737>

Luttrell, A., Petty, R. E., & Briñol, P. (2020). The interactive effects of ambivalence and certainty on political opinion stability. *Journal of Social and Political Psychology*, 8(2), 525-541. <https://doi.org/10.5964/jspp.v8i2.1247>

Luttrell, A., Petty, R. E., Briñol, P., & Wagner, B. C. (2016). Making it moral: Merely labeling an attitude as moral increases its strength. *Journal of Experimental Social Psychology*, 65, 82-93.

<https://doi.org/10.1016/j.jesp.2016.04.003>

Luttrell, A., Philipp-Muller, A., & Petty, R. E. (2019). Challenging moral attitudes with moral messages. *Psychological Science*, 30(8), 1136-1150. <https://doi.org/10.1177/0956797619854706>

Lydon, J., Zanna, M. P., & Ross, M. (1988). Bolstering attitudes by autobiographical recall: Attitude persistence and selective memory. *Personality and Social Psychology Bulletin*, 14(1), 78-86.

<https://doi.org/10.1177/0146167288141008>

Maheswaran, D., & Chaiken, S. (1991). Promoting systematic processing in low-motivation settings: Effect of incongruent information on processing and judgment. *Journal of Personality and Social Psychology*, 61(1), 13-25. <https://doi.org/10.1037/0022-3514.61.1.13>

Maio, G. R., & Thomas, G. (2007). The epistemic-teleologic model of deliberate self-persuasion. *Personality and Social Psychology Review*, 11(1), 46-67. <https://doi.org/10.1177/1088868306294589>

Maio, G. R., Bell, D. W., & Esses, V. M. (1996). Ambivalence and persuasion: The processing of messages about immigrant groups. *Journal of Experimental Social Psychology*, 32(6), 513-536.

<https://doi.org/10.1006/jesp.1996.0023>

Maio, G. R., Verplanken, B., & Haddock, G. (2018). *The psychology of attitudes and attitude change*. Sage.

Martin, L. L. (1986). Set/reset: Use and disuse of concepts in impression formation. *Journal of Personality and Social Psychology*, 51(3), 493-504. <https://doi.org/10.1037/0022-3514.51.3.493>

Martin, L. L., & Achee, J. W. (1992). Beyond accessibility: The role of processing objectives in judgment. In L. L. Martin & A. Tesser (Eds.), *The construction of social judgments* (pp. 195-216). Lawrence Erlbaum Associates, Inc.

Martin, L. L., Seta, J. J., & Crelia, R. A. (1990). Assimilation and contrast as a function of people's willingness and ability to expend effort in forming an impression. *Journal of Personality and Social Psychology*, 59(1), 27-37. <https://doi.org/10.1037/0022-3514.59.1.27>

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology*, 64(3), 317-326. <https://doi.org/10.1037/0022-3514.64.3.317>

Martin, N. G., Eaves, L. J., Heath, A. C., Jardine, R., Feingold, L. R., & Eysenck, H. J. (1986). Transmission of social attitudes. *Proceedings of the National Academy of Sciences, USA*, 83, 4364-4368.

<https://doi.org/10.1073/pnas.83.12.4364>

Matthews, N. L. (2019). Detecting the boundaries of disposition bias on moral judgments of media characters' behaviors using social judgment theory. *Journal of Communication*, 69(4), 418-441.

<https://doi.org/10.1093/joc/jqz021>

Mayer, N. D., & Tormala, Z. L. (2010). "Think" versus "feel" framing effects in persuasion. *Personality and Social Psychology Bulletin*, 36(4), 443-454. <https://doi.org/10.1177/0146167210362981>

- McGuire, W. J. (1960a). Cognitive consistency and attitude change. *The Journal of Abnormal and Social Psychology*, 60(3), 345-353. <https://doi.org/10.1037/h0048563>
- McGuire, W. J. (1960b). Direct and indirect persuasive effects of dissonance-producing messages. *The Journal of Abnormal and Social Psychology*, 60(3), 354-358. <https://doi.org/10.1037/h0046750>
- McGuire, W. J. (1964). Some contemporary approaches. *Advances in Experimental Social Psychology*, 1, 191-229. [https://doi.org/10.1016/S0065-2601\(08\)60052-0](https://doi.org/10.1016/S0065-2601(08)60052-0)
- McGuire, W. J. (1968). Personality and attitude change: An information-processing theory. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 171-196). Academic Press. <https://doi.org/10.1016/B978-1-4832-3071-9.50013-1>
- McGuire, W. J. (1981). The probabilistic model of cognitive structure and attitude change. In R. Petty, T.M. Ostrom, & T.C. Brock (Eds.) *Cognitive responses in persuasion* (pp. 291-307). Psychology Press.
- McGuire, W. J., & Papageorgis, D. (1961). The relative efficacy of various types of prior belief-defense in producing immunity against persuasion. *The Journal of Abnormal and Social Psychology*, 62(2), 327-337. <https://doi.org/10.1037/h0042026>
- Mello, J., Garcia-Marques, T., Briñol, P., Cancela, A., & Petty, R. E. (2020). The influence of physical attractiveness on attitude confidence and resistance to change. *Journal of Experimental Social Psychology*, 90, Article 104018. <https://doi.org/10.1016/j.jesp.2020.104018>
- Melumad, S., Inman, J. J., & Pham, M. T. (2019). Selectively emotional: How smartphone use changes user-generated content. *Journal of Marketing Research*, 56(2), 259-275. <https://doi.org/10.1177/0022243718815429>
- Millar, M. G., & Millar, K. U. (1990). Attitude change as a function of attitude type and argument type. *Journal of Personality and Social Psychology*, 59(2), 217-228. <https://doi.org/10.1037/0022-3514.59.2.217>
- Millar, M. G., & Tesser, A. (1986). Effects of affective and cognitive focus on the attitude-behavior relation. *Journal of Personality and Social Psychology*, 51(2), 270-276. <https://doi.org/10.1037/0022-3514.51.2.270>
- Millar, M. G., & Tesser, A. (1989). The effects of affective-cognitive consistency and thought on the attitude-behavior relation. *Journal of Experimental Social Psychology*, 25(2), 189-202. [https://doi.org/10.1016/0022-1031\(89\)90012-7](https://doi.org/10.1016/0022-1031(89)90012-7)
- Miller, J. G. (1984). Culture and the development of everyday social explanation. *Journal of Personality and Social Psychology*, 46(5), 961-978. <https://doi.org/10.1037/0022-3514.46.5.961>
- Minson, J. A., & Chen, F. S. (2022). Receptiveness to opposing views: Conceptualization and integrative review. *Personality and Social Psychology Review*, 26(2), 93-111. <https://doi.org/10.1177/10888683211061037>
- Minson, J. A., Chen, F. S., & Tinsley, C. H. (2020). Why won't you listen to me? Measuring receptiveness to opposing views. *Management Science*, 66(7), 3069-3094. <https://doi.org/10.1287/mnsc.2019.3362>

- Mitchell, C. J., De Houwer, J., & Lovibond, P. F. (2009). The propositional nature of human associative learning. *Behavioral and Brain Sciences*, 32(2), 183-198. <https://doi.org/10.1017/S0140525X09000855>
- Mrkva, K., & Van Boven, L. (2020). Salience theory of mere exposure: Relative exposure increases liking, extremity, and emotional intensity. *Journal of Personality and Social Psychology*, 118(6), 1118-1145. <https://doi.org/10.1037/pspa0000184>
- 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(5), 723-739. <https://doi.org/10.1037/0022-3514.64.5.723>
- Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, 83(4), 602-627. <https://doi.org/10.1037/0033-2909.83.4.602>
- Nayakankuppam, D., Priester, J. R., Kwon, J. H., Donovan, L. A. N., & Petty, R. E. (2018). Construction and retrieval of evaluative judgments: The attitude strength moderation model. *Journal of Experimental Social Psychology*, 76, 54-66. <https://doi.org/10.1016/j.jesp.2017.12.005>
- Neal, D. T., Wood, W., & Quinn, J. M. (2006). Habits-A repeat performance. *Current Directions in Psychological Science*, 15(4), 198-202. <https://doi.org/10.1111/j.1467-8721.2006.00435.x>
- Newby-Clark, I. R., McGregor, I., & Zanna, M. P. (2002). Thinking and caring about cognitive inconsistency: When and for whom does attitudinal ambivalence feel uncomfortable? *Journal of Personality and Social Psychology*, 82(2), 157-166. <https://doi.org/10.1037/0022-3514.82.2.157>
- Ng, W. J. R., Bu, C., & See, Y. H. M. (2023). Defensive confidence and certainty in unchanged attitudes: The role of affect-cognition matching. *Personality and Social Psychology Bulletin*, 49(5), 773-790. <https://doi.org/10.1177/01461672221074102>
- Nguyen, P., Wang, X., Li, X., & Cotte, J. (2021). Reviewing experts' restraint from extremes and its impact on service providers. *Journal of Consumer Research*, 47(5), 654-674. <https://doi.org/10.1093/jcr/ucaa037>
- Norcross, J. C., Krebs, P. M., & Prochaska, J. O. (2011). Stages of change. *Journal of Clinical Psychology*, 67(2), 143-154. <https://doi.org/10.1002/jclp.20758>
- Norton, M. I., Monin, B., Cooper, J., & Hogg, M. A. (2003). Vicarious dissonance: attitude change from the inconsistency of others. *Journal of Personality and Social Psychology*, 85(1), 47-62. <https://doi.org/10.1037/0022-3514.85.1.47>
- Olson, M. A., & Fazio, R. H. (2001). Implicit attitude formation through classical conditioning. *Psychological Science*, 12(5), 413-417. <https://doi.org/10.1111/1467-9280.00376>
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. University of Illinois Press.
- Ottati, V. & C. Stern (2023). *Divided: Open-Mindedness and Dogmatism in a Polarized World*. Oxford University Press.
- Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, 124(1), 54-74.

<https://doi.org/10.1037/0033-2909.124.1.54>

Payne, B. K., Burkley, M. A., & Stokes, M. B. (2008). Why do implicit and explicit attitude tests diverge? The role of structural fit. *Journal of Personality and Social Psychology*, 94(1), 16-31.

<https://doi.org/10.1037/0022-3514.94.1.16>

Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. D. (2005). An inkblot for attitudes: Affect misattribution as implicit measurement. *Journal of Personality and Social Psychology*, 89(3), 277-293.

<https://doi.org/10.1037/0022-3514.89.3.277>

Payne, K., & Lundberg, K. (2014). The affect misattribution procedure: Ten years of evidence on reliability, validity, and mechanisms. *Social and Personality Psychology Compass*, 8(12), 672-686.

<https://doi.org/10.1111/spc3.12148>

Pelham, B. W., Sumarta, T. T., & Myaskovsky, L. (1994). The easy path from many to much: The numerosity heuristic. *Cognitive Psychology*, 26(2), 103-133. <https://doi.org/10.1006/cogp.1994.1004>

Petersen, K. K., & Dutton, J. E. (1975). Centrality, extremity, intensity: Neglected variables in research on attitude-behavior consistency. *Social Forces*, 54(2), 393-414. <https://doi.org/10.2307/2576642>

Petrocelli, J. V., Clarkson, J. J., Tormala, Z. L., & Hendrix, K. S. (2010). Perceiving stability as a means to attitude certainty: The role of implicit theories of attitudes. *Journal of Experimental Social Psychology*, 46(6), 874-883. <https://doi.org/10.1016/j.jesp.2010.07.012>

Petrocelli, J. V., Tormala, Z. L., & Rucker, D. D. (2007). Unpacking attitude certainty: Attitude clarity and attitude correctness. *Journal of Personality and Social Psychology*, 92(1), 30-41.

<https://doi.org/10.1037/0022-3514.92.1.30>

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751-783. <https://doi.org/10.1037/0022-3514.90.5.751>

Petty, R. E. (1997). The evolution of theory and research in social psychology: From single to multiple effect and process models. In C. McGarty & S. A. Haslam (Eds.), *The message of social psychology: Perspectives on mind in society* (pp. 268-290). Blackwell Publishers, Ltd.

Petty, R. E. & Briñol, P. (2012). The Elaboration Likelihood Model. In P. A. M. Van Lange, A. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 224-245). London, England: Sage. <https://doi.org/10.4135/9781446249215>

Petty, R. E., & Cacioppo, J. T. (1977). Forewarning, cognitive responding, and resistance to persuasion. *Journal of Personality and Social Psychology*, 35(9), 645-655. <https://doi.org/10.1037/0022-3514.35.9.645>

Petty, R. E., & Cacioppo, J. T. (1979). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology*, 37(10), 1915-1926. <https://doi.org/10.1037/0022-3514.37.10.1915>

Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on responses to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, 46(1), 69-81. <https://doi.org/10.1037/0022-3514.46.1.69>

- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19, 123-205. [https://doi.org/10.1016/S0065-2601\(08\)60214-2](https://doi.org/10.1016/S0065-2601(08)60214-2)
- Petty, R. E., & Krosnick, J. A. (Eds.) (1995). *Attitude strength: Antecedents and consequences*. Lawrence Erlbaum Associates, Inc. <https://doi.org/10.4324/9781315807041>
- Petty, R. E., & Wegener, D. T. (1993). Flexible correction processes in social judgment: Correcting for context-induced contrast. *Journal of Experimental Social Psychology*, 29(2), 137-165. <https://doi.org/10.1006/jesp.1993.1007>
- Petty, R. E., & Wegener, D. T. (1998). Matching versus mismatching attitude functions: Implications for scrutiny of persuasive messages. *Personality and Social Psychology Bulletin*, 24(3), 227-240. <https://doi.org/10.1177/0146167298243001>
- Petty, R. E., & Wegener, D. T. (1999). The elaboration likelihood model: Current status and controversies. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 37-72). The Guilford Press.
- Petty, R. E., Briñol, P., & DeMarree, K. G. (2007). The Meta-Cognitive Model (MCM) of attitudes: Implications for attitude measurement, change, and strength. *Social Cognition*, 25(5), 657-686. <https://doi.org/10.1521/soco.2007.25.5.657>
- Petty, R. E., Briñol, P., & Tormala, Z. L. (2002). Thought confidence as a determinant of persuasion: The self-validation hypothesis. *Journal of Personality and Social Psychology*, 82(5), 722-741. <https://doi.org/10.1037/0022-3514.82.5.722>
- Petty, R. E., Briñol, P., Tormala, Z. L., & Wegener, D. T. (2007). The role of metacognition in social judgment. In P. Briñol & K. DeMarree (Eds.), *Social metacognition* (pp. 1-18). Psychology Press.
- Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology*, 41(5), 847-855. <https://doi.org/10.1037/0022-3514.41.5.847>
- Petty, R. E., Fazio, R. H., Briñol, P. (Eds.) (2008). The new implicit measures: An overview. In R. E. Petty, R. H. Fazio, & P. Briñol (Eds.), *Attitudes: Insights from the new implicit measures* (pp. 3-18). Psychology Press. <https://doi.org/10.4324/9780203809884>
- Petty, R. E., Gleicher, F., & Baker, S. M. (2020). Multiple roles for affect in persuasion. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 181-200). Pergamon Press. <https://doi.org/10.4324/9781003058731-13>
- Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 93-130). Lawrence Erlbaum Associates, Inc.
- Petty, R. E., Ostrom, T. M., & Brock, T. C. (1981). Historical foundations of the cognitive response approach to attitudes and persuasion. In R. Petty, T. Ostrom, & T. Brock (Eds.), *Cognitive responses in persuasion* (pp. 5-29). Erlbaum.

Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different roles for affect under high-and low-elaboration conditions. *Journal of Personality and Social Psychology*, 64(1), 5-20. <https://doi.org/10.1037/0022-3514.64.1.5>

Petty, R., Siev, J., & Briñol, P. (2023). Attitude Strength: What's New? *The Spanish Journal of Psychology*, 26, Article E4. <https://doi.org/10.1017/SJP.2023.7>

Petty, R. E., Tormala, Z. L., & Rucker, D. D. (2004). Resisting persuasion by counterarguing: An attitude strength perspective. In J. T. Jost, M. R. Banaji, & D. A. Prentice (Eds.), *Perspectivism in social psychology: The yin and yang of scientific progress* (pp. 37-51). American Psychological Association. <https://doi.org/10.1037/10750-004>

Petty, R. E., Tormala, Z. L., Briñol, P., & Jarvis, W. B. G. (2006). Implicit ambivalence from attitude change: An exploration of the PAST model. *Journal of Personality and Social Psychology*, 90(1), 21-41. <https://doi.org/10.1037/0022-3514.90.1.21>

Petty, R. E., Wegener, D. T., & White, P. H. (1998). Flexible correction processes in social judgment: Implications for persuasion. *Social Cognition*, 16(1), 93-113. <https://doi.org/10.1521/soco.1998.16.1.93>

Petty, R. E., Wells, G. L., & Brock, T. C. (1976). Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification. *Journal of Personality and Social Psychology*, 34(5), 874-884. <https://doi.org/10.1037/0022-3514.34.5.874>

Petty, R. E., Wheeler, S. C., & Tormala, Z. L. (2013). Persuasion and attitude change. In H. Tennen, J. Suls, & I. B. Weiner (Eds.), *Handbook of psychology: Personality and social psychology* (pp. 369-389). John Wiley & Sons, Inc.

Petty, R., & Cacioppo, J. (1996). *Attitudes and persuasion: Contemporary and classic approaches*. Routledge. <https://doi.org/10.4324/9780429502156>

Pfau, M. (1995). Designing messages for behavioral inoculation. In E. Maibach & R. L. Parrott (Eds.), *Designing health messages: Approaches from communication theory and public health practice* (pp. 99-113). Sage Publications, Inc. <https://doi.org/10.4135/9781452233451.n6>

Pfau, M., Roskos-Ewoldsen, D., Wood, M., Yin, S., Cho, J., Lu, K.-H., & Shen, L. (2003). Attitude accessibility as an alternative explanation for how inoculation confers resistance. *Communication Monographs*, 70(1), 39-51. <https://doi.org/10.1080/03637750302474>

Philipp-Muller, A. Z., Wallace, L. E., & Wegener, D. T. (2020). Where does moral conviction fit?: A factor analytic approach examining antecedents to attitude strength. *Journal of Experimental Social Psychology*, 86, Article 103900. <https://doi.org/10.1016/j.jesp.2019.103900>

Philipp-Muller, A., Teeny, J. D., & Petty, R. E. (2022). Do consumers care about morality? A review and framework for understanding morality's marketplace influence. *Consumer Psychology Review*, 5(1), 107-124. <https://doi.org/10.1002/arcp.1072>

Pillaud, V., Cavazza, N., & Butera, F. (2018). The social utility of ambivalence: Being ambivalent on controversial issues is recognized as competence. *Frontiers in Psychology*, 9, Article 961. <https://doi.org/10.3389/fpsyg.2018.00961>

- Pomerantz, E. M., Chaiken, S., & Tordesillas, R. S. (1995). Attitude strength and resistance processes. *Journal of Personality and Social Psychology*, 69(3), 408-419. <https://doi.org/10.1037/0022-3514.69.3.408>
- Powell, M. C., & Fazio, R. H. (1984). Attitude accessibility as a function of repeated attitudinal expression. *Personality and Social Psychology Bulletin*, 10(1), 139-148. <https://doi.org/10.1177/0146167284101016>
- Pratkanis, A. R., Greenwald, A. G., Leippe, M. R., & Baumgardner, M. H. (1988). In search of reliable persuasion effects: III. The sleeper effect is dead: Long live the sleeper effect. *Journal of Personality and Social Psychology*, 54(2), 203.
- Price, E., Ottati, V., Wilson, C., & Kim, S. (2015). Open-minded cognition. *Personality and Social Psychology Bulletin*, 41(11), 1488-1504. <https://doi.org/10.1177/0146167215600528>
- Priester, J. R., & Petty, R. E. (1996). The gradual threshold model of ambivalence: relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology*, 71(3), 431-449. <https://doi.org/10.1037/0022-3514.71.3.431>
- Priester, J. R., & Petty, R. E. (2001). Extending the bases of subjective attitudinal ambivalence: Interpersonal and intrapersonal antecedents of evaluative tension. *Journal of Personality and Social Psychology*, 80(1), 19-34. <https://doi.org/10.1037/0022-3514.80.1.19>
- Priester, J. R., Petty, R. E., & Park, K. (2007). Whence univalent ambivalence? From the anticipation of conflicting reactions. *Journal of Consumer Research*, 34(1), 11-21. <https://doi.org/10.1086/513042>
- Prislin, R. (1996). Attitude stability and attitude strength: One is enough to make it stable. *European Journal of Social Psychology*, 26(3), 447-477. [https://doi.org/10.1002/\(SICI\)1099-0992\(199605\)26:3<447::AID-EJSP768>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1099-0992(199605)26:3<447::AID-EJSP768>3.0.CO;2-I)
- Prislin, R., Boyle, S. M., Davenport, C., Farley, A., Jacobs, E., Michalak, J., Uehara, K., Zandian, F., & Xu, Y. (2011). On being influenced while trying to persuade: The feedback effect of persuasion outcomes on the persuader. *Social Psychological and Personality Science*, 2(1), 51-58. <https://doi.org/10.1177/1948550610377238>
- Radecki, C. M., & Jaccard, J. (1995). Perceptions of knowledge, actual knowledge, and information search behavior. *Journal of Experimental Social Psychology*, 31(2), 107-138. <https://doi.org/10.1006/jesp.1995.1006>
- Rahinel, R., Amaral, N. B., Clarkson, J. J., & Kay, A. C. (2016). On incidental catalysts of elaboration: Reminders of environmental structure promote effortful thought. *Journal of Experimental Social Psychology*, 64, 1-7. <https://doi.org/10.1016/j.jesp.2016.01.001>
- Rao, A. R., & Monroe, K. B. (1989). The effect of price, brand name, and store name on buyers' perceptions of product quality: An integrative review. *Journal of Marketing Research*, 26(3), 351-357. <https://doi.org/10.1177/002224378902600309>
- Rathje, S., Van Bavel, J. J., & Van Der Linden, S. (2021). Out-group animosity drives engagement on social media. *Proceedings of the National Academy of Sciences*, 118(26), Article e2024292118. <https://doi.org/10.1073/pnas.2024292118>

- Rees, L., Rothman, N. B., Leheavy, R., & Sanchez-Burks, J. (2013). The ambivalent mind can be a wise mind: Emotional ambivalence increases judgment accuracy. *Journal of Experimental Social Psychology*, 49(3), 360-367. <https://doi.org/10.1016/j.jesp.2012.12.017>
- Refling, E. J., Calnan, C. M., Fabrigar, L. R., MacDonald, T. K., Johnson, V. C., & Smith, S. M. (2013). To partition or not to partition evaluative judgments: Comparing measures of structural ambivalence. *Social Psychological and Personality Science*, 4(4), 387-394. <https://doi.org/10.1177/1948550612460060>
- Regan, D. T., & Fazio, R. (1977). On the consistency between attitudes and behavior: Look to the method of attitude formation. *Journal of Experimental Social Psychology*, 13(1), 28-45. [https://doi.org/10.1016/0022-1031\(77\)90011-7](https://doi.org/10.1016/0022-1031(77)90011-7)
- Reich, T., & Tormala, Z. L. (2013). When contradictions foster persuasion: An attributional perspective. *Journal of Experimental Social Psychology*, 49(3), 426-439. <https://doi.org/10.1016/j.jesp.2013.01.004>
- Reich, T., & Wheeler, S. C. (2016). The good and bad of ambivalence: Desiring ambivalence under outcome uncertainty. *Journal of Personality and Social Psychology*, 110(4), 493-508. <https://doi.org/10.1037/pspa0000047>
- Reich, T., Fulmer, A. G., & Dhar, R. (2022). In the face of self-threat: Why ambivalence heightens people's willingness to act. *Organizational Behavior and Human Decision Processes*, 168, Article 104106. <https://doi.org/10.1016/j.obhdp.2021.104106>
- Rhine, R. J., & Severance, L. J. (1970). Ego-involvement, discrepancy, source credibility, and attitude change. *Journal of Personality and Social Psychology*, 16(2), 175-190. <https://doi.org/10.1037/h0029832>
- Rhodes, N., & Wood, W. (1992). Self-esteem and intelligence affect influenceability: The mediating role of message reception. *Psychological Bulletin*, 111(1), 156-171. <https://doi.org/10.1037/0033-2909.111.1.156>
- Rios, K., DeMarree, K. G., & Statzer, J. (2014). Attitude certainty and conflict style: Divergent effects of correctness and clarity. *Personality and Social Psychology Bulletin*, 40(7), 819-830. <https://doi.org/10.1177/0146167214528991>
- Rios, K., Wheeler, S. C., & Miller, D. T. (2012). Compensatory nonconformity: Self-uncertainty and low implicit self-esteem increase adoption and expression of minority opinions. *Journal of Experimental Social Psychology*, 48(6), 1300-1309. <https://doi.org/10.1016/j.jesp.2012.07.005>
- Rocklage, M. D., & Fazio, R. H. (2016). On the dominance of attitude emotionality. *Personality and Social Psychology Bulletin*, 42(2), 259-270. <https://doi.org/10.1177/0146167215623273>
- Rocklage, M. D., & Fazio, R. H. (2018). Attitude accessibility as a function of emotionality. *Personality and Social Psychology Bulletin*, 44(4), 508-520. <https://doi.org/10.1177/0146167217743762>
- Rocklage, M. D., & Luttrell, A. (2021). Attitudes based on feelings: Fixed or fleeting? *Psychological Science*, 32(3), 364-380. <https://doi.org/10.1177/0956797620965532>
- Rocklage, M. D., Rucker, D. D., & Nordgren, L. F. (2018). Persuasion, emotion, and language: The intent to persuade transforms language via emotionality. *Psychological Science*, 29(5), 749-760.

<https://doi.org/10.1177/0956797617744797>

Rocklage, M. D., Rucker, D. D., & Nordgren, L. F. (2021). Emotionally numb: Expertise dulls consumer experience. *Journal of Consumer Research*, 48(3), 355-373. <https://doi.org/10.1093/jcr/ucab015>

Rocklage, M. D., Rucker, D. D., & Nordgren, L. F. (2021). Mass-scale emotionality reveals human behaviour and marketplace success. *Nature Human Behaviour*, 5(10), 1323-1329. <https://doi.org/10.1038/s41562-021-01098-5>

Rokeach, M. (1966). Attitude change and behavioral change. *Public Opinion Quarterly*, 30(4), 529-550. <https://doi.org/10.1086/267454>

Rosenberg, M. J., Hovland, C. I., McGuire, W. J., Abelson, R. P., & Brehm, J. W. (1960). *Attitude organization and change: An analysis of consistency among attitude components (Yales studies in attitude and communication)*. Yale University Press.

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(2), 198-211. <https://doi.org/10.1037/0022-3514.63.2.198>

Rucker, D. D., D'Agostino, J., Dyer, M., & Tormala, Z. L. (2024). The allure of consensus: People (over)seek consensus in selecting group persuasion strategies. *Journal of Personality and Social Psychology*, 126(4), 566-586. <https://doi.org/10.1037/pspa0000382>

Rucker, D. D., & Petty, R. E. (2004). When resistance is futile: Consequences of failed counterarguing for attitude certainty. *Journal of Personality and Social Psychology*, 86(2), 219-235. <https://doi.org/10.1037/0022-3514.86.2.219>

Rucker, D. D., & Petty, R. E. (2025). On the evolution of psychological theory: Advancing from empirical effects to single-process explanations to multi-process models. *Consumer Psychology Review*, 8(1), 32-50. <https://doi.org/10.1002/arcp.1105>

Rucker, D. D., Petty, R. E., & Briñol, P. (2008). What's in a frame anyway?: A meta-cognitive analysis of the impact of one versus two sided message framing on attitude certainty. *Journal of Consumer Psychology*, 18(2), 137-149. <https://doi.org/10.1016/j.jcps.2008.01.008>

Rucker, D. D., Tormala, Z. L., & Petty, R. E. (2004). Individual differences in resistance to persuasion: The role of beliefs and meta-beliefs. In E. S. Knowles & J. A. Linn (Eds.), *Resistance and persuasion* (pp. 83-104). Lawrence Erlbaum Associates Publishers.

Rucker, D. D., Tormala, Z. L., Petty, R. E., & Briñol, P. (2014). Consumer conviction and commitment: An appraisal-based framework for attitude certainty. *Journal of Consumer Psychology*, 24(1), 119-136. <https://doi.org/10.1016/j.jcps.2013.07.001>

Sanbonmatsu, D. M., Kardes, F. R., & Herr, P. M. (1992). The role of prior knowledge and missing information in multiattribute evaluation. *Organizational Behavior and Human Decision Processes*, 51(1), 76-91. [https://doi.org/10.1016/0749-5978\(92\)90005-R](https://doi.org/10.1016/0749-5978(92)90005-R)

Sawicki, V., & Wegener, D. T. (2018). Metacognitive reflection as a moderator of attitude strength versus attitude bolstering: Implications for attitude similarity and attraction. *Personality and Social Psychology Bulletin*, 44(5), 638-652. <https://doi.org/10.1177/0146167217744196>

- Sawicki, V., Wegener, D. T., Clark, J. K., Fabrigar, L. R., Smith, S. M., & Bengal, S. T. (2011). Seeking confirmation in times of doubt: Selective exposure and the motivational strength of weak attitudes. *Social Psychological and Personality Science*, 2(5), 540-546. <https://doi.org/10.1177/1948550611400212>
- Sawicki, V., Wegener, D. T., Clark, J. K., Fabrigar, L. R., Smith, S. M., & Durso, G. R. (2013). Feeling conflicted and seeking information: When ambivalence enhances and diminishes selective exposure to attitude-consistent information. *Personality and Social Psychology Bulletin*, 39(6), 735-747. <https://doi.org/10.1177/0146167213481388>
- Schneider, I. K., Novin, S., van Harreveld, F., & Genschow, O. (2021). Benefits of being ambivalent: The relationship between trait ambivalence and attribution biases. *British Journal of Social Psychology*, 60(2), 570-586. <https://doi.org/10.1111/bjso.12417>
- Schwarz, N. (2007). Attitude construction: Evaluation in context. *Social Cognition*, 25(5), 638-656. <https://doi.org/10.1521/soco.2007.25.5.638>
- Schwarz, N. (2008). Attitude measurement. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 41-60). Psychology Press.
- Schwarz, N., & Bles, H. (1992). Scandals and the public's trust in politicians: Assimilation and contrast effects. *Personality and Social Psychology Bulletin*, 18(5), 574-579. <https://doi.org/10.1177/0146167292185007>
- Schwarz, N., & Bless, H. (1992a). Constructing reality and its alternatives: Assimilation and contrast effects in social judgment. In L. L. Martin & A. Tesser (Eds.), *The construction of social judgments* (pp. 217-245). Erlbaum. <https://doi.org/10.4324/9780203772874>
- Schwarz, N., & Bless, H. (1992b). Scandals and the public's trust in politicians: Assimilation and contrast effects. *Personality and Social Psychology Bulletin*, 18, 574-579. <https://doi.org/10.1177/0146167292185000>
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45(3), 513-523. <https://doi.org/10.1037/0022-3514.45.3.513>
- See, Y. H. M., Petty, R. E., & Fabrigar, L. R. (2008). Affective and cognitive meta-bases of attitudes: Unique effects on information interest and persuasion. *Journal of Personality and Social Psychology*, 94(6), 938-955. <https://doi.org/10.1037/0022-3514.94.6.938>
- See, Y. H. M., Petty, R. E., & Fabrigar, L. R. (2013). Affective-cognitive meta-bases versus structural bases of attitudes predict processing interest versus efficiency. *Personality and Social Psychology Bulletin*, 39(8), 1111-1123. <https://doi.org/10.1177/0146167213490807>
- See, Y. H. M., Valenti, G., Ho, A. Y., & Tan, M. S. (2013). When message tailoring backfires: The role of initial attitudes in affect-cognition matching. *European Journal of Social Psychology*, 43(6), 570-584. <https://doi.org/10.1002/ejsp.1967>
- Shavitt, S. (1989). Operationalizing functional theories of attitude. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 311-337). Lawrence Erlbaum Associates, Inc. <https://doi.org/10.4324/9781315801780>

- Shavitt, S. (1990). The role of attitude objects in attitude functions. *Journal of Experimental Social Psychology*, 26(2), 124-148. [https://doi.org/10.1016/0022-1031\(90\)90072-T](https://doi.org/10.1016/0022-1031(90)90072-T)
- Shaw, M. E., & Costanzo, P. R. (1970). *Theories of social psychology*. McGraw-Hill.
- Sherif, M. (1936). *The psychology of social norms*. Harper.
- Sherif, M., & Hovland, C. I. (1961). *Social judgment: Assimilation and contrast effects in communication and attitude change*. Yale University Press.
- Sherman, D. K., & Cohen, G. L. (2002). Accepting threatening information: Self-Affirmation and the reduction of defensive biases. *Current Directions in Psychological Science*, 11(4), 119-123. <https://doi.org/10.1111/1467-8721.00182>
- Siero, F. W., & Doosje, B. J. (1993). Attitude change following persuasive communication: Integrating social judgment theory and the elaboration likelihood model. *European Journal of Social Psychology*, 23(5), 541-554. <https://doi.org/10.1002/ejsp.2420230510>
- Siev, J. J., Petty, R. E., & Briñol, P. (2022). Attitudinal Extremism. In A. W. Kruglanski, C. Kopetz, & E. Szumowska (Eds.), *The psychology of extremism: A motivational perspective* (pp. 34-65). Routledge/Taylor & Francis Group. <https://doi.org/10.4324/9781003030898-4>
- Siev, J. J., Philip-Muller, A., Durso, G. R. O., & Wegener, D. T. (2024). Endorsing both sides, pleasing neither: Ambivalent individuals face unexpected social costs in political conflicts. *Journal of Experimental Social Psychology*, 114, Article 104631. <https://doi.org/10.1016/j.jesp.2024.104631>
- Silver, A. M., Stahl, A. E., Loiotile, R., Smith-Flores, A. S., & Feigenson, L. (2020). When not choosing leads to not liking: Choice-induced preference in infancy. *Psychological Science*, 31(11), 1422-1429. <https://doi.org/10.1177/0956797620954491>
- Simchon, A., Turkin, C., Svoray, T., Kloog, I., Dorman, M., & Gilead, M. (2021). Beyond doubt in a dangerous world: The effect of existential threats on the certitude of societal discourse. *Journal of Experimental Social Psychology*, 97, Article 104221. <https://doi.org/10.1016/j.jesp.2021.104221>
- Skitka, L. J. (2010). The psychology of moral conviction. *Social and Personality Psychology Compass*, 4(4), 267-281. <https://doi.org/10.1111/j.1751-9004.2010.00254.x>
- Skitka, L. J., & Bauman, C. W. (2008). Moral conviction and political engagement. *Political Psychology*, 29(1), 29-54. <https://doi.org/10.1111/j.1467-9221.2007.00611.x>
- Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology*, 88(6), 895-917. <https://doi.org/10.1037/0022-3514.88.6.895>
- Skitka, L. J., Hanson, B. E., & Wisneski, D. C. (2017). Utopian hopes or dystopian fears? Exploring the motivational underpinnings of moralized political engagement. *Personality and Social Psychology Bulletin*, 43(2), 177-190. <https://doi.org/10.1177/0146167216678858>
- Skitka, L. J., Hanson, B. E., Morgan, G. S., & Wisneski, D. C. (2021). The psychology of moral conviction. *Annual Review of Psychology*, 72, 347-366. <https://doi.org/10.1146/annurev-psych-063020-030612>

- Skitka, L. J., Washburn, A. N., & Carsel, T. S. (2015). The psychological foundations and consequences of moral conviction. *Current Opinion in Psychology*, 6, 41-44. <https://doi.org/10.1016/j.copsyc.2015.03.025>
- Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanations. *Psychological Bulletin*, 105(1), 131-142. <https://doi.org/10.1037/0033-2909.105.1.131>
- Smith, M. B., Bruner, J. S., & White, R. W. (1956). *Opinions and personality*. John Wiley & Sons. <https://doi:10.2307/1951587>
- Smith, S. M., Fabrigar, L. R., & Norris, M. E. (2008). Reflecting on six decades of selective exposure research: Progress, challenges, and opportunities. *Social and Personality Psychology Compass*, 2(1), 464-493. <https://doi.org/10.1111/j.1751-9004.2007.00060.x>
- Smith, S. M., Fabrigar, L. R., Macdougall, B. L., & Wiesenhal, N. L. (2008). The role of amount, cognitive elaboration, and structural consistency of attitude-relevant knowledge in the formation of attitude certainty. *European Journal of Social Psychology*, 38(2), 280-295. <https://doi.org/10.1002/ejsp.447>
- Smith, S. W., Atkin, C. K., Martell, D., Allen, R., & Hembroff, L. (2006). A social judgment theory approach to conducting formative research in a social norms campaign. *Communication Theory*, 16(1), 141-152. <https://doi.org/10.1111/j.1468-2885.2006.00009.x>
- Snyder, A. I., & Tormala, Z. L. (2017). Valence asymmetries in attitude ambivalence. *Journal of Personality and Social Psychology*, 112(4), 555-576. <https://doi.org/10.1037/pspa0000075>
- Snyder, M., & DeBono, K. G. (1985). Appeals to image and claims about quality: Understanding the psychology of advertising. *Journal of Personality and Social Psychology*, 49(3), 586-597. <https://doi.org/10.1037/0022-3514.49.3.586>
- Sperlich, L. M., & Unkelbach, C. (2022). When do people learn likes and dislikes from co-occurrences? A dual-force perspective on evaluative conditioning. *Journal of Experimental Social Psychology*, 103, Article 104377. <https://doi.org/10.1016/j.jesp.2022.104377>
- Staats, A. W., & Staats, C. K. (1958). Attitudes established by classical conditioning. *The Journal of Abnormal and Social Psychology*, 57(1), 37-40. <https://doi.org/10.1037/h0042782>
- Stavraki, M., Lamprinakos, G., Briñol, P., Petty, R. E., Karantinou, K., & Díaz, D. (2021). The influence of emotions on information processing and persuasion: A differential appraisals perspective. *Journal of Experimental Social Psychology*, 93, Article 104085. <https://doi.org/10.1016/j.jesp.2020.104085>
- Staw, B. M., & Ross, J. (1985). Stability in the midst of change: A dispositional approach to job attitudes. *Journal of Applied Psychology*, 70(3), 469-480. <https://doi.org/10.1037/0021-9010.70.3.469>
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, 21, 261-302. [https://doi.org/10.1016/S0065-2601\(08\)60229-4](https://doi.org/10.1016/S0065-2601(08)60229-4)
- Sternthal, B., Dholakia, R., & Leavitt, C. (1978). The persuasive effect of source credibility: Tests of cognitive response. *Journal of Consumer Research*, 4(4), 252-260. <https://doi.org/10.1086/208704>

- Stone, J., & Cooper, J. (2001). A self-standards model of cognitive dissonance. *Journal of Experimental Social Psychology*, 37(3), 228-243. <https://doi.org/10.1006/jesp.2000.1446>
- Taylor, S. E. (1975). On inferring one's attitudes from one's behavior: Some delimiting conditions. *Journal of Personality and Social Psychology*, 31(1), 126-131. <https://doi.org/10.1037/h0076246>
- Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: the mobilization-minimization hypothesis. *Psychological Bulletin*, 110(1), 67-85. <https://doi.org/10.1037/0033-2909.110.1.67>
- Teeny, J. D., & Petty, R. E. (2018). The role of perceived attitudinal bases on spontaneous and requested advocacy. *Journal of Experimental Social Psychology*, 76, 175-185. <https://doi.org/10.1016/j.jesp.2018.02.003>
- Teeny, J. D., & Petty, R. E. (2022). Attributions of emotion and reduced attitude openness prevent people from engaging others with opposing views. *Journal of Experimental Social Psychology*, 102, Article 104373. <https://doi.org/10.1016/j.jesp.2022.104373>
- Teeny, J. D., & Petty, R. E. (2025). Reactions to undesired outcomes: Evidence for the opposer's loss effect. *Journal of Personality and Social Psychology*. Advance online publication. <https://doi.org/10.1037/pspa0000436>
- Teeny, J. D., Siev, J. J., Briñol, P., & Petty, R. E. (2021). A review and conceptual framework for understanding personalized matching effects in persuasion. *Journal of Consumer Psychology*, 31(2), 382-414. <https://doi.org/10.1002/jcpy.1198>
- Tesser, A. (1978). Self-generated attitude change. *Advances in Experimental Social Psychology*, 11, 289-338. [https://doi.org/10.1016/S0065-2601\(08\)60010-6](https://doi.org/10.1016/S0065-2601(08)60010-6)
- Tesser, A. (1993). The importance of heritability in psychological research: the case of attitudes. *Psychological Review*, 100(1), 129-142. <https://doi.org/10.1037/0033-295X.100.1.129>
- Tesser, A., & Conlee, M. C. (1975). Some effects of time and thought on attitude polarization. *Journal of Personality and Social Psychology*, 31(2), 262-270. <https://doi.org/10.1037/h0076292>
- Thomas, W. I., & Znaniecki, F. (1918). *The polish peasant in Europe and America: Primary-group organization*. R. Badger.
- Thompson, M. M., Zanna, M. P., & Griffin, D. W. (1995). Let's not be indifferent about (attitudinal) ambivalence. *Attitude strength: Antecedents and consequences*, 4, 361-386.
- Thurstone, L. L. (1928). Attitudes can be measured. *American Journal of Sociology*, 33(4), 529-554. <https://doi.org/10.1086/214483>
- Thurstone, L. L., & Chave, E. J. (1929). *The measurement of attitude: A psychophysical method and some experiments with a scale for measuring attitude toward the Church*. The University of Chicago Press. <https://doi.org/10.1037/11574-000>
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: the effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, 81(6), 973-988. <https://doi.org/10.1037/0022-3514.81.6.973>

- Tormala, Z. L. (2008). A new framework for resistance to persuasion: The resistance appraisals hypothesis. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 213-234). Psychology Press.
- Tormala, Z. L., & DeSensi, V. L. (2008). The perceived informational basis of attitudes: Implications for subjective ambivalence. *Personality and Social Psychology Bulletin*, 34(2), 275-287.
<https://doi.org/10.1177/0146167207310029>
- Tormala, Z. L., & DeSensi, V. L. (2009). The effects of minority/majority source status on attitude certainty: A matching perspective. *Personality and Social Psychology Bulletin*, 35(1), 114-125.
<https://doi.org/10.1177/0146167208325677>
- Tormala, Z. L., & Petty, R. E. (2001). On-line versus memory-based processing: The role of "need to evaluate" in person perception. *Personality and Social Psychology Bulletin*, 27(12), 1599-1612.
<https://doi.org/10.1177/01461672012712004>
- Tormala, Z. L., & Petty, R. E. (2002). What doesn't kill me makes me stronger: The effects of resisting persuasion on attitude certainty. *Journal of Personality and Social Psychology*, 83(6), 1298-1313.
<https://doi.org/10.1037/0022-3514.83.6.1298>
- Tormala, Z. L., & Petty, R. E. (2004). Source credibility and attitude certainty: A metacognitive analysis of resistance to persuasion. *Journal of Consumer Psychology*, 14(4), 427-442.
https://doi.org/10.1207/s15327663jcp1404_11
- Tormala, Z. L., & Petty, R. E. (2007). Contextual contrast and perceived knowledge: Exploring the implications for persuasion. *Journal of Experimental Social Psychology*, 43(1), 17-30.
<https://doi.org/10.1016/j.jesp.2005.11.007>
- Tormala, Z. L., & Rucker, D. D. (2007). Attitude certainty: A review of past findings and emerging perspectives. *Social and Personality Psychology Compass*, 1(1), 469-492. <https://doi.org/10.1111/j.1751-9004.2007.00025.x>
- Tormala, Z. L., & Rucker, D. D. (2018). Attitude certainty: Antecedents, consequences, and new directions. *Consumer Psychology Review*, 1(1), 72-89. <https://doi.org/10.1002/arcp.1004>
- Tormala, Z. L., & Rucker, D. D. (2022). Attitude change and persuasion: Classic, metacognitive, and advocacy perspectives. In L. R. Kahle, T. M. Lowrey, & J. Huber, *APA handbook of consumer psychology* (pp. 323-350). American Psychological Association. <https://doi.org/10.1037/0000262-013>
- Tormala, Z. L., Briñol, P., & Petty, R. E. (2006). When credibility attacks: The reverse impact of source credibility on persuasion. *Journal of Experimental Social Psychology*, 42(5), 684-691.
<https://doi.org/10.1016/j.jesp.2005.10.005>
- Tormala, Z. L., Clarkson, J. J., & Henderson, M. D. (2011). Does fast or slow evaluation foster greater certainty? *Personality and Social Psychology Bulletin*, 37(3), 422-434.
<https://doi.org/10.1177/0146167210397378>
- Tormala, Z. L., Clarkson, J. J., & Petty, R. E. (2006). Resisting persuasion by the skin of one's teeth: The hidden success of resisted persuasive messages. *Journal of Personality and Social Psychology*, 91(3), 423-435. <https://doi.org/10.1037/0022-3514.91.3.423>

- Tormala, Z. L., DeSensi, V. L., & Petty, R. E. (2007). Resisting persuasion by illegitimate means: A metacognitive perspective on minority influence. *Personality and Social Psychology Bulletin*, 33(3), 354-367. <https://doi.org/10.1177/0146167206295004>
- Tormala, Z. L., DeSensi, V. L., Clarkson, J. J., & Rucker, D. D. (2009). Beyond attitude consensus: The social context of persuasion and resistance. *Journal of Experimental Social Psychology*, 45(1), 149-154. <https://doi.org/10.1016/j.jesp.2008.07.020>
- Tormala, Z. L., Falces, C., Briñol, P., & Petty, R. E. (2007). Ease of retrieval effects in social judgment: The role of unrequested cognitions. *Journal of Personality and Social Psychology*, 93(2), 143-157. <https://doi.org/10.1037/0022-3514.93.2.143>
- Tormala, Z. L., Petty, R. E., & Briñol, P. (2002). Ease of retrieval effects in persuasion: A self-validation analysis. *Personality and Social Psychology Bulletin*, 28(12), 1700-1712. <https://doi.org/10.1177/014616702237651>
- Tormala, Z. L., Rucker, D. D., & Seger, C. R. (2008). When increased confidence yields increased thought: A confidence-matching hypothesis. *Journal of Experimental Social Psychology*, 44(1), 141-147. <https://doi.org/10.1016/j.jesp.2006.11.002>
- Tourangeau, R., Rasinski, K. A., Bradburn, N., & D'Andrade, R. (1989). Carryover effects in attitude surveys. *Public Opinion Quarterly*, 53(4), 495-524. <https://doi.org/10.1086/269169>
- Tsai, C. I., & McGill, A. L. (2011). No pain, no gain? How fluency and construal level affect consumer confidence. *Journal of Consumer Research*, 37(5), 807-821. <https://doi.org/10.1086/655855>
- Tsai, C. I., Klayman, J., & Hastie, R. (2008). Effects of amount of information on judgment accuracy and confidence. *Organizational Behavior and Human Decision Processes*, 107(2), 97-105. <https://doi.org/10.1016/j.obhdp.2008.01.005>
- Valins, S. (1966). Cognitive effects of false heart-rate feedback. *Journal of Personality and Social Psychology*, 4(4), 400-408. <https://doi.org/10.1037/h0023791>
- Vallone, R. P., Ross, L., & Lepper, M. R. (1985). The hostile media phenomenon: biased perception and perceptions of media bias in coverage of the Beirut massacre. *Journal of Personality and Social Psychology*, 49(3), 577-585. <https://doi.org/10.1037/0022-3514.49.3.577>
- Van Bavel, J. J., Packer, D. J., Haas, I. J., & Cunningham, W. A. (2012). The importance of moral construal: Moral versus non-moral construal elicits faster, more extreme, universal evaluations of the same actions. *PloS one*, 7(11), Article e48693. <https://doi.org/10.1371/journal.pone.0048693>
- van Harreveld, F., Nohlen, H. U., & Schneider, I. K. (2015). The ABC of ambivalence: Affective, behavioral, and cognitive consequences of attitudinal conflict. *Advances in Experimental Social Psychology*, 52, 285-324. <https://doi.org/10.1016/bs.aesp.2015.01.002>
- van Harreveld, F., Rutjens, B. T., Rotteveel, M., Nordgren, L. F., & Van Der Pligt, J. (2009). Ambivalence and decisional conflict as a cause of psychological discomfort: Feeling tense before jumping off the fence. *Journal of Experimental Social Psychology*, 45(1), 167-173. <https://doi.org/10.1016/j.jesp.2008.08.015>

- van Harreveld, F., Rutjens, B. T., Schneider, I. K., Nohlen, H. U., & Keskinis, K. (2014). In doubt and disorderly: Ambivalence promotes compensatory perceptions of order. *Journal of Experimental Psychology: General*, 143(4), 1666-1676. <https://doi.org/10.1037/a0036099>
- van Harreveld, F., Van der Pligt, J., & de Liver, Y. N. (2009). The agony of ambivalence and ways to resolve it: Introducing the MAID model. *Personality and Social Psychology Review*, 13(1), 45-61. <https://doi.org/10.1177/1088868308324518>
- Van Zomeren, M., Postmes, T., Spears, R., & Bettache, K. (2011). Can moral convictions motivate the advantaged to challenge social inequality? Extending the social identity model of collective action. *Group Processes & Intergroup Relations*, 14(5), 735-753. <https://doi.org/10.1177/1368430210395637>
- Vargas, P. T., Von Hippel, W., & Petty, R. E. (2004). Using partially structured attitude measures to enhance the attitude-behavior relationship. *Personality and Social Psychology Bulletin*, 30(2), 197-211. <https://doi.org/10.1177/0146167203259931>
- Visser, P. S., & Holbrook, A. L. (2012). Metacognitive determinants of attitude strength. In P. Briñol & K. DeMarree (Eds.), *Social metacognition* (pp. 21-41). Psychology Press.
- Visser, P. S., & Mirabile, R. R. (2004). Attitudes in the social context: the impact of social network composition on individual-level attitude strength. *Journal of Personality and Social Psychology*, 87(6), 779-795. <https://doi.org/10.1037/0022-3514.87.6.779>
- Visser, P. S., Bizer, G. Y., & Krosnick, J. A. (2006). Exploring the latent structure of strength-related attitude attributes. *Advances in Experimental Social Psychology*, 38, 1-67. [https://doi.org/10.1016/S0065-2601\(06\)38001-X](https://doi.org/10.1016/S0065-2601(06)38001-X)
- Visser, P. S., Krosnick, J. A., & Simmons, J. P. (2003). Distinguishing the cognitive and behavioral consequences of attitude importance and certainty: A new approach to testing the common-factor hypothesis. *Journal of Experimental Social Psychology*, 39(2), 118-141. [https://doi.org/10.1016/S0022-1031\(02\)00522-X](https://doi.org/10.1016/S0022-1031(02)00522-X)
- Wallace, L. E., Patton, K. M., Luttrell, A., Sawicki, V., Fabrigar, L. R., Teeny, J., MacDonald, T. K., Petty, R. E., & Wegener, D. T. (2020). Perceived knowledge moderates the relation between subjective ambivalence and the "impact" of attitudes: An attitude strength perspective. *Personality and Social Psychology Bulletin*, 46(5), 709-722. <https://doi.org/10.1177/0146167219873492>
- Wan, E. W., & Rucker, D. D. (2013). Confidence and construal framing: When confidence increases versus decreases information processing. *Journal of Consumer Research*, 39(5), 977-992. <https://doi.org/10.1086/666467>
- Wan, E. W., Rucker, D. D., Tormala, Z. L., & Clarkson, J. J. (2010). The effect of regulatory depletion on attitude certainty. *Journal of Marketing Research*, 47(3), 531-541. <https://doi.org/10.1509/jmkr.47.3.531>
- Wegener, D. T., & Petty, R. E. (1995). Flexible correction processes in social judgment: The role of naive theories in corrections for perceived bias. *Journal of Personality and Social Psychology*, 68(1), 36-51. <https://doi.org/10.1037/0022-3514.68.1.36>
- Wegener, D. T., & Petty, R. E. (1997). The flexible correction model: The role of naive theories of bias in bias correction. *Advances in Experimental Social Psychology*, 29, 141-208.

[https://doi.org/10.1016/S0065-2601\(08\)60017-9](https://doi.org/10.1016/S0065-2601(08)60017-9)

Weinstein, N., Itzchakov, G., & Legate, N. (2022). The motivational value of listening during intimate and difficult conversations. *Social and Personality Psychology Compass*, 16(2), e12651.

<https://doi.org/10.1111/spc3.12651>

Wicker, A. W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. *Journal of Social Issues*, 25(4), 41-78. <https://doi.org/10.1111/j.1540-4560.1969.tb00619.x>

Wicker, A. W., & Pomazal, R. J. (1971). The relationship between attitudes and behavior as a function of specificity of attitude object and presence of a significant person during assessment conditions. *Representative Research in Social Psychology*, 2(2), 26-31.

Wicklund, R. A., & Gollwitzer, P. M. (2013). *Symbolic self completion*. Routledge.

<https://doi.org/10.4324/9781315825663>

Willoughby, E. A., Giannelis, A., Ludeke, S., Klemmensen, R., Nørgaard, A. S., Iacono, W. G., Lee, J. J., & McGue, M. (2021). Parent contributions to the development of political attitudes in adoptive and biological families. *Psychological Science*, 32(12), 2023-2034.

<https://doi.org/10.1177/09567976211021844>

Wilson, T. D., & Brekke, N. (1994). Mental contamination and mental correction: unwanted influences on judgments and evaluations. *Psychological Bulletin*, 116(1), 117-142.

<https://doi.org/10.1037/0033-2909.116.1.117>

Wilson, T. D., Kraft, D., & Dunn, D. S. (1989). The disruptive effects of explaining attitudes: The moderating effect of knowledge about the attitude object. *Journal of Experimental Social Psychology*, 25(5), 379-400. [https://doi.org/10.1016/0022-1031\(89\)90029-2](https://doi.org/10.1016/0022-1031(89)90029-2)

Wood, W. (1982). Retrieval of attitude-relevant information from memory: Effects on susceptibility to persuasion and on intrinsic motivation. *Journal of Personality and Social Psychology*, 42(5), 798-810. <https://doi.org/10.1037/0022-3514.42.5.798>

Wood, W., & Quinn, J. M. (2003). Forewarned and forearmed? Two meta-analysis syntheses of forewarnings of influence appeals. *Psychological Bulletin*, 129(1), 119-138.

<https://doi.org/10.1037/0033-2909.129.1.119>

Wood, W., Rhodes, N., & Biek, M. (1995). Working knowledge and attitude strength: An information-processing analysis. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 283-313). Lawrence Erlbaum Associates, Inc.

Woolley, K., & Sharif, M. A. (2021). Incentives increase relative positivity of review content and enjoyment of review writing. *Journal of Marketing Research*, 58(3), 539-558.

<https://doi.org/10.1177/00222437211010439>

Wu, C., & Shaffer, D. R. (1987). Susceptibility to persuasive appeals as a function of source credibility and prior experience with the attitude object. *Journal of Personality and Social Psychology*, 52(4), 677-688. <https://doi.org/10.1037/0022-3514.52.4.677>

- Wyer, R. S. (1970). Quantitative prediction of belief and opinion change: A further test of a subjective probability model. *Journal of Personality and Social Psychology*, 16(4), 559-570. <https://doi.org/10.1037/h0030064>
- Xu, A. J., & Wyer Jr, R. S. (2012). The role of bolstering and counterarguing mind-sets in persuasion. *Journal of Consumer Research*, 38(5), 920-932. <https://doi.org/10.1086/661112>
- Xu, H., Lee, E., & Rim, H. (2021). Should businesses take a stand? Effects of perceived psychological distance on consumers' expectation and evaluation of corporate social advocacy. *Journal of Marketing Communications*, 28(3), 1-24. <https://doi.org/10.1080/13527266.2021.1969588>
- Xu, M., & Petty, R. E. (2022). Two-sided messages promote openness for morally based attitudes. *Personality and Social Psychology Bulletin*, 48(8), 1151-1166. <https://doi.org/10.1177/0146167220988371>
- Xu, M., & Petty, R. E. (2024). Two-sided messages promote openness for a variety of deeply entrenched attitudes. *Personality and Social Psychology Bulletin*, 50(2), 215-231. <https://doi.org/10.1177/01461672221128113>
- Xu, M., Briñol, P., Gretton, J. D., Tormala, Z. L., Rucker, D. D., & Petty, R. E. (2020). Individual differences in attitude consistency over time: The Personal Attitude Stability Scale. *Personality and Social Psychology Bulletin*, 46(10), 1507-1519. <https://doi.org/10.1177/0146167220908995>
- Xu, M., Petty, R. E., Wright, N., & Briñol, P. (2021). Individual differences in three aspects of evaluation: The motives to have, learn, and express attitudes. *Journal of Personality and Social Psychology*, 121(2), 257-284. <https://doi.org/10.1037/pspa0000279>
- Yeomans, M., Minson, J., Collins, H., Chen, F., & Gino, F. (2020). Conversational receptiveness: Improving engagement with opposing views. *Organizational Behavior and Human Decision Processes*, 160, 131-148. <https://doi.org/10.1016/j.obhdp.2020.03.011>
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9(2p2), 1-27. <https://doi.org/10.1037/h0025848>
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, 35(2), 151-175. <https://doi.org/10.1037/0003-066X.35.2.151>
- Zajonc, R. B. (1984). On the primacy of affect. *American Psychologist*, 39(2), 117-123. <https://doi.org/10.1037/0003-066X.39.2.117>
- Zakay, D. (1985). Post-decisional confidence and conflict experienced in a choice process. *Acta Psychologica*, 58(1), 75-80. [https://doi.org/10.1016/0001-6918\(85\)90035-6](https://doi.org/10.1016/0001-6918(85)90035-6)
- Zanna, M. P., & Cooper, J. (1974). Dissonance and the pill: an attribution approach to studying the arousal properties of dissonance. *Journal of Personality and Social Psychology*, 29(5), 703-709. <https://doi.org/10.1037/h0036651>
- Zanna, M. P., Kiesler, C. A., & Pilkonis, P. A. (1970). Positive and negative attitudinal affect established by classical conditioning. *Journal of Personality and Social Psychology*, 14(4), 321-328. <https://doi.org/10.1037/h0028991>

Zanna, M., & Rempel, J. (1988). Attitudes: A new look at an old concept. In D. Bar-Tal & A. W. Kruglanski (Eds.), *The social psychology of knowledge* (pp. 315-334). Cambridge University Press.

Zhou, S., Page-Gould, E., Aron, A., Moyer, A., & Hewstone, M. (2019). The extended contact hypothesis: A meta-analysis on 20 years of research. *Personality and Social Psychology Review*, 23(2), 132-160. <https://doi.org/10.1177/1088868318762647>

Zimbardo, P. G. (1965). The effect of effort and improvisation on self-persuasion produced by role-playing. *Journal of Experimental Social Psychology*, 1(2), 103-120. [https://doi.org/10.1016/0022-1031\(65\)90039-9](https://doi.org/10.1016/0022-1031(65)90039-9)

Zimbardo, P., & Ebbesen, E. (1970). *Influencing attitudes and changing behavior: A basic introduction to relevant methodology, theory, and applications*. Addison-Wesley.

Zorn, T. J., Mata, A., & Alves, H. (2022). Attitude similarity and interpersonal liking: A dominance of positive over negative attitudes. *Journal of Experimental Social Psychology*, 100, Article 104281. <https://doi.org/10.1016/j.jesp.2021.104281>

Zunick, P. V., Teeny, J. D., & Fazio, R. H. (2017). Are some attitudes more self-defining than others? Assessing self-related attitude functions and their consequences. *Personality and Social Psychology Bulletin*, 43(8), 1136-1149. <https://doi.org/10.1177/0146167217705121>

Zuwerink, J. R., & Devine, P. G. (1996). Attitude importance and resistance to persuasion: It's not just the thought that counts. *Journal of Personality and Social Psychology*, 70(5), 931-944. <https://doi.org/10.1037/0022-3514.70.5.931>

ENDNOTES

The Handbook of Social Psychology, 6th edition © 2025 by Situational Press is licensed under [Creative Commons- Attribution-NonCommercial-NoDerivatives 4.0 International](https://creativecommons.org/licenses/by-nc-nd/4.0/). This work may be copied and distributed only in unmodified form, for noncommercial purposes, and with attribution.

1. This idea was originally described as affective validation (Rucker et al., 2014), but later broadened to reflect factors beyond affect (Tormala, 2016). ↑
2. An alternative structure for the review would be to categorize variables according to whether they affect attitudes through low- or high-effort processing (see Petty et al., 2003). Indeed, associative factors might often involve less effortful processing than reflective factors do. That said, both associative and reflective factors could influence attitudes through high- and low-effort processes. Learning a new association could be effortless (quickly learned) or effortful (learned after many trials and paying close attention). Likewise, a reflective process could involve very little effort (e.g., “I was smiling at the wedding; I must have enjoyed it.”) or a great deal of effort (e.g., “At the wedding I was smiling, laughing, and singing, and was way chattier than normal. I’m not always like that. Usually in social situations like that, I tend to hold back. I wonder what it was. Maybe...”). In this review, we adopt the associative versus reflective versus biological distinction as a convenient way to organize the literature. ↑

3. We view the terms “certainty” and “confidence” as interchangeable. While the attitude certainty literature has tended to adopt the nomenclature of certainty, and the thought confidence literature has adopted the nomenclature of confidence, it would be equally accurate to use the phrases “attitude confidence” and “thought certainty.” Indeed, these terms have been used in prior research (e.g., Petty, Tormala, & Rucker, 2004). In our review, we use the terms “attitude certainty” and “thought confidence” to be consistent with predominant conventions in the field. ↑