

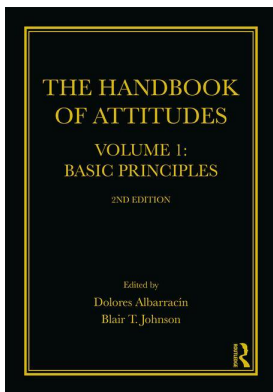
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MOTIVATIONAL INFLUENCES ON ATTITUDES

Allison Earl and Michael P. Hall

Why do we do the things we do? This question has captured the imagination of philosophers, psychologists, writers, and lay people alike, and attitude theorists are no exception. This chapter will explore the role of motivation on attitude formation, activation, and change. However, prior to investigating the impact of motivation on attitudes, this chapter will set the stage by first defining motivation, including both classic and contemporary theories of motivation. Next, this chapter will explore the outcomes of motivation, including the end states humans are motivated to reach. In addition, this chapter will examine how the motivational effects on attitudes translate into behavior. Finally, this chapter includes some potential fruitful directions for future research, highlighted throughout the chapter and summarized at the end.

What Is Motivation?

This section explores both classic as well as contemporary theories of human motivation. We begin with a brief summary of both Eastern and Western philosophical traditions and then transition to modern psychological models, including physiological, behavioral, cognitive, affective, and integrative approaches.

Classic Approaches

In the Buddhist tradition, the ultimate goal of human existence is to reach the state of Nirvana, which is typically discussed as an absence of passion, aversion, and ignorance. When passion, aversion, and ignorance are removed, humans are capable of quitting the cycle of rebirth that otherwise humans must continue. In Chinese medicine, motivation is governed by the life force, or *chi*, imbalances or blockages in the dynamic energy of the life force in certain areas of the body correspond to blockages or imbalances in the mind. Similarly, *Ayurveda*, first developed in India, postulates that balancing the humors is critical, as is avoiding suppression of natural urges and engaging in moderation (Wujastyk, 2003).

In the 4th century BCE, Greek physician Hippocrates developed a theory that the volume of specific bodily fluids impacted moods, emotions, and behaviors. Furthermore, an imbalance of any of these fluids, labeled “humors” would lead to specific patterns of behavior. For instance, an excess of yellow bile was thought to produce aggression, whereas an excess of black bile yielded melancholy. Although humorism as a medical model fell out of favor with the advent of modern Western medicine, some vestiges of humorism remain, namely, categorizing clusters of human motivation

into personality “types” as well as the assumption that humans are motivated to maintain balance and that imbalances in the system produce predictable patterns of dysregulation.

Freud (1920) postulated two primary human drives emerging from deep within the subconscious. First, humans are motivated by, Eros, the life force, which motivates humans to create life and to produce and construct. Second, humans are motivated by the death drive, which motivates humans to destroy and aggress. According to Freud (1920), these two drives are in conflict, and must be resolved by the ego. Failure to do so results in the use of ego defense mechanisms or psychopathology.

In summary, many explanations have been posited to explain where motivation comes from. Classic theories of human motivation posited everything from humors in the body creating motivational states, to subconscious impulses of the id and superego. Across disparate systems, some common themes begin to emerge. First, humans are motivated to achieve homeostasis (i.e., balance in the system). Second, imbalances in the system motivate humans to act to restore balance. Different ideologies posit different types of imbalance, as well as ways in which balance can be restored. However, taken together, humorism, chi, and Ayurveda, as well as Freud, posit that achieving and maintaining balance or harmony is an important driver of human behavior.

Contemporary Approaches

Physiological Approaches

For some theorists, motivation begins in physiology. For instance, drive reduction theory posits that humans have fundamental drives, stemming primarily from physiological needs (Hull, 1943). These drives, in turn, motivate reduction of the drives. For instance, animals experience physiological hunger and, to reduce the drive to eat, seek out food in the environment. In addition to the physiological motivational apparatus, there may be individual differences in the relative strength of these motivational tendencies. Gray (1970) theorized that some people are more sensitive to approach-oriented behaviors, whereas others are more sensitive to avoidance-oriented behaviors, and subsequently linked these dispositional tendencies to differential physiological activation of the behavioral activation system (BAS) and the behavioral inhibition system (BIS). Individuals with relatively higher activation of the BAS system may be more likely to seek out gains and may have decreased sensitivity to losses. In contrast, individuals with relatively higher activation of the BIS system may be more likely to avoid losses and may have decreased sensitivity to gains. These systems also correspond to differences in physiology: BAS activation is linked with catecholaminergic and dopaminergic pathways, whereas BIS activation is linked with the septohippocampal system (Carver & White, 1994).

Behavioral Approaches

From a behaviorist perspective, motivation exists only in relation to the frequency of a behavior (Skinner, 1948). That is, to the extent that one is motivated, one should be more likely to perform a given behavior in response to a given stimulus. In contrast, demotivation would be operationalized as decreased frequency of performing a behavior in response to a given stimulus. Thus, the study of motivation for behaviorists includes the effect of observable variables that affect observable behavior.

Cognitive Approaches

With the advent of the cognitive revolution, psychologists have been willing to consider motivation as a psychological construct. For instance, goals have been defined as cognitive constructs that

can operate as motivational states (Fishbach & Ferguson, 2007). In this case, discrepancies between current and desired end states motivate cognition and behavior to reduce those gaps (Higgins, 1987; Kruglanski, 1996; Miller, Gallanter, & Pribram, 1960).

Affective Approaches

Modern affective scientists also discuss affective states as motivational cues. In particular, certain emotions, or certain features of emotions, can elicit corresponding behavioral tendencies signaling either approach or avoidance (Smith & Ellsworth, 1985). For example, the experience of anger facilitates approach to a target object, whereas the experience of sadness facilitates behavioral avoidance (Clore, Schwarz, & Conway, 1994; see Clore & Schnall, this volume).

Integrative Approaches

In contrast to theoretical traditions that focus primarily on one route to motivation (e.g., physiological, behavioral, cognitive, affective), other perspectives integrate across domains. For instance, Maslow (1943) proposed that humans have a hierarchy of needs, with lower-level physiological needs (e.g., hunger, thirst, etc.) driving behavior until those needs are met. Once lower-order needs are fulfilled, however, humans continue to be motivated, just by different needs (e.g., affiliation, love, etc.). That is, the time horizon of motivation can shift from short- to long-term objectives once basic physiological needs are met. According to Maslow, self-actualization is the ultimate human motive, but will only be pursued when all other needs are met, if at all. Maslow estimated that only 1% of the human population would ever become self-actualized (Maslow, 1968), which he identified as a “peak experience” of reaching one’s full potential (Maslow, 1968). Nonetheless, research on flow states suggests that these peak experiences can be reached at a state level, when engaging in a task that is both challenging and for which one has the appropriate skills (Csikszentmihályi, 1975, 1990).

Alderfer (1969) subsequently further developed Maslow’s hierarchy of needs by synthesizing the hierarchy into three categories: Existence, Relatedness, and Growth (ERG). Existence needs are those encapsulated by Maslow’s physiological and safety needs and are the basic requirements for humans to live. Relatedness needs are desires to form and maintain important interpersonal relationships, and consolidate Maslow’s social need as well as the external component of the esteem level. Finally, Growth needs are related to an intrinsic desire for personal development and include the internal component of the esteem level, as well as self-actualization.

Similar to Maslow’s hierarchy of needs and ERG theory, self-determination theory (Deci & Ryan, 2000, 2012) also highlights the importance of growth and autonomy needs. However, in contrast to these earlier approaches, self-determination theory postulates that awareness of an individual’s growth and autonomy needs can leverage behavior change by fostering the highest quality of motivation. In this framework, motivation originating from within the individual, intrinsic motivation, is far more powerful at initiating and maintaining behavior over time. In contrast, motivation originating from outside the individual, extrinsic motivation, decays over time without continual reinforcement, thus leading to decreased behavior in line with the motives.

The hierarchy of needs has also been recently renovated to consider the developmental trajectory of the emergence of needs, as well as models of life-history development (Kenrick, Griskevicius, Neuberg, & Schaller, 2010). In this update, the lower levels of Maslow’s hierarchy are preserved, including immediate physiological needs, self-protection, affiliation, and status/esteem. However, in contrast to the earlier model, Kenrick and colleagues posit that, after status/esteem needs, humans are motivated to acquire mates, retain mates, and parent. Furthermore, self-actualization is removed as a separate level in the hierarchy. These changes are derived from a functional or evolutionary approach that considers what features of motivation would ensure reproductive success and survival.

Most models covered thus far posit motivation as directed action. That is, many contemporary theories operationalize motivation as directed action either toward or away from an object. However, recent work by Albarracín and colleagues (2008, 2011) on action/inaction goals suggests that the *amount* of activity, independently of the direction of that activity, can also be motivated. For instance, action goals can increase cognitive output such as recall and problem solving (Albarracín, Handley, Noguchi, McCulloch, Li, Leeper, Brown, Earl, & Hart, 2008) and intention to vote (Noguchi, Handley, & Albarracín, 2011), as well as motor output such as doodling or key pressing (Albarracín et al., 2008); exercise (Hepler, Wang, & Albarracín, 2012); and eating (Albarracín, Wang, & Leeper, 2009), particularly when action is paired with approach motivation (Nissson & Earl, 2016).

Summary

Newer theories of motivation draw inspiration from physiology, behavior, cognition, and affect. And some contemporary models integrate across multiple inputs to develop comprehensive theories of motivation. Most of these approaches still focus on motivation as directed toward a desired end state, whether that be physiological balance, behavioral reinforcement, goal satisfaction, or affect regulation. Motivation can have immediate effects on behavior (e.g., drinking when thirsty), as well as longitudinal consequences for behavior (e.g., parenting). In these models, motivation is typically interpreted as arising from *within* the individual, rather than being driven by the pull of anticipated environmental incentives.

What Are Humans Motivated to Do?

Another way of addressing the impact of motivation on attitudes and behavior is to investigate the outcomes of motivation. In other words, rather than considering where motivation comes from, thinking about the end states that humans are motivated to reach. These end states are often studied in isolation and not well integrated systematically (see also Kruglanski, 1996). For instance, humans can be motivated to achieve a laundry list of outcomes, including accountability, belonging, closure, cognition, control, ego defense, self-verification, uncertainty, and so on. In addition to approaching or avoiding target states, humans may also be driven by various self-motives. Sedikides' (1993) work on self-motives suggests that humans are motivated to (a) view the self in the best possible light, labeled *self-enhancement*; (b) view the self in a way that is consistent with one's beliefs, labeled *self-verification*; and (c) view the self as accurately as possible, labeled *self-accuracy*. Self-affirmation theory posits that humans have a higher-level need to feel good about oneself (Steele, 1988). Threats to the self can be mitigated by affirming oneself at the same level of the threat or a higher level.

Yet, one of the most dominant views is that humans, like all animals, are motivated to maximize pleasure and minimize pain. That is, humans are driven by *hedonism*: Humans want to approach things that feel good and avoid things that feel bad. In this context, attitudes serve as guides to signal behavioral tendencies that correspond to hedonic motives. For instance, having a positive attitude toward hot chocolate would increase approach to hot chocolate because doing so would feel pleasurable. In contrast, having a negative attitude toward hot chocolate would facilitate avoidance of hot chocolate because doing so would prevent feeling bad. However, there are certainly conditions under which people approach pain and avoid pleasure. People may be willing to approach unpleasant stimuli, for example, if doing so will produce a meaningful experience (e.g., eudaimonia).

Approaching pleasure and avoiding pain are powerful motives, yet some scholars have argued they may be overly simplistic for explaining human behavior. For instance, Higgins (1997) has argued that humans engage in various regulatory strategies aimed at reducing self-discrepancy. The direction of the self-discrepancy impacts approach or avoidance. For instance, discrepancies between the *actual self* (who I am at this moment) with the *ideal self* (who I would ideally like to be) produce

actions in line with striving toward achievement of the ideal self. This striving produces a promotion focus, which increases sensitivity to potential gains (and minimizes sensitivity to potential losses). In contrast, discrepancies between the actual self (who I am at this moment) with the ought self (who I should be) produce actions in line with striving toward attainment of the ought self. This striving produces a prevention focus, which increases sensitivity to potential losses (and minimizes sensitivity to potential gains). In this way, promotion could be linked with nurturance (growth) goals, whereas prevention could be linked with security (protection) goals.

Integrating and organizing these desired endstates can feel like a Sisyphean task. For instance, Murray (1938) postulated that humans have twenty manifest needs, which could be presented in nine groups (needs to dominate, to achieve, for sensual enjoyment, for affiliation, to nurture, to self-regard, for safety, for order, and for understanding). Furthermore, these nine groups can be represented by four basic reaction systems: (a) to raise status; (b) to conserve and defend status; (c) to affiliate and cooperate with and defend allied objects; and (d) to reject, renounce, or attack disliked hostile objects. Personality theorists have subsequently mapped these needs onto relatively stable Big Five personality dimensions (Costa & McCrae, 1988).

Other models postulate that a single need takes precedence over others. For instance, according to core social motives theory (Fiske, 2002, 2004; Stevens & Fiske, 1995), *belonging* in the single most important need in social situations, with needs of *understanding*, *controlling*, *enhancing self*, and *trusting* all in service of the need to belong. In contrast, according to terror management theory (Greenberg, Solomon, & Pyszczynski, 1997), humans are primarily motivated by self-preservation (though see also De Waal, 2016, for a discussion of parallels with other animals). By activating a primarily defensive motivation, this terror management approach can lead to things such as investing in institutions that are likely to outlast our own lifespan, the rise of nationalism, and death-related anxiety influencing health outcomes (Goldenberg & Arndt, 2008).

Summary

Humans possess myriad motives. Attempts to organize these various motives have focused on clusters (Murray's needs theory); in hierarchical systems (e.g., Maslow's hierarchy of needs, self-affirmation); and in terms of primary motives (e.g., terror management theory, core social motives theory), as well as focusing on individual motives (e.g., hedonism, achievement).

How Can Motivation Exert Influence on Attitude Formation, Activation, and Change?

Motivation can exert impact through attitudes in a variety of ways. For instance, according to Katz (1960), attitudes can serve various functions. For instance, attitudes can act to cue approach or avoidance (adjustment function), organize knowledge (knowledge function), protect the self from threat (ego defense function), or express central values or beliefs (value-expressive function). These functions can affect how people engage with stimuli through the lens of pre-existing attitudes. Attitudes formed serving a knowledge function, for example, may produce motives to form and maintain attitudes that accurately appraise and reflect reality. In contrast, an ego defense function may produce motives to maintain attitude stability. Finally, a value-expressive function may produce motives to convey attitudes that are relevant to the self-concept or a desired self-presentation. According to Katz (1960), knowing the motive underlying an attitude is imperative for changing attitudes, as the motivational basis for a given attitude serves a specific function, and any attempt to modify the attitude must account for the underlying function of holding a particular stance.

Other motivational systems may also exert influence on attitudes. These influences are presented based on the structure utilized earlier in the chapter to operationalize motivation: physiological, behavioral, cognitive, and affective.

Physiological

Tesser (1993) has argued that attitudes may have a genetic component and found that attitudes with a stronger genetic component are more accessible, hard to change, and more predictive of behavior. Furthermore, some kinds of attitudes are more likely to have a genetic component than others. Specifically, advocating the death penalty for murder and endorsing abortion on demand have some of the highest genetic influences, compared to attitudes such as playing bingo or doing crossword puzzles, which have virtually no genetic component (Olson, Vernon, Harris, & Jang, 2001). Recent work has hinted that these links may also vary across conditions. For instance, in a twin study, attitudes toward gun control were based on genetic inputs for men, but based on social inputs for women (Eaves & Silber, 2017; see Diekmann & Glick, Volume 2). In addition, heritability may vary as a function of how restrictive the environment is, with heritability estimates being larger in a permissive social environment compared to a more restrictive environment (Mezquita et al., 2018). For a more detailed account of bodily influences on attitudes, please see Schwarz & Lee, this volume.

Behavioral

Zajonc's (1968) work on the *mere exposure effect* suggests that attitudes about novel objects can be developed based solely on repeated exposure to the stimulus. That is, simply experiencing a stimulus shifts the evaluation of the stimulus more positively over time. For instance, participants rated repeated Chinese ideographs more positively than novel ideographs (Zajonc, 1968). Subsequent models of mere exposure effects on attitudes have hypothesized that mere exposure effects are (a) a function of the independent effects of habituation and satiation (Berlyne, 1970; Stang, 1973) or (b) due to increased processing fluency, which in turn drives positive evaluation (Whittlesea, Jacoby, & Girard, 1990). A recent meta-analysis of mere exposure effects suggests a positive slope as well as inverted-U consistent with these predictions (Montoya, Horton, Vevea, Citkowitz, & Lauber, 2017). Yet, this meta-analysis did not support the boredom account proposed by the earlier models. Instead, Montoya and colleagues posit that the more exposure one has to a stimulus, the more likely the stimulus is to "match" a mental representation in memory. This matching, in turn, facilitates interpretation of the stimulus as good or correct, which in turn leads to liking. The inverted-U pattern is a result of habituation from learning rather than from fatigue or boredom.

In addition to mere exposure, attitudes can be shaped by pairing an attitude object with either a positive or negative stimulus, through the process of evaluative conditioning (De Houwer, Thomas, & Baeyens, 2001; Jones, Olson, & Fazio, 2010). For instance, Olson and Fazio (2006) demonstrated shifts in racial attitudes following subliminal pairings of African American faces with positively valenced words (e.g., "magnificent") or images ("puppies"). Meta-analytic evidence indicates that evaluative conditioning in humans is more powerful for (a) high (versus low) contingency awareness, (b) supra-liminal (versus subliminal) presentation, (c) for postacquisition (versus postextinction), and (d) for self-report (versus implicit) measures, suggesting that evaluative conditioning is substantially influenced by higher-order propositional processes, while not ruling out lower-order associative accounts (Hofmann, de Houwer, Perugini, Baeyens, & Crombez, 2010). For a more detailed account of the influences of behavior on attitudes, see Harmon-Jones, Armstrong, and Olson (this volume).

Cognitive

Cognitive constructs with motivational properties such as goals can also impact attitude formation, activation, and change (Kruglanski & Stroebe, 2005). For instance, active goals can change how people evaluate attitude objects (Ferguson & Bargh, 2004). Furthermore, attitudes toward desired goal-states impacts goal pursuit (Ferguson, 2007), suggesting a bidirectional influence of goals and

attitudes. In addition, the motivational salience of goals varies as a function of proximity to initiation and satiation (Bonezzi, Brendl, & De Angelis, 2011), with increased motivation at both the beginning and end of a focal task. Furthermore, motivated goal pursuit varies as a function of whether actions toward the goal are construed as progress toward completing the goal (leading to decreased goal pursuit) versus commitment to pursuing the goal (leading to increased goal pursuit; Fishbach & Dhar, 2005). Thus, attitudes toward goal relevant objects may shift as a function of the features of goal pursuit. For an additional review on this topic please, see Wegener, Clark, and Petty (this volume; Kruglanski & Stroebe, 2005).

Affective

Affect can impact attitudes directly (e.g., by strengthening the stimulus–response link; see above) or indirectly (e.g., by acting as a cue to information). The more indirect account has been studied in the context of affect as information (Schwarz & Clore, 1983), which suggests that affect can be used as information to make an attribution about an attitude object, particularly under conditions of moderate distraction (Albarracín & Kumkale, 2003). Affective cues are also more likely to impact stimulus evaluation and behavior when the source of the cue is attributed to the self (Clore & Schnall, this volume; Loersch & Payne, 2012).

Summary

Motives may exert influences on attitudes through many channels, including physiological, behavioral, cognitive, and affect impacts. These motives map onto some of the need-based theories detailed in the previous section. For instance, an adjustment function could be in service of a hedonic motive. In contrast, an ego defense function may be in service of a self-esteem or terror management motive. However, many of the needs outlined in the previous section do not have direct parallels in attitude theory, leaving substantial gaps in the literature.

Persuasion as a Function of Motivation

Processing of persuasive material (and perhaps even yielding to it) can largely be a function of the attitude-holder's motivations. A number of theories propose differing stages at which yielding to persuasive material might occur and also conceptualize differing mechanisms to explain such persuasion.

Selective Exposure

Regardless of one's motivation, one must be exposed to a message in the first place in order to later be persuaded by it. This is the first, essential stage of McGuire's *reception-yielding model* of information processing (McGuire, 1968), which built upon the foundations laid by Hovland and colleagues in their studies of persuasion and attitude change after World War II (for more detail, also see Johnson, Wolf, Maio, & Smith-McLallen, this volume). McGuire's (1968) original model consisted of six discrete stages for persuasion to occur: presentation, attention, comprehension, yielding, retention, and behavior.

In McGuire's (1968) model, the first three steps of presentation, attention, and comprehension are critical. Presentation is fairly simple: The persuasive material must be presented or communicated to the intended recipient. And, critically, the information recipient must pay attention to that information (stage two); ignored information cannot result in persuasion. Third, the information recipient must comprehend that message; without understanding what the message actually means, the recipient cannot be persuaded by it. Collectively, these stages of the model are known as the reception phase, and they are crucial for any processing of persuasive material to occur (McGuire, 1968).

But how does motivation affect this reception phase of persuasive material? Rooted in cognitive dissonance research is the phenomenon of *selective exposure*, whereby people are more likely to be exposed to information that they find agreeable and supportive of their views (Festinger, 1957, 1964; Hart et al., 2009; for more on dissonance, see Harmon-Jones, Armstrong, & Olson, this volume). Indeed, due to the discomfort associated with confronting material that does not support their views (i.e., dissonance), people should be motivated to avoid this discomfort by actively seeking out agreeable information and avoiding disagreeable information (Festinger, 1957, 1964; Hart et al., 2009). Selective exposure suggests that the first two stages of McGuire's (1968) information-processing model may not occur at all due to interference from motivation: Because people are motivated to avoid disagreeable information, they will often not choose exposure to disagreeable information at all or ignore it after realizing its lack of congeniality (Eagly, Chen, Chaiken, & Shaw-Barnes, 1999; Earl & Nissson, 2015; Hart et al., 2009).

Research on selective exposure over many decades indicates that is a robust effect (with a meta-analytic mean $d = .36$; Hart et al., 2009), and motivation significantly affects whether people will be exposed to a persuasive communication at all. Brock and Balloun (1967) conducted a series of experiments on smoking and nonsmoking adults, and their results confirmed that people primarily exposed themselves to information that validated their views. Participants listened to tape-recorded messages about the link between lung cancer and smoking, but it came in two varieties: Sometimes, the message disputed this link (congenial to smokers), but sometimes it validated this link (uncongenial to smokers). However, the audio messages were obscured by static noise, and participants had to press a button to remove the static and clarify the messages. Participants selectively exposed themselves more often to congenial information: Smokers pressed the button (and removed the static) more often when the message disputed the cancer-smoking link, but less when the message supported that link (Brock & Balloun, 1967).

More recently, researchers again demonstrated selective exposure to health information in a study of individuals at high risk of HIV who had the option of participating in HIV-prevention counseling sessions (Earl et al., 2009). Participants who had higher motivation to use condoms, stronger condom-usage skills, and more frequent past condom use were more likely to accept an HIV-prevention counseling session than participants who were lower on these various attributes. For the participants who were more skilled in these various HIV-prevention behaviors, the information in the counseling session would be validating (i.e., congenial) of their existing skills and views, and it was accepted at a higher rate (Earl et al., 2009). This study also highlighted an unfortunate and ironic effect of selective exposure: The people who were most motivated to receive the persuasive communications were those who actually needed them least.

Selective Attention

In both of the above examples, participants tuned out disagreeable information once they realized that it challenged their existing views and practices (Brock & Balloun, 1967; Earl et al., 2009). But even when this initial presentation stage of McGuire's (1968) information-processing model is overcome, an individual's motivation can interfere with—or bolster—the second stage in the model: attention. In this case, *selective attention* (meta-analytic mean $d = .23$; Eagly et al., 1999) refers to the tendency to better store and recall information that supports one's views. Beyond exposure, information that supports one's views and behaviors is more likely to be paid attention to and remembered for future reference or retrieval (Eagly et al., 1999). (For more on the influence of selective recall on attitudes, see Harmon-Jones et al., this volume.)

Studies conducted by Sweeney and Gruber (1984) are a useful demonstration of both selective exposure and selective attention processes at work. The research was conducted during the 1973 Senate Watergate hearings, and participants came in three varieties: supporters of Richard Nixon

(whose alleged crimes were under investigation in the Watergate hearings); supporters of George McGovern, Nixon's Democratic Party challenger in the 1972 Presidential Election; and undecided voters who had no preference between Nixon or McGovern. The researchers surveyed each group before the start of the hearings, midway through the hearings, and after the hearings had ended. Results first indicated significant evidence of selective exposure: Nixon supporters were the least likely of the three groups to have engaged with the Watergate hearings, reflecting the probable dissonance they felt from supporting someone who was being investigated for wrongdoing. Nixon supporters also provided evidence of selective attention, as they were less knowledgeable than the other two groups about the proceedings of the hearings; on the other hand, McGovern supporters were much more likely to have tuned in to the hearings (which they would have found congenial) and to recite facts about the proceedings (Sweeney & Gruber, 1984).

Despite the robustness of selective exposure results, selective attention effects are not quite as easy to detect as selective exposure, making selective attention effects less robust overall. This lack of robustness may not necessarily be for a lack of quality research, but rather because attention, as a concept, is heterogeneous and hard to operationalize. For instance, in the case of selective exposure, volume of information selected is the primary dependent variable. However, measuring selective attention simply by volume of attention paid to a persuasive message may be problematic. That is, attention can embody strikingly different processes and motivations at work. For instance, imagine a participant in an experiment paying rapt attention to a persuasive message. What can explain the high volume of attention? In this case, attention could be accounted for by one of several reasons. It could be that the persuasive message is successfully persuading the participant, and the participant is captivated by the message's arguments (i.e., a more positive and receptive approach). It could be that the participant is already familiar with the persuasive arguments, but is paying attention to commit the contents of the message to memory as artillery for the next time one has an argument about this topic. Or, the participant might despise the persuasive messages; in this case the participant could be paying attention in order to actively argue against it (i.e., counterarguing; Jacks & Cameron, 2003; McGuire, 1964). Unfortunately, these under-the-hood processes are hard to detect and often manifest very similarly.

Finally, selective attention research also has heterogeneous methods of measuring attention, leading to a lack of consistent, robust effects. In general, there is no widespread agreement about how to measure attention and what such attention measures mean. For instance, a researcher could measure attention by asking a participant to self-report their level of attention to a persuasive message; however, there are many criticisms of relying on such self-report data (Schwarz, 1999). Or, one could assess attention by measuring how long a participant spends reading a persuasive message (e.g., Taber & Lodge, 2006); however, this method suffers from many of the drawbacks mentioned in the prior paragraph, particularly concerning what increased reading time actually means about a participant's mental processes. Still others have chosen to measure attention by measuring how a person can elaborate on and recall information from a previous message, and thought-listing is one such technique of measuring this more engaged form of attention (Cacioppo & Petty, 1981). However, in this case, variety of thoughts is used as a proxy for depth of processing, which precludes patterns of attention that focus on intensity rather than breadth of thought (e.g., rumination). Furthermore, number of thoughts can be influenced by exogenous processes such as action goals (Albarraçin et al., 2008). Thus, the construct of selective attention can be especially tricky to measure and replicate as easily as related concepts, such as selective exposure.

Biased Elaboration

As evidenced by considerable research in selective exposure and selective attention, motivation can stand as an effective barrier against exposure and attention to disagreeable information (Brock &

Balloun, 1967; Eagly et al., 1999; Earl et al., 2009; Hart et al., 2009; Sweeney & Gruber, 1984). And, although these processes can prevent much processing of disagreeable information, one does not always need to be motivated to attend to and comprehend the message in order for McGuire's (1968) fourth stage of information processing—yielding to the persuasive communication—to be achieved.

The *elaboration likelihood model* (ELM; Petty & Cacioppo, 1986) proposes that motivation is but one factor that can determine the likelihood of a persuasive message's success. ELM is a dual-process theory predicated on the idea that attention and the motivation to engage with a persuasive communication are not always necessary for persuasion to occur and that persuasion can occur through little thoughtful cognition. Indeed, ELM proposes two routes to persuasion; the first, known as the *central route*, does occur through thoughtful consideration of an argument's content. The central route requires two ingredients: high motivation, such that the information recipient needs to care about the topic at hand, and high ability, such that the information recipient must be able to pay attention and comprehend the persuasive message. If both of these conditions are met, then persuasion from central route processing occurs because the information recipient has considered a message's arguments, deems them to be convincing, and has generated their own issue-relevant thoughts based on that message (i.e., elaboration; Petty & Cacioppo, 1986). Critically, careful consideration of a message's merits through central route processing should provoke more thoughts in response to the message, and generation of thoughts in agreement with the persuasive material is the mechanism of eventual persuasion. Motivation increases as personal relevance to an issue increases, and especially when confronted with high-quality persuasive messages, increased elaboration should occur. Persuasion should occur if this increased elaboration during the processing of the persuasive material is favorable toward the message's advocacy, and central route processing tends to produce more long-lasting attitude change (Petty & Cacioppo, 1986).

However, when motivation (e.g., not caring about the topic) or ability (e.g., being distracted) are low, processing via the *peripheral route* is more likely to occur. Persuasion via this route occurs when the information recipient uses cues unrelated to the message's content to assess the message (Petty & Cacioppo, 1986). There are many potential peripheral cues that can influence an information recipient's attitude about the attitude object, including: the credibility of the message's source, the attractiveness of the message's source, the number of arguments articulated in a persuasive message, the quality of how the message is communicated, and even the information recipient's own mood when presented with the persuasive material. For example, a person may be convinced of the greatness of the Toyota Prius not due to a consideration of its energy-efficient bona fides, but because the Prius commercial featured an attractive actor who endorsed the car. Unlike central route processing, however, persuasion via the peripheral route is less likely to produce durable attitude change (Petty & Cacioppo, 1986).

Importantly, even when an information recipient is presented with a disagreeable persuasive message, persuasion can still occur. A motivated and able information recipient confronted with disagreeable information will generate thoughts in response to the message, and the thoughts may generally be unfavorable, resulting in no persuasion. However, if the information recipient is not able to engage in central route processing (e.g., when distracted), then favorable peripheral cues can become associated with an otherwise disagreeable message and provoke attitude change (Petty & Cacioppo, 1986). Thus, ELM provides evidence of various conditions under which motivation will produce attitude change—or resistance to change—but also when persuasion can occur even in the absence of motivation to consider the persuasive message. (For more on ability and motivation to process persuasive communications, see Johnson et al., this volume.)

The ELM does devote significant theoretical space for the role of individual motivation in persuasive processes; for instance, as a form of cognitive dissonance reduction, people should be likely to not only generate more favorable thoughts relevant to congenial information, but they should

also prefer to see uncongenial information that is of low quality, thereby undermining the strength of the opposing perspective (Festinger, 1957, 1964; Petty & Cacioppo, 1986). However, there are circumstances—particularly when confronted with high-quality uncongenial information—when individuals engaged in central route processing may not be able to refute the persuasive appeal and will cede some ground to the opposing point of view, resulting in attitude change. Even some uncongenial arguments will be objectively strong enough for central-route processors to change their attitudes (Petty & Cacioppo, 1986).

Motivated Reasoning

Advocates of *motivated reasoning* theories have suggested that the role of individual motivation may be larger and more influential than previously thought (Kunda, 1990). And, unlike theories of attitude change stemming from cognitive dissonance (including the ELM), motivated reasoning theorists propose that the processes involved in handling discrepant pieces of information—inducing dissonance—are not just cognitive, but also affective. Prior research in selective exposure proposed that individuals may feel trade-offs between striving for accurate information and pursuing information that validates one's views (Hart et al., 2009). Yet, with motivated reasoning, people may create psychological harmony between these two sometimes contradictory goals. Under motivated reasoning, an individual's goals and motivations utilize cognitive processes to produce an outcome that is considered to be both accurate and desirable (Kunda, 1990). Kunda's case for motivated reasoning distinguished between two types of goals that could drive cognitive processes: accuracy goals, which guide cognitive processing toward utilizing the most accurate and appropriate information at hand, and directional goals, which guide cognitive processes to utilize information that best serves a desired, emotionally pleasing conclusion.

Considerable research across social psychology, political science, and neuroscience has found evidence for motivated reasoning. A central premise of the motivated reasoning account is that, like cognitive dissonance, individuals who are committed to the issue at hand or consider it to be personally relevant should be more likely to display motivated reasoning (Ditto & Lopez, 1992; Lodge & Hamill, 1986). In one study, Ditto and Lopez (1992) put participants in a situation in which they would like have a clear preference for one outcome over another (i.e., a directional goal). In preparation for an upcoming task that required working closely with a partner, they were given information about two potential partners to choose between: One of these partners was clearly more likable (and presumably, more desirable as a partner); the other more dislikable. Consistent with the motivated reasoning hypothesis, participants used different criteria to make their decisions depending on whether they were evaluating the likable or dislikable partners: Participants required more evidence that the dislikable partner was intelligent—a useful attribute for the upcoming task, but one that violated the directional goal—compared to the likable partner (Ditto & Lopez, 1992). Similarly, participants in a second study who were in a fictitious medical setting required more evidence to show that they had a serious diagnosed disorder (i.e., the undesirable conclusion) than to show that they were healthy (Ditto & Lopez, 1992).

The motivated reasoning hypothesis has also found considerable support in the realm of politics, a domain in which people—especially those who are highly engaged and invested in politics—frequently have the desire to conclude that their partisan way of thinking is superior. Of course, before motivated reasoning can take place at all, political partisans commonly engage in selective exposure; notably, the tendency to engage in selective exposure does not differ by political ideology (Frimer, Skitka, & Motyl, 2017; see Stern & Ondish, Volume 2). Indeed, Lodge and Hamill (1986) found that people classified as “partisan schematics” (due to their high levels of interest in and knowledge about American politics) were quicker and more accurate to classify policy positions as being representative of Republican or Democratic party orthodoxies (demonstrating highly

accessible political schemata), but there was also evidence of a clash between the actual information they read and their directional goals: Partisan schematics were also more likely to misremember a fictitious congressman's views as being more stereotypical of his political party membership than had actually been the case (Lodge & Hamill, 1986). Thus, using political schemata to process information led to better memory for information that conformed with existing views, sometimes inaccurately so. (For more on biased recall, see Harmon-Jones et al., this volume.)

As an individual becomes more motivated to reach a desired conclusion, his or her handling of relevant information is more likely to be used to support that desired conclusion. For instance, people are more likely to validate congenial information—by perceiving it to be stronger and of higher quality—than uncongenial validation, known as the congenial validation bias (Hall, Earl, Albarracín, & Jones, 2018). And, similar to Ditto and Lopez (1992), Taber and Lodge (2006) demonstrated that political partisans are particularly likely to alter their evaluative criteria to suit their desired conclusions: Participants shown counterattitudinal arguments argued against them more, whereas participants shown supportive arguments accepted them without much critical evaluation. In another study, highly numerate participants—those who were most able to make use of quantitative information—were the most adept at constructing arguments in favor of their desired conclusions about climate change, even though they had the highest ability to recognize when facts did not support that conclusion (Kahan et al., 2012). Similarly, Gaines et al. (2007) found that when presented with the same exact facts about the Iraq War, partisans of different stripes interpreted the same facts differently to support their pre-existing views.

Last, a distinctive feature of motivated reasoning—as compared to other models of persuasion—is its underlying emotional, affective basis. Illustrating this feature in the political realm, Lodge and Taber (2005) found that participants were quicker to make associations between personally desirable political concepts (e.g., “Democrat”) and positively connoted words (e.g., “rainbow”) than with negatively connoted words (e.g., “cancer”); thus, results indicated that desirable political terms were affectively encoded, sparking emotional responses in addition to cognitive ones (Lodge & Taber, 2005). This affective basis has also been supported by neuroscience research. One study utilized functional magnetic resonance imaging (fMRI) to study the brains of highly partisan Democrats and Republicans as they evaluated information about the two major-party candidates in the 2004 U.S. Presidential Election. Results indicated that, unlike “colder” reasoning processes, motivated reasoning engaged parts of the brain associated with affect and emotion regulation (the dorsal anterior cingulate cortex; Westen, Blagov, Harenski, Kilts, & Hamann, 2006). Further neuroscientific research has implicated these same brain regions in cognitive dissonance and attitude change processes (van Veen, Krug, Schooler, & Carter, 2009); for a social neuroscience perspective on attitudes, see Corlett and Marrouch (this volume).

Defensive Processing

Motivated reasoning research suggests that people can be quite adept at skirting from or wrangling with persuasive information in order to match one's desired conclusions, and other research on defensive processing reveals how people handle the presence of counterattitudinal information. In particular, people may employ defensive processing strategies not by avoiding counterattitudinal information in the first place (i.e., selective exposure) or by interpreting information in a desirable way (i.e., motivated reasoning), but by confronting counterattitudinal information head-on.

In a process known as *attitude inoculation*, McGuire (1961) described the phenomenon of exposing oneself to disagreeable information in order to strengthen one's defenses against future persuasive attempts. According to the theory, an individual will intentionally seek out counterattitudinal information in order to gain more familiarity with the arguments, allowing that individual to come up with their own refutations to those counterarguments; later, those refutations can be deployed

in the face of similar counterattitudinal information (McGuire, 1961). This process of inoculating oneself against counterarguments can be effective both by being exposed to strong counterarguments (McGuire & Papageorgis, 1961) and relatively weaker versions of those counterarguments (Papageorgis & McGuire, 1961); inoculation can also strengthen one's pre-existing attitude. Thus, attitude inoculation shares a commonality with other theories of information processing of persuasive material—the motivation to defend one's views from perceived threats—but leads to people actively seeking out disagreeable information, rather than avoiding it.

When faced with counterattitudinal information, people commonly employ two defensive processing techniques: counterarguing the message or derogating the source of the message (Festinger & Maccoby, 1964). Counterarguing, or rebutting the arguments within the persuasive message, is considered one of the most effective strategies of resisting persuasion (Jacks & Cameron, 2003; McGuire, 1964) and is likely to be employed by individuals who are highly involved with the topic at hand (Chaiken, 1980). Because counterarguing involves generating refutations to an argument that originate within the self, it fosters a durable resistance to counterattitudinal information, a process consistent with cognitive response approaches (Greenwald, 1968; Petty & Cacioppo, 1986).

In contrast, source derogation (i.e., insulting or invalidating the source of the persuasive message) may be employed by less-involved individuals (Chaiken, 1980) or when more highly involved people are confronted by strong arguments that must be refuted by other means (Kunda, 1990). A potential pitfall of source derogation is the *sleepier effect*: the phenomenon by which individuals initially dismiss a persuasive message due to its non-credible source, but later forget the source and remember the message, resulting in persuasion (Kumkale & Albarracín, 2004). If individuals dismiss a persuasive attempt due to its source, but without refuting any of its arguments, they may become more susceptible to its persuasive intent over time.

Lastly, some research points to individual differences that motivate some people to confront counterattitudinal information. This phenomenon, known as *defensive confidence*, refers to the chronic belief of some individuals that they can successfully defend their views from threats or attacks (Albarracín & Mitchell, 2004). People with this defensive confidence are actually less likely to engage in selective exposure, instead seeking out counterattitudinal information in order to successfully fend off attacks on their attitudes; yet, this increased appetite for and exposure to counterattitudinal information has the ironic effect of making them less resistant to the persuasive communication in the end (Albarracín & Mitchell, 2004). Note that these results do not negate the attitude inoculation effects observed by McGuire and Papageorgis (1961); high attitude confidence is an effective bolster against persuasion (Tormala & Petty, 2002), but the defensive-confident reduce their resistance with significantly increased exposure counterattitudinal information (Albarracín & Mitchell, 2004).

Denialism

When the truth becomes inconvenient, people may go beyond defensive processing or motivated reasoning and adopt an attitude that allows them to deny reality. Solomon Asch (1956) famously found that a not-insignificant minority of participants engaging in a perceptual task—whose correct answer was obvious—conformed to majority group members' incorrect attitudes about the lengths of lines in the task. When faced with the conflict between being correct (i.e., correctly identifying the line that matches the length of the target line in the task) and standing out against a majority of other participants, some conforming participants reconciled this conflict by questioning their confidence in their perceptual abilities, concluding that their understanding must be inaccurate (Asch, 1956). Some other participants in Asch (1956) and more recent conformity studies (e.g., Hodges, Meagher, Norton, McBain, & Sroubek, 2014) found that conforming participants did not necessarily doubt the validity of their own beliefs but conformed out of a perceived norm of cooperation. Nonetheless, salient goals that conflict with accurate interpretations may result in the denial of that information.

Indeed, like many other defensive and motivated reasoning processes, denialism also occurs with social or political issues with potentially large consequences. Despite scientific consensus on a wide variety of issues—such as the benefits of vaccines, the safety of genetically modified foods, or the reality of global climate change—scientific trust has declined amongst certain segments of the American population, particularly when scientific facts conflict with other ideological or value-based attitudes (Campbell & Kay, 2014; Lewandowsky, Gignac, & Oberauer, 2013). For example, on climate change, political conservatives who endorse free-market ideologies may have trouble reconciling the damage done to the Earth as a byproduct of organic industrial growth and globalization; to resolve this conflict, they may resort to denying the validity of the science around climate change and the damage inflicted by industrialized society (Campbell & Kay, 2014; Lewandowsky et al., 2013).

Furthermore, denialism of scientific truth may not be motivated as much by an aversion to the problem itself, but more so by an aversion to the proposed solutions. A free-market conservative grappling with the implications of climate science might not have trouble swallowing the idea that human behavior has caused widespread environmental damage, but may actually be opposed to the implied solutions (i.e., regulating businesses to reduce carbon emissions); thus, the validity of the scientific climate data is denied, thereby rendering the whole debate unnecessary. Or, for a more liberal-minded individual who supports greater gun control, the problem of violent home intrusion in the U.S. might be denied if the proposed solution is to expand gun access (Campbell & Kay, 2014). Thus, considerable research demonstrates that when one possesses attitudes that conflict with evidence, an additional route to reconciling such a conflict—beyond selectively paying attention to certain information or defensively counterarguing against disagreeable information—may be to deny the validity of the evidence altogether, thereby forming a negative attitude about scientific evidence.

Conspiratorial Theorizing

When events or circumstances bewilder and become difficult to comprehend, people may engage in a reasoning process that not only refutes existing evidence, but gives rise to attitudes that sharply break from the mainstream: conspiracy theories. Conspiracy theories provide causal explanations of events that differ from the conventional understanding of that event, and attitudes favoring such conspiratorial theorizing are typically borne out of a specific blend of circumstances (Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013). Conspiracy theories typically arise after distressing societal events (van Prooijen & Jostmann, 2013) or fear-provoking crisis situations that are consequential (van Prooijen & van Dijk, 2014) and threaten social order (van Prooijen, 2012). When distressing events are difficult to comprehend, they often provoke feelings of uncertainty and lack of control, both of which foster the adoption of conspiratorial thinking (van Prooijen & Jostmann, 2013). And big, consequential events are often (incorrectly) assumed to be the result of big causes; that is, noteworthy events are more likely to be seen as the work of a vast conspiracy compared to smaller, inconsequential events (van Prooijen, 2017).

Under such circumstances, certain individual characteristics make conspiratorial thinking more likely (see Corlett & Marrouch, this volume, for more on the neuroscientific bases of delusional beliefs). First, people who endorse conspiracy theories are more likely to exhibit individual differences such as paranoid ideation, schizotypal personality, and right-wing authoritarianism (Bruder et al., 2013; see Briñol & Petty, this volume, for more on individual differences affecting attitudes), and endorsement of one conspiracy theory predicts belief in others (Swami, Chamorro-Premuzic, & Furnham, 2010). In reaction to uncertainty about the causes of a distressing societal event, conspiratorial thinkers typically exhibit a desire for sense-making and simple, predictable explanations for events (van Prooijen & Jostmann, 2013). Conspiratorial thinkers are likely to feel as if they lack

control over the situation, and this feeling predicts seeing patterns in unrelated stimuli; as such, affirming one's sense of control can reduce endorsement of conspiracy theories (van Prooijen & Acker, 2015). People are also more likely to adopt conspiracy theories after uncertain events if they perceive relevant authority figures or institutions to be immoral (van Prooijen & Jostmann, 2013). Finally, conspiracy theorizing is associated with lower education levels (van Prooijen, 2017) and more extreme political ideologies (van Prooijen, Krouwel, & Pollet, 2015). Just as ideological extremists (vs. moderates) are more likely to believe that their ideology provides simple solutions to complex societal problems (Fernbach, Rogers, Fox, & Sloman, 2013), extremists are also more likely to adopt conspiracy beliefs out of a desire to explain uncertain events and make the world more understandable (van Prooijen et al., 2015).

Whereas motivated reasoning and defensive processing involve people engaging with disagreeable information but reasoning about it in a personally suitable way, conspiracy theorizing has more in common with denialism: After denying mainstream evidence or facts, a conspiracy theory can provide an alternative explanation for that evidence. Climate change is a topic that is subject to much denialism and conspiracy theorizing. For instance, climate change skeptics may dismiss scientific evidence by suggesting that climate change is a "hoax" perpetrated by climate scientists seeking profits and fame or by international enemies who want to profit from America's decline (Lewandowsky et al., 2013). Indeed, the tendency to endorse conspiracy theories is predictive of rejecting scientific evidence about many issues, including genetically modified foods and vaccinations (Lewandowsky et al., 2013).

Moderators of Motivation and Attitudes

Attitude formation, activation, and change can be moderated by certain features of the attitude itself. In this section, two moderators of attitude processes are discussed: the strength of one's attitude and the moralization of an attitude. An attitude's strength level and its moral basis can affect how it is first formed, how accessible it becomes, and how susceptible it is to change. (For a discussion of individual-level differences that can affect attitudes and attitude change, see Briñol and Petty, this volume.)

Attitude Strength

Attitudes may be strong or weak in nature, and differences between these types of attitudes begin with the attitude formation itself (see Fabrigar, MacDonald, & Wegener, this volume, for more on attitude structure). According to the elaboration likelihood model, an attitude's strength can be determined by its formation. Attitudes formed as a result of high elaboration and careful consideration of a message's merits (i.e., central route processing) tend to be stronger in nature, more durable, and more resistant to persuasive attempts (Petty & Cacioppo, 1986; Petty, Haugtvedt, & Smith, 1995). Weaker attitudes, however, are more likely to have been formed via peripheral route processing, or processing that involved less issue-relevant elaboration and more attention to peripheral cues as informative indicators (Petty & Cacioppo, 1986). Weak attitudes, contrary to strong ones, are less persistent in the face of persuasive attempts (Petty et al., 1995).

Attitude strength is associated with a number of factors, including: increased certainty (Howe & Krosnick, 2017; Krosnick & Petty, 1995); more influence on thoughts and behaviors (Tormala & Rucker, 2007); a sense of correctness (Cheatham & Tormala, 2015); emotional connection (Howe & Krosnick, 2017); increased commitment (Pomerantz, Chaiken, & Tordesillas, 1995); greater personal involvement (Chaiken, 1980; Howe & Krosnick, 2017); and increased accessibility (Howe & Krosnick, 2017), which can positively influence health outcomes (Fazio & Powell, 1997). Information processing is also affected by certain aspects of attitude strength: Greater personal involvement is

associated with more elaborative thinking about relevant information, whereas less personal involvement is related to more shallow processing (Chaiken, 1980; Kunda, 1990; Petty & Cacioppo, 1986).

When it comes to information-seeking, attitude strength has been demonstrated to have differential effects depending on the aspect of attitude strength being examined. For instance, some research has found that strong attitudes and attitudes involving greater commitment are associated with greater selective exposure effects (Brannon, Tagler, & Eagly, 2007; Hart et al., 2009), whereas other research has found that uncertain attitudes are more associated with selective exposure out of an effort to reduce uncertainty (Sawicki et al., 2011). Pomerantz et al. (1995) found that greater commitment to one's attitude led to more biased resistance to persuasive attempts, whereas greater incorporation of one's attitude into self-concept was associated with less biased resistance processes. Nonetheless, much research converges on a similar conclusion: Weaker attitudes that are less confidently held, less committed to, and less personally involving are more subject to change from persuasive attempts (Chaiken, 1980; Festinger & Maccoby, 1964; McGuire & Papageorgis, 1961; Petty et al., 1995; Petty & Cacioppo, 1986).

Attitude Moralization

Sometimes, attitudes are embedded with meaning beyond just a valenced evaluation of some entity (Eagly & Chaiken, 2007); some attitudes are representative of personally meaningful values and morals. Morals are thought to share some common characteristics with attitudes: They can be generated quickly and automatically without conscious reasoning, and they are sometimes difficult to explain (Haidt, 2001). Indeed, moral judgments may be thought of as more specific forms of attitudes. In the words of Haidt (2001, p. 817), moral judgments are “defined as evaluations (good vs. bad) of the actions or character of a person that are made with respect to a set of virtues held to be obligatory by a culture or subculture.”

Morals arise as manifestations of ethical intuitions that humans are innately equipped to cognize about. Just as a negative internal feeling about some entity can externally manifest as a negative attitude about that entity, prescriptive moral rules are the external manifestation of internal moral intuitions (Haidt, 2001). Haidt and Joseph (2004) propose that humans are equipped, across all cultures, with evolutionary machinery designed to detect morality according to (at least) five intuitive ethics: harm, fairness, loyalty, authority, and sanctity. Internal, intuitive systems to attend to moral acts in these five areas are theorized to foster greater evolutionary adaptation for humans by creating rules to discourage violations of those moral intuitions (Haidt & Joseph, 2004).

Some attitudes will have underlying moral roots because of their association with these intuitive ethics. For instance, a person might be opposed to air pollution because they understand that such pollution negatively affects health outcomes, and this attitude may be further moralized because of the harm to human beings that is detected as a result of the air pollution (Feinberg & Willer, 2013). Indeed, attitudes rooted in morality may be qualitatively different in nature from other types of attitudes; when an attitude has such moral conviction, it is perceived as not just being a matter of whether an entity is positive or negative, but of whether it is right or wrong (Skitka, Bauman, & Sargis, 2005). Moral convictions, like high-strength attitudes, are better predictors of behavior, more cognitively accessible, and more stable over time (Krosnick & Petty, 1995; Skitka et al., 2005). Research also indicates that even labeling an attitude as moral makes it stronger, more predictive of behavioral intentions, and more resistant to change (Luttrell, Petty, Briñol, & Wagner, 2016). Moralized attitudes are also more accessible, with research showing faster processing of information when it is relevant to important values or viewed with a moral construal (Blankenship, Wegener, & Murray, 2015; Blankenship & Wegener, 2008; van Bavel, Packer, Haas, & Cunningham, 2012).

However, moralized attitudes also differ from high-strength attitudes, predicting a number of interpersonal outcomes above and beyond attitude strength. Having strong moral convictions is

associated with greater distance (socially and physically) from those who do not share such convictions, relational intolerance of dissimilar others, a reduced ability to solve relevant disagreements, and a reduced willingness to cooperate with attitudinally dissimilar others (Skitka et al., 2005). People with moralized attitudes about political issues are more likely to be engaged in the political process (i.e., by voting or reporting intentions to vote), an effect that occurs when controlling for attitude strength and applies equally to people on the political left and right (Skitka & Bauman, 2008). Beyond political engagement, attitude moralization makes the attitude-holders more resistant to social influence from the majority, but also from authorities and the law (Skitka, Hanson, & Wisneski, 2016; Skitka & Morgan, 2014). Finally, attitude moralization predicts opposition to compromise and opposition to politicians who do compromise on that issue (Ryan, 2016; Skitka & Morgan, 2014). Thus, although attitude moralization has some benefits—such as encouraging political participation and making one’s attitude less subject to social influence—it is also associated with many tendencies and behaviors that perpetuate political disputes, such as opposing compromise.

What makes a regular attitude transform into a moralized attitude? Research suggests that affect and emotion are key components of this transformation (Brandt, Wisneski, & Skitka, 2015; Wisneski & Skitka, 2016). In a longitudinal study of the 2012 U.S. Presidential Election, research suggests that for people of all ideological stripes, affective associations with political issues or candidates—enthusiasm in the case of favored candidates and hostility in the case of disfavored candidates—predicted attitude moralization (Brandt et al., 2015). Furthermore, beliefs about anticipated harms or benefits of a policy or candidate were enhanced by attitude moralization, but did not predict moralization (Brandt et al., 2015). On the particular issue of abortion, Wisneski and Skitka (2016) found that participants who were exposed to disgusting abortion-relevant pictures increased their degree of moralization about that issue. Thus, affective associations with issues and candidates are central to forming a moralized attitude.

In addition to being especially resistant to persuasion (like high-strength attitudes), moralized attitudes are also relatively immune to persuasive messages that do not speak the same moral language as the underlying moral basis for those attitudes. Although humans are theorized to share the same innate moral machinery, *moral foundations theory* proposes that the individual pieces of this machinery are developed and built up differently through life experiences and cultural upbringing (Haidt, 2001; Haidt & Joseph, 2004). As such, mature adults may end up being more familiar with certain types of intuitive ethics than others, and these differences reliably show up in modern societies. For example, political liberals and conservatives in the United States exhibit a consistent difference in the types of intuitions they rely upon to make moral judgments: Whereas liberals tend to only perceive immoral acts as violations of harm or fairness, conservatives are more likely to see immorality as a result of these two intuitions as well as loyalty, authority, and sanctity (Graham, Haidt, & Nosek, 2009; Haidt & Graham, 2007). (More recently, researchers have also proposed a sixth foundation, *liberty*, of particular concern to self-identifying libertarians; Iyer, Koleva, Graham, Ditto, & Haidt, 2012.) Unfortunately, because of these different perceptions of moral violations, liberals and conservatives may have a difficult time agreeing upon the same moral violations, let alone understanding why the other side even perceives a moral violation when presented with the same information. Of course, despite these trends, liberals and conservatives are still capable of perceiving moral violations that their counterparts are more likely to perceive; for instance, liberals may decry environmental destruction as a violation of sanctity (Frimer, Tell, & Haidt, 2015).

This divide is evident in the disagreement over many “culture war” issues in the U.S. (Graham et al., 2009) as well as in persuasive attempts to reach the opposition (see Stern & Ondish, Volume 2). Indeed, people are more likely to craft persuasive appeals that reflect their own moral values but not necessarily those of their intended audience, resulting in weak attempts at persuasion (Feinberg & Willer, 2015). However, when persuasive appeals are crafted to use the moral language of the targeted audience, resistance to persuasion can decrease. Across a number of divisive political issues,

Feinberg and Willer (2013, 2015) demonstrated that American political liberals and conservatives significantly moderated their attitudes in the direction of the persuasive appeal when the persuasive messages reflected a more familiar moral discourse. For example, the researchers found that liberals were more likely to craft anti-pollution persuasive messages for conservatives that emphasized harm, a moral intuition that liberals are more attuned to than conservatives, resulting in little persuasive success. However, when that appeal was reframed to emphasize the benefits of having a pure, sanctified Earth, conservatives were more likely to align their environmental attitudes in the direction of the persuasive appeal (Feinberg & Willer, 2013). (It is worth noting that a different theory of moral judgment—known as *dyadic morality*—does not support the pluralistic approach of moral foundations theory, instead suggesting that humans are universally motivated to detect and condemn acts involving just one feature: harm (Schein & Gray, 2015). Despite this criticism of moral foundations theory, the moral foundations-based persuasive messaging effects observed by Feinberg and Willer (2013, 2015) have not been addressed by proponents of dyadic morality.)

Attitudes and Motivation: Future Directions

When forming attitudes and confronting persuasive arguments, what are we motivated to do? Attitudes can guide behavior, inform beliefs, and help to interpret emotional states, but the research outlined in the present chapter suggests that many differing motivations may guide attitude formation and change. Furthermore, some motivational processes may not be well understood by contemporary attitudes research.

Reducing Disconnection Between Models of Motivation and Attitudes

As outlined above, most of the contemporary integrative approaches to motivation focus on motivation in service of needs. For instance, we are motivated to reach homeostasis, and when we receive signals that the system is imbalanced, we are motivated to act in ways that restore balance. Motivation in this context can have immediate impacts (e.g., seeking food when hungry to satisfy physiological needs) as well as longitudinal impacts (e.g., working hard to excel in a career to satisfy esteem needs). Furthermore, motivation can have dispositional components (e.g., personality, chronically activated goals), but also situational determinants (e.g., current level of hunger, whether or not esteem needs are met). However, many of the models mapping the attitude-behavior relation do not account for these kinds of need-based cues on behavior. Instead, attitudes are treated more like static personality traits rather than motivational states that can be active or inactive. Perhaps one intriguing future direction for attitude theory may be to consider how need-based motivation could impact attitude formation, activation, and change.

Another potentially fruitful distinction for understanding the role of motivation in attitudes may be to develop theoretical models differentiating the roles of liking (e.g., the hedonic impact of a stimulus) versus wanting (e.g., the incentive salience of a stimulus). Under this framework, liking a stimulus may be most closely related to the evaluative component of the attitude. In contrast, wanting a stimulus may be most closely related to the link between attitudes and behavior. Indeed, meta-analytic evidence suggests that attitudes correlate more with behavior when they are more accessible (Glasman & Albarracín, 2006), which would correspond to incentive salience. For instance, liking has been linked to “hedonic hotspots” in the brain, including opioid, endocannabinoid, and GABA-benzodiazepine neurotransmitter systems (Berridge, Robinson, & Aldridge, 2009; Peciña & Berridge, 2005; Peciña, Smith, & Berridge, 2006; Mahler, Smith, & Berridge, 2007; Smith & Berridge, 2005). In contrast, the neurobiology of wanting is more widely distributed and more easily activated than liking, and is more closely linked to dopamine systems (Berridge, 2007; Berridge et al., 2009; Volkow et al., 2006; Aragona & Carelli, 2006; Tindell et al., 2005). In addition to

physiological differences, liking and wanting also lead to distinct psychological and behavioral outcomes. Although liking and wanting are typically linked, they can also be dissociated. For instance, people with addiction may often “want” drugs that they no longer “like” (Berridge et al., 2009; see White et al., Volume 2). In this case, the incentive salience of the drug becomes a motivational magnet pulling a person toward the drug, even when one is capable of recognizing the costs of drug use. Better understanding the role of motivation in this sense may improve theoretical models, not only of attitude formation and change, but also the links between attitudes and behaviors. This framework may also be useful in expanding theorizing about motivation as being driven by internal motivation to include the role of the context signaling motivation from anticipated environmental incentives. Much of the theorizing to date treats motivation as state- or trait-based internal needs or drives. Additional work may consider the role of context as a signal of motivation (see also Bandura, 1997; Pittman & Zeigler, 2007).

Motivational States

For decades, a dominant motivational influence on attitudes has been *cognitive consistency*, or a homeostasis attained by maintaining attitudes, beliefs, and behaviors that are internally consistent. Under this cognitive consistency motive, people form or change attitudes because they are primarily motivated to avoid the discomfort resulting from internal inconsistency (i.e., dissonance; Festinger, 1957). But, attitudes can also serve a more hedonistic purpose beyond the mere avoidance of discomfort. Indeed, selective exposure, motivated reasoning, and a host of other processes also tend to make people *feel* better. Being validated by confirmatory, congenial information—whether attained by selective exposure or biased interpretation—feels much better than grappling with the implication of uncongenial information that one’s attitudes and beliefs are not especially valid (Hart et al., 2009; Kunda, 1990).

When confronting uncongenial information, different motivational processes are characterized by more active or passive approaches in their treatment of uncongenial information. For instance, processes such as selective attention (Sweeney & Gruber, 1984); biased elaboration (Petty & Cacioppo, 1986); and motivated reasoning (Kunda, 1990) take a more passive approach to handling uncongenial information: Instead of directly confronting the uncongenial information and derogating or counterarguing it, these processes instead focus on directing attention or interpreting information in ways that facilitate reaching congenial conclusions. In these cases, uncongenial information is either disregarded or manipulated to suit one’s needs.

However, other processes take on a more much active approach to combating uncongenial information and reaching congenial conclusions. For instance, consider denialism. Instead of merely ignoring uncongenial information that contradicts one’s views, denialism takes another step: Maintaining one’s views via denialism involves negating the validity of uncongenial information (Asch, 1956; Campbell & Kay, 2014; Lewandowsky et al., 2013). With denialism, ignoring uncongenial information does not suffice; it must be dismissed outright. Conspiracy theorizing represents an even more active approach to handling uncongenial information. Beyond just denying the validity of uncongenial information, conspiracy theorizing fosters the active creation of entirely new beliefs, attitudes, and facts to suit one’s desired conclusions (e.g., van Prooijen, 2012). Conspiracy theorists not only reject existing information, but instead conjure entirely new information; sometimes these theories are borne from an illusory pattern in existing information (Swami et al., 2010), but other times, they do not even achieve that basis. Future attitudinal research should address factors that motivate people to actively reject information versus merely disregard it in their quests to reach congenial conclusions.

When considering these more active motivational phenomena of denialism and conspiracy theories, we return to the question at the beginning of this section: What motivational states do they

satisfy? As mentioned earlier, processes such as selective exposure, selective attention, biased elaboration, and motivated reasoning all can be understood as facilitating cognitive consistency, hedonic satisfaction, or both. But denialism, and especially conspiracy theorizing, are harder to understand as fulfilling motivational end states of consistency or hedonic satisfaction. For instance, although denialism can promote hedonic satisfaction by rejecting uncongenial information that does not align with one's views, it also involves actively negating information that is plainly evident and non-controversial to many other people; if the denier places value upon being a reasoned, rational person, then denial of evidence seems inconsistent with that self-concept. For conspiracy theories, a state of internal consistency can perhaps be attained if one endorses a variety of other conspiracy theories (Swami et al., 2010); otherwise, the conspiracy theorist faces a similar dilemma of consistency as the denier by rejecting evidence that is clear to everyone else.

Moreover, it is unclear how hedonic satisfaction is reached through conspiracy theories. Although conspiracy theorists are motivated by a desire to imbue order onto a perceived chaotic world (van Prooijen, 2012), particularly when endorsers feel as if they lack control (van Prooijen & Douglas, 2017), it is not always clear how hedonic satisfaction is reached through conspiracy theories. Such theories commonly replace plausible explanations for events with ones that involve the machinations of highly powerful, highly informed authorities or government bodies that pull a series of complex strings throughout society; do these theories really make one feel better? For instance, take a "truther," who denies the official explanation for the September 11th attacks. Rather than endorsing the explanation that a group of men from other countries were motivated to cause Americans harm, wreak economic and military havoc, and make a symbolic display of disagreement with a way of life, is one really comforted by the conspiratorial explanation that the American government intentionally crashed planes into buildings and killed thousands of American citizens to bring about two decades of war, terror, and more global instability? The hedonic end state does not satisfactorily explain this type of conspiratorial thinking. Yes, it is frightening to know that people exist who are willing to take their own lives to kill innocent civilians, but isn't the alternative perspective, that a ruthless, self-serving, and murderous U.S. federal government exists, also terrifying?

The examples of denialism and conspiracy theorizing and the difficulty of explaining their motivations with existing attitudinal theory illustrates a ripe area for future investigation: What other motivations do attitudes serve? Especially with conspiracy theorizing, it seems that common motivational explanations of cognitive consistency or hedonic satisfaction do not fully suffice. Why else might a person be motivated to concoct an alternative version of events, particularly when it represents a scarier and more sinister reality? Although recent research suggests that conspiracy theorists are motivated to find explanations for distressing, uncertain events (van Prooijen & Jostmann, 2013) and to reassert control (van Prooijen & Douglas, 2017), conspiracy theories often involve actively rejecting existing evidence in favor of weaker, alternative narratives involving powerful entities; if one desires, reaching the most accurate conclusion that reaffirms a sense of control, then this does not seem to be the way to go about it. Then, what motivates people to adopt and maintain attitudes that are so out of the mainstream, lack much supporting evidence, and hardly create a sense of comfort? As such, forming and maintaining attitudes about conspiracy theories suggests an exciting and relatively unexplored direction for research on the motivational influences on attitudes.

Attitude Functions

Attitudes primarily serve one of three functions: defense or expression of one's self-concept and identity (i.e., defense); a desire to reach accurate conclusions (i.e., accuracy); or conveying certain information for social gain (i.e., impression; Katz, 1960). Yet, which of these motives an attitude is serving is often quite hard to discern, and attitudes can appear to serve multiple motivations at the same time. Attitudes that are expressed for defense or accuracy motives can also be motivated as

much by impression motives. For instance, someone who stubbornly denies the validity of climate science because it conflicts with one's views may be doing so out of a defense motive (i.e., to protect one's values and beliefs), but impression motives can play a role as well: People generally do not like to be seen as quickly giving up their beliefs in the face of new information, especially when those beliefs are closely held. Or, consider someone who seeks out uncongenial information in an experiment: Despite appearing to be operating under an accuracy motive, this person may merely enjoy creating the impression of being open-minded (but may not actually be open-minded). As with many other attitude processes, understanding the true motives at work is difficult because it is hard to see what is happening in the mind. Thus, although Katz's (1960) work on attitude motivations provides a useful guide to the differing functions of attitudes, considering how attitudes may serve multiple functions deserves future research and may change the understanding of some prior research. For example, perhaps denialists and motivated reasoners are not truly blind to the validity of information they are confronted with, but just do not want to appear flimsy for changing firmly rooted views.

Another fascinating future direction concerns how people may contort an attitude away from one motive and into another. Research on belief superiority—the belief that one's views are more correct than other viewpoints—may be an example of people willing their defense-oriented attitudes into accuracy-motivated ones (Raimi & Leary, 2014). Belief superiority is associated with attitude extremism (Raimi & Leary, 2014; Toner, Leary, Asher, & Jongman-Sereno, 2013) and also predicts a variety of behaviors in the realm of motivated reasoning: The belief-superior are more likely to engage in selective exposure (Hall & Raimi, 2018) and to dominate discourse with other people, particularly when those other people held uncongenial views (Maki & Raimi, 2017). As such, belief superiority fits nicely within the broader family of defensive processing and motivated reasoning. However, by convincing themselves that their view is not only *better* than other views, but is also *more correct*, the belief-superior turn a perception that is defensively oriented into one that is also ostensibly motivated by accuracy. In this way, belief superiority manages to serve both defensive and accuracy motivations, illustrating how more nuance is needed to understand some motivational and attitudinal processes. Indeed, such dually motivated attitudes may also be especially resistant to persuasion, a possibility deserving of future research.

Derailing Motivated Cognition

In recent years, much attitudes research has been devoted not only to understanding how motivated reasoning processes function, but also how to intervene and interrupt them. Although people appear to be generally susceptible to the many forms of motivated cognition, this area of research illuminates some promise of how to derail the potentially negative effects of motivated attitudinal processes.

A common method of intervening with attitudinal motives is through goals. Although defense motivations are more common and seem to be the default function for most people, accuracy goals can be induced (see Hart et al., 2009, for a meta-analysis). However, accuracy goals are more difficult to successfully induce, and as a researcher, it is hard to know with certainty whether an accuracy-induced participant is truly processing with an open mind. Information utility can be a successful motivating tool to guide people away from merely pursuing congenial information (e.g., Freedman, 1965), but utility can also be motivated. Indeed, the downside of relying on utility as an accuracy motivator is that people have a tendency to regard congenial information as being more useful. For instance, Earl and colleagues (2009) found that people who already had the knowledge and motivation to use condoms were more likely than their less-motivated, less-knowledgeable peers to see HIV-prevention counseling sessions as useful; in this case, what was congenial was also useful. Nonetheless, perceived information utility can steer people, in some circumstances, away from common motivated biases.

Briefly, considerable research covers a wide array of strategies and techniques that show promise to combat motivational biases. For instance, contextual effects of the presentational order of congenial and uncongenial information can reduce biased validation of congenial information (Hall et al., 2018). In some contexts, presenting both congenial and uncongenial information together can make the uncongenial information more palatable (see Eisend, 2007, for a review). Establishing higher-order, or superordinate, goals can induce people to look past points of disagreement in favor of fostering cooperation between disagreeable parties (Sherif, 1958). Helping people to understand their lack of clarity about an issue can also reduce biased processing. For instance, political partisans who were tasked with focusing on how well persuasive arguments established a conclusion from its evidence reduced biased evaluation of the messages (D. R. Johnson, 2017). Similarly, asking people to explain—in detail—a political policy that they had an extreme view on made them realize their lack of strong understanding of the issue, resulting in more moderate views on that issue (Fernbach et al., 2013). Other researchers demonstrated that, although people who care strongly about an issue are most likely to possess the illusion that they can justify their views through strong argumentation, this illusion can be reduced after explicitly considering arguments for the opposing point of view (Fisher & Keil, 2014). Finally, recent work suggests that targeting the roots of attitudes—the “fears, ideologies, worldviews, and identity” that support explicit attitudes—may be successful in achieving persuading science denialists to accept scientific evidence (Hornsey & Fielding, 2017, p. 459). Overall, much research shows promise for combating the negative effects of motivated and defensive reasoning processes, and future research should examine how these processes can be integrated with the current understanding of motivational states and attitude functions.

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