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# Mindful Versus Mindless Thinking and Persuasion

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Although the construct of mindfulness has seen diverging definitions in the field of psychology (Gethin, 2011), general themes among these definitions are relevant to attitudes and persuasion. One of these accounts of mindfulness, representing a more Western approach, is that provided by Langer (1989; Langer & Moldoveanu, 2000). In this account, mindfulness is seen as bringing one's full resources to a cognitive task by using multiple perspectives and attending to context, which creates novel ways to consider the relevant information. As we describe in this review, this active process of elaboration can be linked to the concept of the *central route* to persuasion. In contrast to mindfulness, the persuasion literature views mindlessness as a way of approaching the same cognitive tasks with reduced attention and a reliance on previously developed means of interpreting information. This second approach, based on reliance on mental shortcuts, associative inferences, and heuristics, can be linked to the concept of the *peripheral route* to persuasion. Briefly stated, mindful engagement in a task is characterized by openness and elaborative thinking, whereas mindless engagement is characterized by rigidity and less elaborative rule-governed behavior.

Other definitions of mindfulness stem more from the Buddhist practice of mindful meditation. Like Langer's formulation, this view of mindfulness involves openness centered in the present moment, but there are additional processes inherent in these conceptualizations of mindfulness that are not components of Langer's approach. These more Eastern formulations emphasize various mental processes that characterize the state of mindfulness (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn, 2003). Of most relevance to the persuasion processes that will be reviewed later are openness to current experiences, shifting perspectives of self, and the nonjudgment of thoughts. Simply put, people experiencing a state of mindfulness are those who demonstrate an openness to the present and have experiences unburdened by personal concerns, previous events, or future possibilities (e.g., Bishop et al., 2004; Brown & Ryan, 2003; Hölzel et al., 2011; Martin, 1997). Shifting perspectives of self refers to

a tendency to see oneself as changing, following from Buddhist beliefs regarding the impermanence of the self (Hölzel et al., 2011). The nonjudgment of thoughts refers to the act of noticing one's thoughts and letting them pass without personalizing or evaluating them (Bishop et al., 2004; Dreyfus, 2011; Kabat-Zinn, 2003; Shapiro, Carlson, Astin, & Freedman, 2005). As we describe shortly, the characteristics of mindfulness from these theoretical perspectives are applicable to the domain of attitudes and persuasion.

The study of attitudes and persuasion is one of the key elements of social psychology and beyond (e.g., marketing, political science, etc.). Attitudes refer to people's evaluations of a target, which can be an object, a place, an issue, oneself, or another person. Attitudes are important because a person's attitude can often predict their relevant behavior. Persuasion refers to the processes by which a person's attitude can change. After encountering persuasive messages of any type, one's attitude toward the topic of the message can shift. There are a number of variables that can either facilitate or inhibit persuasion. The extent of mindfulness is one such variable.

### **Mindfulness and Attitude Change**

Persuasion can occur at all levels of mindfulness. That is, some processes of persuasion can occur when people are in a relatively mindless state, and others can occur when people are in a more mindful state, and everywhere in between. First, many social influence variables operate under conditions of mindlessness. For instance, in their classic study, Langer, Blank, and Chanowitz (1978) examined people's compliance with a simple request that followed the familiar structure of acceptable persuasive requests (i.e., including a reason) and varied whether or not the content of the request was compelling. Specifically, an experimenter approached people who were about to use a photocopier and asked to use the machine first. This request came with a reason that conveyed no real information and was vacuous (i.e., "because I have to make copies"), a reason that did convey information (i.e., "because I'm in a rush"), or included no reason at all for the request. Their results revealed that people were more compliant with the request when it was accompanied by some reason than when the request was made in isolation, even if the reason was vacuous. Importantly, the persuasive advantage of providing a vacuous reason was present under relatively mindless conditions. Under conditions characterized by increased thought, Langer et al. (1978) found that including a vacuous reason was no more persuasive than merely making the request alone. Thus, under conditions of mindlessness, simple heuristics such as provision of a reason can enhance a communication's persuasive impact.

In a similar vein, research using a traditional persuasion paradigm showed that increasing the number of arguments for a position—whether strong or weak—can increase persuasion when thinking was low. However, when thinking was high, only increasing the number of strong arguments increases persuasion. Increasing the number of weak arguments reduced persuasion when people were being thoughtful (Petty & Cacioppo, 1984).

Other influence techniques also have been explicitly identified as persuasion variables that operate primarily under mindless conditions. For example, the

“That’s-Not-All” technique in which persuasion increases when initial offers are followed either by a reduced price or by the inclusion of an upgrade on the offer has been shown to be more effective under conditions of mindlessness (Pollock, Smith, Knowles, & Bruce, 1998). Additionally, some researchers have argued that other compliance strategies are successful because they *induce* a state of mindlessness (Dolinski & Nawrat, 1998; Fennis & Janssen, 2010), including the Foot-In-The-Door technique (Burger, 1999), the Door-In-The-Face technique (Cialdini et al., 1975), and the Fear-Then-Relief technique. That is, some have argued that these techniques work because they reduce the ability and/or motivation for people to think mindfully about requests. In these cases, mindful consideration of a request could *undermine* the persuasiveness of the request as people might generate reasons to deny the request; however, if an influence technique prevents people from reaching a state of mindful consideration, a request might be agreed to without much thought.

The persuasion literature is replete with examples of people succumbing to simple strategies when they are not thinking much. For example, people might go along with an authority without much thinking because experts are presumed to be correct (e.g., Chaiken, 1980; Petty, Cacioppo, & Goldman, 1981), or they might become more attracted to a restaurant if the parking lot is full rather than empty, taking the apparent popularity of the place as social proof that it must be good (Cialdini, 2001), or because that restaurant is going to be open only for a limited, restricted period of time (Lynn, 1991). Indeed, people often do not have the time or mental resources to think about every request and persuasive appeal that passes by them each day or every decision they must make. As a result, everybody can fall prey to simple decision rules or triggers that can operate in a fairly automatic manner. However, persuasion does not *always* operate in a mindless way.

There are many other processes that guide persuasion when people operate mindfully. In fact, the very same variables that can lead to mindless change can also produce mindful change under different circumstances. Petty and Briñol (2012) argued that variables such as those mentioned above (scarcity, authority, and social consensus) can operate in different ways, depending on the situation. For example, consider the general social influence principle of liking. The dominant understanding of why people tend to be persuaded by people they like is that it operates as a fairly automatic heuristic (e.g., I like this person; therefore, I should go along with their proposal). However, in accord with contemporary multiprocess theories of influence such as the elaboration likelihood model (Petty & Cacioppo, 1986) and the heuristic-systematic model (HSM; Chaiken, Liberman, & Eagly, 1989), it is now clear that variables such as source attractiveness and processes such as liking affect judgments in different ways depending on how motivated and able people are to think about the appeal or request. That is, depending on the message recipient’s motivation and ability to think, factors such as liking or attractiveness can influence persuasion in multiple ways, including not only serving as a simple cue, but also by some other more mindful processes. We describe these next.

## Mindful Change

As noted, attitudes can change through automatic, mindless processes as well as through more deliberative, mindful mechanisms. Although both mindless and mindful

processes are possible, the consequences of those processes are different. According to the ELM, attitudes formed or changed through low thinking processes typically associated with mindless approaches are less persistent, resistant to change, and predictive of behavior than attitudes changed via high thinking processes linked to mindfulness. This is because elaboration typically involves accessing relevant information from both external and internal sources, scrutinizing, making inferences, generating new arguments, and drawing new conclusions about the merits of the attitude object (Petty & Cacioppo, 1986). These mental activities involve people adding something of their own to the information available and are likely to lead to the integration of all relevant information into the underlying structure for the attitude object, therefore making the adopted evaluation not only stable, but also coherent and resistant. Thus, deliberative attitudes based on high amounts of thinking are *stronger* than attitudes based on little thought (see Petty, Haugtvedt, & Smith, 1995, for a review). The mental operations associated with elaborative thinking share a number of similarities with what has been proposed for mindful thinking. The components of mindful thinking of most relevance to the concept of elaboration include the tendency to think about alternatives, being open to new information, perceiving change, and the nonjudgment of one's thoughts.

First, mindfulness has been described as a tendency to think flexibly (Langer & Moldoveanu, 2000). In social psychology, similar tendencies have been examined in work on creativity and divergent thinking and in the proposed function of positive emotions (e.g., Fredrickson, 1998, 2001). Within the field of persuasion research, this tendency can relate to the thoughts that people have in response to a persuasive message and to the evaluative information used when reflecting on an attitude. Regarding message-evoked thoughts, *cognitive response theory* (Greenwald, 1968; Petty, Ostrom, & Brock, 1981) proposed that persuasion is driven by a person's own thoughts evoked by a persuasive message. This approach stood in contrast to the prior focus on the extent to which these messages were simply learned (see McGuire, 1985). According to the research derived from cognitive response theory, a person can have both thoughts relevant to and thoughts irrelevant to a persuasive communication. The relevant thoughts can also vary in the extent to which they are positive, negative, or neutral toward the message. Some research has even demonstrated that when people are directly asked to generate thoughts of a particular valence in a persuasion context, they can spontaneously generate *unrequested* thoughts of the opposite valence, which also inform resulting attitudes (Tormala, Falces, Briñol, & Petty, 2007). This phenomenon may be even more likely under conditions of mindfulness that facilitate flexible thinking. Clearly, there are many ways a person can think about a persuasive message, all of which have their own influence on the resulting attitudes.

Although this research has shed light on the extent to which a person can think in alternative directions to that intended in the persuasive appeal, when encountering a persuasive message, people may also think in alternative valence when considering the target of evaluation itself, in the absence of any attempts at persuasion. For example, when a person has both positive and negative reactions to an object, person, or idea, that individual is said to have an *ambivalent attitude* (for a review, see Conner & Armitage, 2008). Thus, ambivalence reflects endorsement of both positive and negative aspects of a particular topic, agreeing with both the benefits and

detriments simultaneously. Ambivalence can also exist at a different level; a person's automatic evaluation of an object, obtained via an implicit measure, can conflict with the evaluation obtained on a more deliberative, explicit self-report measure. When this occurs, the person's attitude is characterized by *implicit ambivalence* (Petty & Briñol, 2009; Petty, Briñol, & Johnson, 2012; Petty, Tormala, Briñol, & Jarvis, 2006). Research on attitude strength has shown that highly ambivalent attitudes—whether explicit or implicit—are not as functional in guiding thoughts and behavior as relatively less ambivalent attitudes. Existing research has also shown that people find attitudinal ambivalence to be aversive and are thus motivated to reduce the evaluative conflict implied by competing positivity and negativity (Jonas, Diehl, & Brömer, 1997; Newby-Clark, McGregor, & Zanna, 2002; van Harreveld, van der Pligt, & de Liver, 2009).

Of most relevance here, a mindfulness approach can lead to a different conceptualization and response to ambivalent attitudes. On the one hand, with its promotion of more diverse thinking, mindfulness could provoke more frequent attitudinal ambivalence. Some research has shown that attitudes can be more mixed among people and cultures characterized by greater tendencies to think dialectically. Dialectical thinking refers to greater acceptance of contradiction in reasoning (for a review, see Spencer-Rodgers, Williams, & Peng, 2010). For example, Peng and Nisbett (1999) note that in dialectical thinking, “good and bad . . . coexist in everything” (p. 743). Such a tendency to think in this way has been related to the characteristics of mindful thought. Previous work has shown that those who tend to think more dialectically demonstrate greater ambivalence in their self-evaluations by generating and endorsing both positive and negative evaluations of themselves (Boucher, Peng, Shi, & Wang, 2009; Spencer-Rodgers, Peng, Wang, & Hou, 2004). They are also more likely to experience mixed emotions than those who tend to think less dialectically (Bagozzi, Wong, & Yi, 1999; Goetz, Spencer-Rodgers, & Peng, 2008; Shiota, Campos, Gonzaga, Keltner, & Peng, 2010; Spencer-Rodgers, Peng, & Wang, 2010).

In accord with this view, Langer (1994) notes that uncertainty, which often accompanies ambivalence (e.g., Jonas et al., 1997), promotes mindfulness and consideration of new information (see also Tiedens & Linton, 2001). Thus, when considering both positive and negative information about some topic mindfully, it may itself contribute to ambivalence in the objective sense (i.e., coexistence of both positive and negative reactions to a single object). Intriguingly, however, whereas mindfulness might increase the frequency of objectively ambivalent attitudes, it may also contribute to a reduction of the aversive subjective feeling that typically accompanies ambivalence. Because the notion that there is a single correct evaluation can be classified as a relatively mindless belief, perhaps it is primarily for people who hold this belief that the coexistence of positive and negative reactions to something will signal an actual conflict that must be resolved. For more mindful individuals, however, such evaluative uncertainty may provoke a search for more information, but perhaps more in the spirit of curiosity. Future research should explore the complex relationship between mindfulness and the presence of objective and subjective ambivalence, as well as the consequences for subsequent information processing.

Second, mindfulness has been characterized by openness to new information and by new ways of considering some object or issue. In fact, mindfulness scales have been

found to correlate with the Openness to Experience Scale of the Big Five (Giluk, 2009). For instance, an important element of Bishop et al.'s (2004) two-component model of mindfulness is that of greater acceptance of each moment of experience. That is, someone who is being mindful is not trying to reach a particular conclusion or end-state and will thus entertain any new information or experiences as relevant. Such openness is also prominent in many other theoretical formulations of mindfulness (e.g., Brown & Ryan, 2003; Hölzel et al., 2011; Martin, 1997). Similarly, Chanowitz and Langer (1981) introduced the notion of "premature cognitive commitment," which is a tendency to adhere strictly to previously encountered information. They further suggested that such a tendency is particularly mindless because of the failure to reconsider beliefs and perceptions after they are initially formed. Under mindful states, however, preexisting cognitions may be more open to scrutiny and change (Langer, 1989; Langer & Moldoveanu, 2000). By its nature, the persuasive effects of a communication can depend on how open a person is to information that contradicts a currently held attitude. Several variables have been examined for their ability to affect a person's openness to, or willingness to process, counterattitudinal communication. These include an attitude's strength, personal motivations, self-affirmation, general individual differences in open- versus closed mindsets, and attitudes toward change, to name just few of the most relevant ones.

When a person's preexisting attitude is relatively weak, that attitude is more susceptible to change in response to persuasive appeals (Krosnick & Petty, 1995). For example, when people are relatively doubtful about an attitude or possess an attitude that is relatively ambivalent, they are more likely to process new information; thus, when a persuasive message contains arguments that are adequately strong, those with more doubtful or ambivalent attitudes are more persuaded by the message (Edwards, 2003; Jonas et al., 1997; Petty et al., 2006; Tiedens & Linton, 2001; Weary & Jacobson, 1997). Also, work on motivated reasoning has been applied to persuasion contexts, with people showing more openness to persuasive messages containing attitude-congruent arguments and less openness to persuasive messages containing attitude-incongruent arguments (Kunda, 1990).

A different body of literature has proposed that a persuasive message can represent a threat to a person's self-concept (Jacks & O'Brien, 2004). As such, giving people an opportunity to self-affirm (i.e., focusing them on personally important values) generally makes them more open to a counterattitudinal persuasive message (Cohen, Aronson, & Steele, 2000; see also Briñol, Petty, Gallardo & DeMarree, 2007; Jacks & O'Brien, 2004).

Finally, persuasion has been related to open- versus closed-mindedness motivations. In particular, the construct *need for cognitive closure*, occasionally related explicitly to open- versus closed-mindedness (e.g., Kruglanski, 2004), has been shown to affect openness to persuasion. The need for cognitive closure refers to a general motivation for firm conclusions rather than ambiguity (for reviews, see Kruglanski, 2004; Kruglanski & Fishman, 2009; Kruglanski & Webster, 1996). In particular, in some research, when people had a preexisting basis for an opinion, those operating under a high need for cognitive closure (either having scored high on a measure of dispositional need for closure or having been in a condition in which quick closure was valued) were less persuaded by a message than those operating under a low need for

cognitive closure. In other words, the more closed-minded (high need for closure) people clung to the initial basis for an opinion (similar to “premature cognitive commitment”) and resisted new information, whereas the more open-minded (low need for closure) people were more open to new information and did not cling as strongly to their initial opinions. Thus, just as research on mindfulness has highlighted the importance of “openness” in understanding how people engage with their experiences, so too does attitudes and persuasion research highlight the role that a state of openness plays in approaching persuasive messages.

Third, mindfulness has been described in relation to perceptions of impermanence. That is, having drawn from Buddhist notions that a permanent, static self is the source of psychological distress (e.g., Olendzki, 2010), some have suggested that a state of mindfulness can facilitate a shift in how the self is perceived toward flexibility (Hölzel et al., 2011). Some social psychology research has examined a related distinction between perceptions of the self as changeable versus more permanent, separating people with “entity” theories, which suggest current attributes will remain relatively permanent over time, from people who hold “incremental” theories, which suggest that current attributes are open to change and improvement (Dweck, Chiu, & Hong, 1995). Work more closely relevant to attitudes and persuasion has also considered these perceptions of changeability. For instance, people can vary in how much stability they perceive in their attitudes, with some perceiving an attitude as being relatively more stable over time than others (Petrocelli, Clarkson, Tormala, & Hendrix, 2010). Other work has shown that people also differ in the extent to which they perceive themselves as generally resisting (vs. being persuaded by) persuasive communications, implying variability in how permanent they perceive their attitudes to be (Briñol, Rucker, Tormala, & Petty, 2004). In fact, people can apply different beliefs to persuasion resistance, believing in some cases that resistance (and thus strong attitude consistency over time) is good and in other cases that resistance is bad, relating perhaps to more general implicit theories regarding the changeability of one’s attitudes (Rydell, Hugenberg, & McConnell, 2006). It is important to note, however, that *perceptions* of change are often independent of actual change. Indeed, it is clear that people often make errors in assessing whether they have changed or not (Bem & McConnell, 1970; Goethals & Cooper, 1975; see Briñol & Petty, 2012, for a review). In a programmatic line of studies, Schryer and Ross (2012) have shown that people can fail to recognize change in either their attitudes or themselves, even when there actually has been change. In fact, they also show that people can see some change when there actually has been none.

Finally, mindfulness is often described as encompassing the nonjudgment of thoughts. Not only is it a key component in one of the most often cited definitions of mindfulness (“paying attention in a particular way: on purpose, in the present moment, and non-judgmentally”; Kabat-Zinn, 1994, p. 4), but it also plays a role in many other accounts of mindfulness (Bishop et al., 2004; Gethin, 2011; Shapiro et al., 2005; cf. Dreyfus, 2011). In psychology, this can be related to therapy approaches that emphasize metacognitive techniques, such as the metacognitive therapy proposed by Adrian Wells (2012). In persuasion research, the importance of *metacognition* has also been shown. As previously noted, persuasive messages can evoke a variety of thoughts, and importantly, these thoughts can themselves be evaluated. This highlights the

distinction between *primary cognitions* and *secondary cognitions*, or between cognition and metacognition (Briñol & DeMarree, 2012; Petty, Briñol, Tormala, & Wegener, 2007).

Primary cognitions refer to the initial thoughts themselves, whereas secondary cognitions involve judgments and evaluations of the primary cognitions. These secondary cognitions can take many forms that influence the persuasion process. In particular, thoughts (or “primary cognitions”) can be judged on their perceived valence, on how many there seem to be, on their perceived target (i.e., what the thoughts are about), on where they seemed to come from, on how confidently they can be held, and on how desirable they are, each exerting effects on the persuasion process (Petty et al., 2007; Wagner, Briñol, & Petty, 2012). Although there are a number of judgments that people can make about their thoughts, most persuasion research has focused on one particular metacognitive factor—the confidence people have in their thoughts. Confidence in thoughts is important because as thoughts are held with greater confidence, people are more likely to use those thoughts in forming their attitudes and other judgments (Petty, Briñol, & Tormala, 2002). In contrast, when people doubt the validity of their thoughts, their thoughts are less likely to have an impact on judgments.

Although this research has uncovered the many ways in which people feel and think about their own thoughts, mindfulness is characterized by the *nonjudgment* of thoughts. Linking the distinction between primary and secondary cognitions to mindfulness, Bishop et al. (2004) write that a state of mindfulness is said to “*inhibit secondary elaborative processing* of the thoughts, feelings, and sensations that arise in the stream of consciousness” (p. 233). Relatedly, some proponents of mindfulness-based therapies have suggested that thoughts can be treated as material objects (Brown, Ryan, & Creswell, 2007). This allows clients to separate themselves from their thoughts by treating those thoughts more objectively. In a recent series of studies testing the application of this approach to attitudes, Briñol, Gascó, Petty, and Horcajo (2013) asked people to write down either positive or negative thoughts about Mediterranean diets. Upon doing so, they were randomly assigned to one of three conditions. In one, they were asked to take the page on which they wrote their thoughts and place it in a trash can, “throwing away” their thoughts. In the other condition, they were asked to take the page on which they wrote their thoughts, fold it up, and keep it in a safe place such as their pocket, wallet, or purse. In the third, control condition, participants were asked to merely fold the corners of the page where the thoughts were written and leave it on the table. After performing one of these actions, all participants were then asked to rate their attitudes regarding the Mediterranean diet. As expected, results indicate that when people in the control condition were asked to generate positive (vs. negative) thoughts about the topic, they later reported more positive (vs. negative) attitudes. How thoughts were treated (as if they were material objects), however, had a significant impact on how those thoughts influenced attitudes. For people who kept their written thoughts close to them, those thoughts had a more pronounced effect on attitudes than in the control condition. In contrast, for people who placed their written thoughts in the trash, the effect of the thoughts on attitudes was attenuated compared to the control group.

Consistent with the idea that mindfulness treatments promote a more objective and distant relationship with people’s own thoughts (e.g., Brown et al., 2007), this



research showed that detaching and separating (in this case, literally) from one's negative thoughts can produce more positive evaluations. Importantly, the very same treatment (thought disposal) produced the opposite effect when thoughts were positive. This finding suggests that techniques involved in some mindfulness treatments can backfire at least for some people and for some situations, particularly those in which positive thoughts are present. The research by Briñol and colleagues (2013) also suggests a new, simple strategy for magnifying thought impact by having people develop a closer relationship with their positive thoughts (e.g., carrying them).

It seems obvious from these results that it is important to know which specific processes are responsible for the reported effectiveness of clinically relevant mindfulness treatments. It is also important to consider that mindfulness researchers have proposed that merely distancing oneself from thoughts may not always be mindful. Rather, there can be a difference between distancing the self from one's thoughts and disconnecting oneself from one's thoughts (Shapiro et al., 2005). Further research is needed to address this distinction in the treatment of one's thoughts and the effects it can have on resulting attitudes.

### **Elaboration Likelihood Model of Persuasion (ELM)**

As noted earlier, the available literature has suggested that attitudes are sometimes changed by relatively low thought mechanisms, but at other times they are changed with a great deal of thinking. Sometimes the thinking is relatively mindless, and sometimes it is more mindful. Notably, the accumulated research on persuasion shows that sometimes variables such as using an attractive source or putting people in a good mood have a positive effect on persuasion, but sometimes the effect is negative. In order to understand these complexities, contemporary multiprocess theories of persuasion were developed. As anticipated earlier, we use one of these theories—the ELM—to organize the literature.

The ELM (Petty & Cacioppo, 1986) was developed in an attempt to integrate the literature on persuasion by proposing that there are a finite set of processes by which variables can affect attitudes and that these processes require different amounts of thought. Thoughtful persuasion was referred to as following the *central route*, whereas low-thought persuasion was said to follow the *peripheral route*. A common finding in research guided by the ELM is that when people are motivated and able to think about a message, their attitudes are influenced by their assessment of the merits of the appeal, but when they are relatively unmotivated to think, attitudes are influenced by simple cues in the persuasion setting (see Petty & Wegener, 1999; Petty & Briñol, 2012, for reviews).

The ELM is an early example of what became an explosion of dual process and dual system theories that distinguished thoughtful from nonthoughtful persuasion (see Chaiken & Trope, 1999; Sherman, Gawronski, & Trope, in press).<sup>1</sup> According to the ELM, the extent of thinking is important not only because it determines the route to persuasion and the process by which a variable affects attitudes, but also because more thoughtful persuasion tends to be more consequential. Specifically, attitudes changed with high thought tend to be more persistent over time, resistant to change,

and predictive of behavior than attitudes changed by low thought processes (Petty, Haugtvedt, & Smith, 1995).

In the remainder of this section, we outline the ways in which the ELM specifies that a variable relevant to mindfulness (our own body) can affect the extent of persuasion. We will review some of the main roles our body can serve in the persuasion process, including (1) serving as simple cues to the merits of a proposal, (2) affecting the direction of the thinking, (3) affecting the amount of thinking that takes place, and (4) affecting evaluations of the thoughts generated.

### Body Awareness and Persuasion

One effect of mindfulness that has not yet been discussed is the association between mindfulness and body awareness. Hölzel et al. (2011) proposed that mindfulness can increase one's body awareness (i.e., the ability to notice one's own bodily sensations), noting, for example, that several items in the Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) are directly related to the experience of body awareness. Not only do people who practice mindfulness meditation report a change in their awareness of bodily sensations (Hölzel, Ott, Hempel, & Stark, 2006, as cited in Hölzel et al., 2011), but some recent neuroscience evidence implies a relationship between mindfulness and neural regions previously associated with interoception (insula) and other bodily sensations (secondary somatosensory cortex; Farb et al., 2010; Gard et al., 2011; Grant, Courtemanche, Duerden, Duncan, & Rainville, 2010). Although this evidence is only suggestive, it supports the proposed mindfulness–body awareness link, making bodily awareness an interesting component of mindfulness that warrants attention and one that can extend to other areas of research as well.

Within the realm of attitudes and persuasion, a substantial amount of research has considered the role that the bodily responses of the recipient of persuasion play in forming and modifying attitudes. Specifically, the posture, movement, and actions of one's body can influence both the way in which the person processes persuasive communications and the resulting attitudes. These processes have been referred to as *embodied persuasion* (Briñol & Petty, 2008). An early example of this work revealed that when individuals were asked to move their heads up and down (supposedly in order to test the quality of headphones) while listening to a persuasive message, they became more favorable toward the topic of the message than individuals who were asked to move their heads from side to side (simulating the movements associated with shaking “no”) while listening to the same message (Wells & Petty, 1980). Just as we like things better when nodding (vs. shaking) our heads, when we smile or approach something, we tend to have more positive attitudes than when we frown or perform an avoidant behavior. Thus, making smiling expressions or moving things toward us can produce more favorable attitudes (e.g., Cacioppo, Priester, & Berntson, 1993). Similar findings have been found for a large number of behaviors, postures, and body movements.

These effects of embodied persuasion can be understood both through a more traditional mindfulness framework and through the ELM. Consideration of each approach

should stimulate theory when it comes to understanding how one's body can impact attitudes. The mindfulness framework might predict that the impact of body manipulations such as the direction of one's head movements would depend on a person's body awareness, which increases with mindfulness experience. It is important to know that mindfulness theory has suggested that a radical mind-body dualism is a relatively mindless notion and that a more mindful approach is to consider the two concepts as more closely integrated with a reciprocal influence between processes traditionally defined as "body" (i.e., embodied) and "mind" (i.e., cognition; see Langer, 1992). Consistent with an integrated mind-body approach, some research on emotion has demonstrated that embodiment effects are moderated by individual differences in body awareness (for an extensive review on individual differences in persuasion, see Briñol & Petty, 2005).

In relevant work, Laird and Bresler (1992) have reported that people differ consistently and stably in how large an impact a bodily state will have on a variety of cognitive processes (including metacognitive processes) relevant to attitude change. These differences were first identified in research on emotion. In a series of studies, they found that when people were induced to engage in emotional behaviors, some reported feeling the corresponding emotions, whereas other people were unaffected by their behaviors. These differences in the extent to which the body affected the experience of emotion have been found in people's response to manipulations of their facial expressions, postures, tone of voice, patterns of gaze, and level of autonomic arousal. Furthermore, these individual differences have been related to a number of psychological constructs, such as field independence and private self-consciousness, and to other factors, such as body weight (e.g., Duclos & Laird, 2001; Schnall & Laird, 2003). For example, inducing an internal state of disgust (vs. control) led people to make more severe moral judgments, but this effect held only for those who reported to be relatively more sensitive to their own bodily responses (Schnall, Haidt, Clore, & Jordan, 2008). Future research should further clarify whether participants with greater awareness of their bodily responses felt more disgust or if they experienced the same level of the emotion but used it to a greater extent to inform their moral judgments.

Taken together, these studies suggest that body awareness can increase the effects of body responses on judgment. However, it is important to note that body awareness could also lead to decreased effects of bodily postures and movements on some occasions. For example, when thinking carefully, people can be influenced by their own bodily information such as smiling when rating how good they look that day. In those cases, greater sensitivity to one's body can increase its subsequent impact on judgment. However, if people believe that their judgments are somehow being biased or influenced by their bodily feelings, and they do not want this to occur, they may adjust their judgments in a direction opposite to the expected bias (*correction processes*; Wegener & Petty, 1997). In these cases, greater sensitivity to the body might reduce its impact on judgment. Similar to research on priming showing that sensitivity to external inductions can increase or decrease its impact on judgment (Lombardi, Higgins, & Bargh, 1987; Petty, DeMarree, Briñol, Horcajo, & Strathman, 2008), future research should examine the conditions in which body awareness increases or decreases embodied persuasion.

The effects of embodiment on attitudes can also be understood through the ELM, identifying how one's body can influence persuasion at various levels of elaboration. According to the ELM, when people are at a low level of elaboration (i.e., under low thinking conditions), signals from one's body can serve as simple cues that can be associated with an object of evaluation. For instance, when people viewed a neutral image (i.e., a Chinese ideograph), whether they were pulling up on a table versus pushing down on a table affected attitudes toward the image such that those who were pulling their arms toward themselves had more positive attitudes than those who were pushing away (Cacioppo et al., 1993). In another illustration, Strack, Martin, and Stepper (1988) had individuals hold a pen either between their teeth or between their lips, activating or inhibiting facial muscles usually associated with smiling. Their results demonstrated that those who activated smiling muscles judged cartoons as more humorous than those who inhibited smiling muscles. These results often have been interpreted as the result of classical conditioning. Aside from using mere associations with arm flexion, smiling, or head nodding, people can also rely on simple heuristics about their bodily states when forming or changing attitudes (e.g., if my heart is beating fast, I must like this object; Valins, 1966). Thus, the body can serve as a simple cue to persuasion when motivation and ability to think are low.

When elaboration is not constrained, bodily sensations can affect how much a person thinks about a persuasive message. One such bodily state relates to posture. In an early study, for instance, people showed greater processing of an audio message when they were lying down (powerless posture) versus standing up (powerful posture; Petty, Wells, Heesacker, Brock, & Cacioppo, 1983). Other research also found that posture affects thinking such that people in an upright posture (vs. slumped over) spend more time pursuing cognitive tasks (Riskind & Gotay, 1982). Consistent with the idea that posture can affect thinking, another recent study showed that participants holding a heavy clipboard (a body sensation metaphorically associated with effort) were differentially persuaded by the strength of the message arguments (i.e., suggesting that they paid careful attention to the message), whereas those holding a lighter clipboard were not (Jostmann, Lakens, & Schubert, 2009).

Under conditions of high elaboration, body responses can bias the valence of a person's thoughts in response to a message. For instance, when people are asked to categorize words as good or bad, they are quicker to categorize positive words as good while enacting an "approach" motion (e.g., flexing one's arm or pulling a lever towards oneself) and quicker to categorize negative words as bad while enacting an "avoidance" motion (e.g., extending one's arm or pushing a lever away from oneself; Chen & Bargh, 1999; Neumann & Strack, 2000). Thus, this research suggests that when a person is engaged in thinking, their bodily movements can facilitate the generation of thoughts in a particular direction, a phenomenon likely to be of great consequence in persuasion domains wherein thoughts of a particular valence are strongly linked with resulting attitudes (Petty et al., 1981).

Finally, a person's body can affect attitudes not only by biasing the content of primary cognitions but also by affecting the evaluations of those thoughts. That is, bodily responses can influence secondary cognitions as well as primary cognitions. In particular, body movements and posture can affect reliance on thoughts through a self-validation process. In the first series of studies on embodied validation, Briñol and

Petty (2003) found that head movements could affect the confidence people had in their thoughts and thereby have an impact on attitudes. Specifically, when people listened through headphones to strong arguments advocating that students be required to carry personal identification cards on campus, vertical head movements led to more favorable attitudes than horizontal movements, as would be expected if vertical movements increased confidence in one's favorable thoughts. However, when people listened to weak arguments in favor of the identification cards, vertical movements led to less favorable attitudes than horizontal movements, as would be expected if vertical movements increased confidence in one's negative thoughts.

Similar validation effects have been shown for other embodiment variables like body posture such that sitting in a more confident posture (sitting up straight) as opposed to sitting in a more doubtful posture (sitting slouched forward) led to greater thought confidence and subsequently more thought-consistent attitudes (Briñol, Petty, & Wagner, 2009). As noted, body movement and postures can operate through multiple processes, including affecting thinking. Therefore, it is important to specify the conditions under which the body is likely to operate through these primary cognitive processes or through more metacognitive processes such as self-validation. One of the moderating conditions identified so far is the timing of the bodily induction. That is, the confidence that emerges from the body should be salient *following* (or at least during) thought generation rather than prior to thought generation.

In research illustrating this aspect (Paredes, Stavradi, Briñol, & Petty, 2013), participants were first exposed to a story that elicited mostly positive thoughts (about an employee's good day at work) or negative thoughts (about an employee's bad day at work). After writing their thoughts, participants were asked to hold a pen with their teeth (smile) or with their lips (control). Finally, all participants reported the extent to which they liked the story. In line with previous work showing that happiness can validate thoughts (Briñol, Petty, & Barden, 2007), it was predicted and found that the thoughts participants generated affected evaluations of the story only among those in the smiling condition. It is important to emphasize that the induction of smiling in this study followed (rather than preceded) the processing of the story, making it unlikely that the thoughts generated in response to the stories were affected by something that did not take place until later. Indeed, bodily responses are more likely to operate through a self-validation process when induced after (vs. before) thinking (see Briñol, Petty, & Wagner, 2012, for a review on embodied validation).

In sum, at each level of elaboration, a person's bodily movements, sensations, and responses can play a unique role in the attitude-change process. Given the relationships between mindfulness and body awareness that have been proposed, the means by which the body can affect evaluations should be of interest to mindfulness researchers, especially because of evidence that suggests the effects of embodiment are strongest among people most attentive to their own bodies. Presumably, if mindfulness does indeed foster greater body awareness, with increased mindfulness, there may also be an increased influence of one's body on attitudes and persuasion processes. Further research, however, is necessary to establish whether or not this is the case.

In conclusion, we have seen how the body can influence attitudes by serving as a simple cue, by affecting either the amount or direction of thinking, and by affecting what people think about their own thoughts (i.e., metacognition). Consistent with

the ELM, these psychological processes relevant to embodied attitude change operate at different points along an elaboration continuum. Under low thinking conditions, bodily responses, like other variables (e.g., source attractiveness), can influence attitudes via a variety of low-effort processes. When the likelihood of thinking is relatively high, these same bodily responses can impact persuasion by affecting the direction of the thoughts that come to mind or the validation of those thoughts. Furthermore, body postures and actions can influence attitudes by affecting the amount of thinking when elaboration is not constrained to be very low or high. As should be clear by now, understanding these processes is essential in order to predict *whether*, *when*, and *how* attitudes will change, as well as to predict whether, when, and how attitudes will result in further behavioral changes.

### Note

1. See the *unimodel* by Kruglanski and Thompson (1999), for a “single-process” approach to understanding high versus low thought persuasion; and see Petty, Wheeler, and Bizer (1999) and Petty & Briñol (2006), for discussions.

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