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# Openness and Persuasion

## Multiple Processes, Meanings, and Outcomes

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A common treatment of the term *openness* within the persuasion literature is to refer to the readiness of a person to contemplate changing in response to a persuasive advocacy. It is sometimes called *receptiveness* (e.g., Hussein & Tormala, 2021; Minson & Chen, 2022) and is a mindset that precedes actual attitude change (cf., Norcross et al., 2011). It reflects that the message recipient is at least willing to listen to the speaker (cf., Itzhakov et al., 2018). Having an open mindset does not require that a person has an explicit intention to change or that change is the ultimate goal. Being open to some point of view simply means that change is possible and that change is more likely than if the person was not open to considering that view.

This definition of openness is the polar opposite of the term on the other side of the continuum, *resistance*. That is, resistance often refers to a mindset that reflects an unwillingness to change or being closed to it. Resistance is sometimes defined as an outcome (e.g., the treatment made the person more resistant), a psychological process (e.g., one can resist by counterarguing or by not trusting favorable thoughts in response to a proposal), a motivation (e.g., having the goal of not being persuaded), and a quality of an attitude (an attitude that is resistant to change), a situation (difficult to change in particular circumstances), or a person (the individual is generally resistant to change; see Wegener et al., 2004). Just as resistance can be understood in these multiple ways, so too can openness.

This definition of openness shares similarities and differences with other approaches. First, we propose that the motive to be open can be relatively objective or biased, whereas other constructs related to openness focus exclusively on objective processing. For example, Ottati et al. (see Chapter 7 in this volume) use the terms *open-mindedness* and *open-minded cognition* to refer to unbiased consideration of information on both sides of a position, whereas *closed-minded* or *dogmatic* cognition is

associated with biased or one-sided processing. Our treatment of openness suggests that people can be open to any kind of information about any position (objective processing) or be open only to information relevant to a given position (biased processing). This *differential openness* can be contrasted with the extreme case in which people are not open to any information (even additional information on their own side). Thus, openness can be viewed as a continuum going from no openness to any information to openness to some types of information to openness to all sorts of information.

Second, we argue that openness can be treated as an outcome, as a motive, and as a process, whereas other conceptualizations tend to focus mostly on one of these three aspects, such as when openness is defined exclusively as an outcome (e.g., a treatment made the person more open). Unlike previous approaches focused only on either the person or the situation in isolation, we propose that the motive to be open can come from the attitude, the situation, and the person and that these variables can operate both in isolation and in combination.

Third, we emphasize that openness can include willingness to consider persuasive information coming from external sources as well as openness to self-generated insights. Therefore, instead of focusing exclusively on openness to the information provided by others, we include in our definition metacognitive processes revealing that people vary in openness to considering their own thoughts.

Fourth, we argue that openness can be appraised not only positively but also negatively. The research covered in this chapter will illustrate how openness can be imbued with positive meanings (e.g., growth, flexibility) but also with negative meanings (e.g., vulnerability), and these have important consequences for actual openness.

Finally, beyond being open, we also consider the importance of signaling openness to others, as well as perceiving openness in others. That is, although the chapter focuses on understanding the openness of the person who serves as the recipient of persuasion, we also acknowledge the importance of taking into account how persuasive sources signal openness to others, how people come to perceive openness in others, and how others are expected to vary in their openness.

In sum, although we treat openness mainly as a motivational factor that can affect both primary and secondary cognitive processes of attitude change, we also discuss it as an outcome that can stem from qualities of attitudes, situations, or people themselves. We begin with a discussion of how openness can affect the processes of attitude change.

## **Impact of Openness on Processes of Primary and Secondary Cognition**

### **Impact on Primary Cognition**

Openness (as a motive) can operate to influence judgment and action through processes of primary cognition. Primary thoughts are those that occur at a direct level of cognition and involve people's initial associations of an object with some attribute, such as "This policy is not good" or "I am an open person." Appeals that elicit primarily favorable thoughts toward a particular recommendation (e.g., "if that new vaccine protects me, I would take it") produce more persuasion than appeals that elicit mostly unfavorable thoughts (Petty et al., 1981). Beyond the direction or content of the thoughts, another key determinant of persuasion is the number of thoughts, with primary cognitions varying from zero or a few thoughts to many thoughts relevant to some proposal.

Contemporary theories of persuasion, such as the elaboration likelihood model (ELM; Petty & Cacioppo, 1986) and the heuristic-systematic model (HSM; Chaiken et al., 1989) have emphasized the importance of these two dimensions (valence and number) of thoughts. We rely on the ELM since many of the studies described in this chapter have been guided by this framework. This theory holds that the core processes of persuasion fall along an elaboration continuum. Sometimes attitudes are changed by relatively low thought mechanisms (e.g., an induction of openness serving as an acceptance cue such as when a person reasons that "since I am open-minded, I should accept this"), but at other times considerable thinking is involved (e.g., when openness leads people to generate their own arguments). The amount of thinking is important not only because it determines the process by which a variable affects attitudes but also because more thoughtful persuasion is more enduring and impactful than are changes produced by lower thought processes.

Furthermore, sometimes the thinking is relatively objective, and sometimes it is biased by various motives or abilities that are present. For example, when openness promotes objective processing, it leads to more thoughts that reflect the perceived merit of the arguments presented, being favorable when the arguments are strong but unfavorable when they are weak. When openness leads to biased processing (people are more open to one side than another) it can facilitate the generation of thoughts in the direction of the advocacy (if the person is open to accepting it), or it can lead to counterarguing in the opposite direction of the advocacy (if the person is only open to attitude-consistent information).



## Impact on Meta-Cognitive Processes

In addition to generating primary thoughts about persuasive proposals (e.g., “this new vaccine seems promising”), people generate further thoughts that reflect upon the initial thoughts (e.g., “but I am not so sure the vaccine is promising”). These reflections on initial thoughts are referred to as *metacognition*, and they can influence what people do with their thoughts and whether the thoughts become consequential (e.g., Goupil & Kouider, 2019; Petty et al., 2002).

Much persuasion work on metacognitive processes has been guided by self-validation theory (SVT; Briñol & Petty, 2022). In addition to the valence and amount of thought (dimensions of primary cognition), SVT considers the perceived validity of those thoughts. The key notion of SVT is that the greater the perceived validity of one's thoughts, the more they are translated into overall judgments; and the greater the perceived validity of one's judgments, the more likely they are to guide behavior.

As was the case with primary cognition, when openness operates through metacognitive processes, it can do so in a relatively objective or biased way. That is, people can be open to validating any and all thoughts in mind or only to a selection of thoughts (e.g., those that support one's attitude). Perceiving greater validity to one's thoughts does not imply that the thoughts are actually accurate. People can perceive that accurate thoughts have low validity and perceive incorrect thoughts to be valid. However, in accord with SVT, greater perceptions of thought validity lead to more use of those thoughts in forming judgments and in those judgments producing behavior.

## Attitude Variables as Sources of Openness

Attitudes can vary in a number of important ways that are relevant to openness. For example, attitudes differ in their extremity, with less extreme attitudes being more open to change (Siev et al., 2022). Attitudes can also vary in other ways that influence their *strength*—the extent to which they are durable and impactful (Petty & Krosnick, 1995). Strength matters because strong attitudes tend to be less open to change.

Perhaps the most studied indicator of strong attitudes is how certain people are that their attitude is the correct one to have (see Rucker et al., 2014). Initial conceptualizations of attitude certainty focused on how it often stemmed from variables that were structurally linked to the attitude, such as how much issue-relevant knowledge was behind the attitude (Wood et al., 1995), whether



the attitude was based on direct experience (e.g., Fazio & Zanna, 1981), and to what extent the attitude resulted from high rather than low amounts of thinking (Petty & Cacioppo, 1986). Certainty can also develop in the absence of any structural differences. For example, research has demonstrated that simply leading people to believe that their attitudes are based on two-sided information (Rucker et al., 2008) or morality (Luttrell et al., 2016) or considerable thought (Barden & Petty, 2008; Moreno et al., 2021) can enhance attitude certainty and the subsequent likelihood of changing.

Strength indicators other than certainty are also relevant to openness. For example, when people feel ambivalent about their attitudes they are more open to changing that attitude (DeMarree et al., 2011). Furthermore, people with ambivalent attitudes are more open to processing relevant information to mitigate the unpleasantness associated with the felt ambivalence (Maio et al., 1996), doing so in an objective (Hohnsbehn et al., 2022) or biased (Sawicki et al., 2013) manner. Similar results occur for *implicit ambivalence*, which refers to when a person has an attitude object linked to both positivity and negativity in memory but one of these reactions is tagged as invalid (Petty et al., 2006). In this case, the person does not report being ambivalent because the person does not consider both reactions to be valid, yet the person still feels conflicted, and therefore is more open to processing information relevant to the object for which the discrepancy occurs (Johnson et al., 2017).

In sum, attitudes are more open when they are weak such as when associated with low extremity, low certainty, and ambivalence. Other attitude properties such as morality or perceived knowledge also affect openness. For example, under some conditions (e.g., epistemic mindset, accuracy motivation), feeling you know a lot about something can have a positive impact on openness to new information (Wood et al., 1995). Under other conditions (e.g., hedonic mindset, entertainment goals), one is less likely to seek out new information on that topic since one might conclude from the feeling of knowing that there is nothing else to learn (Radecki & Jaccard, 1995). Recent research has examined these possibilities and demonstrated that mindset (epistemic vs. hedonic) is a moderator of when perceived knowledge is likely to enhance or decrease information processing, respectively (Paredes et al., 2022).

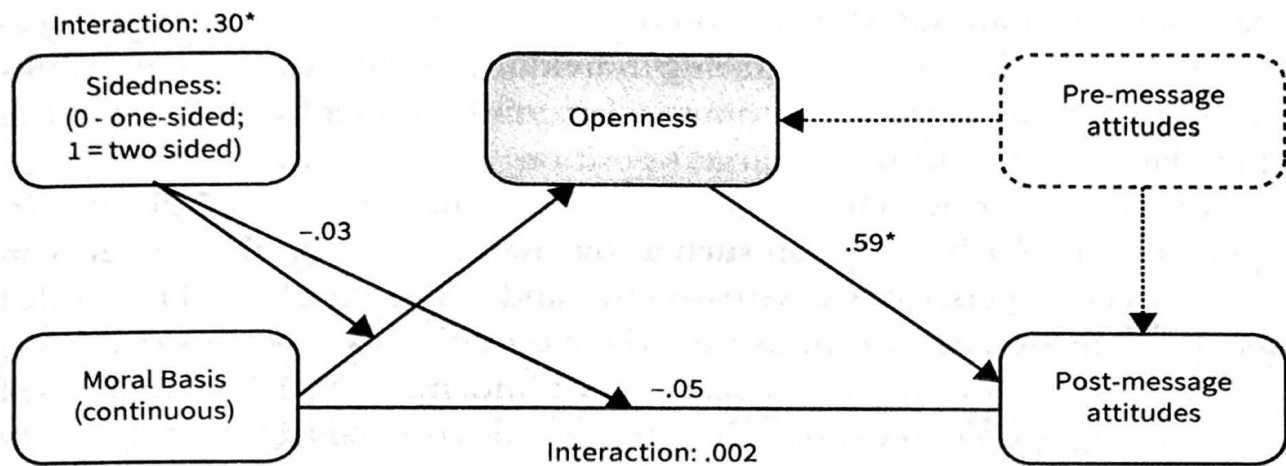
### **Situational Variables as Sources of Openness**

Just as people and their attitudes vary in openness to change, some situations foster more openness than others. One of the most studied factors is whether the source of the advocacy seems open to the recipient's point of view. Because

of the social influence principle of reciprocity (e.g., Cialdini, 1993), if a speaker seems open to the recipient's position, the target of influence should reciprocate by being open to the speaker's view. In one early study demonstrating this, Cialdini and colleagues (1992) showed that message recipients were more likely to be influenced by a persuader who had previously yielded to their own persuasive message. Indeed, research shows that virtually any variable that suggests that speakers are open to changing their own positions makes recipients more open to changing their views. Thus, when speakers show non-verbal signs of receptiveness such as nodding or smiling (Guyer et al., 2019) or express some doubt in a view, it can make recipients more open to processing the speaker's message (see Hussein & Tormala, 2021, for a review). In interpersonal interactions, people who receive signs of receptiveness from others respond with greater receptiveness of their own (Minson & Chen, 2022).

In more static situations, one way in which advocates can indicate that they are receptive is by explicitly acknowledging some merit to the side the recipient holds. Some prior research has shown that simply acknowledging the target's resistance (e.g., "you may not like this") can enhance agreement (Schumpe et al., 2020), and thus it may be that giving some credence to the target's position would likewise enhance openness in that target. In a relevant series of studies, Xu and Petty (2022) argued that the pressure for a message recipient to reciprocate by being open to the advocate's view is especially powerful when a strong attitude is held. In one study they examined participants who were against mask-wearing during the COVID-19 pandemic and compared individuals whose attitudes were relatively high in their moral basis (e.g., mask-wearing impinges on the value of freedom) or relatively low. Basing attitudes on morals generally makes them less open to change (Skitka, 2010). Recipients were then presented either with a one-sided message advocating only for mask-wearing or a two-sided message that also acknowledged some merit to the anti-mask position. The two-sided message generally led recipients to be more open to the speaker's view, and this was especially the case for those who had strongly held views. That is, moral basis interacted with message-sidedness in predicting openness. In addition, the more recipients expressed openness to the speaker's view, the more they modified their attitudes in accord with the advocacy (see Figure 4.1).

Just as factors within a persuasive message can make the source seem open to the recipient's position, some research indicates that it is also possible to modify the recipient to facilitate seeing the message source as open. In a relevant study, Petty and colleagues (2008) subtly primed participants with openness or with resistance using a lexical decision task. The openness prime



**Figure 4.1** Moral basis interacts with message sidedness to impact attitudes by affecting openness. Index of moderated mediation effect = .18, 95% bootstrap confidence interval 0.10–26. (Figure adapted from Xu, M., & Petty, R. E. [2022]. Two-sided messages promote openness for morally-based attitudes. *Personality and Social Psychology Bulletin*, 48, 1151–1166. <https://doi.org/10.1177/0146167220988371>.)

included words related to openness (e.g., *open, accept, yield, flexible*), whereas the resistance prime included words related to resistance (e.g., *resist, oppose, rigid, reject*). Following the openness or resistance primes, participants read four ambiguous scenarios where the main characters could be viewed as being either open or resistant and were asked to rate the target with respect to openness. Participants also completed the need for cognition (NC) scale (Cacioppo & Petty, 1982). The results of this study showed that the induced primes affected the openness perceived in others and that this effect was moderated by individual differences in NC. Specifically, as NC increased, so did the assimilative effect of the openness (vs. resistance) prime on ratings of the target. Therefore, openness (in this case, how open others are perceived to be) can be facilitated by merely activating that construct via semantic priming.

Recent research in this domain reveals that inferences about the openness of others are informed by at least two antecedents: the perceptions of others' attitude bases and the perception of the position held (Teeny & Petty, 2022). First, people perceived to hold an attitude based more on affect relative to cognition were inferred to be less open. Second, targets holding a counter- (vs. pro-) attitudinal stance were inferred to be less open—an effect due to the greater affect relative to cognition presumed to underlie the attitudes of those holding counter-attitudinal positions. Finally, the perceptions of openness in others were consequential even after controlling for other variables such as perceptions of extremity and certainty. That is, the inferences of openness guided perceivers' willingness to engage in attitudinal advocacy (i.e.,



expressing their attitudes). Based on these findings, interventions looking to bolster dialogue between disagreeing individuals could benefit from encouraging advocates to focus on the potential cognition rather than affect that can underlie a counter-attitudinal target's position.

Another way in which situations can facilitate openness is by encouraging distanced self-reflection such as by encouraging a third- rather than a first-person perspective. Grossmann and colleagues (2021) revealed that participants induced to express their thoughts using third- (vs. first-) person pronouns were more open to new information. Affirming the self (i.e., leading people to express their important core values) is another way in which situations can facilitate openness, especially to potentially threatening information. Importantly, the effect of self-affirmation can vary depending on a number of factors, such as the content and the amount of thinking present and the time at which self-affirmation is induced (Briñol et al., 2007).

In accord with the ELM, the impact of variables affecting openness can work via multiple processes. Emotions are a prime example. For instance, consider curiosity, which is a pleasant emotion often associated with openness to new information. Although curiosity is mostly appraised positively, it is also associated with an appraisal of uncertainty (Wright et al., 2018). The effect of curiosity on openness to generating and using thoughts depends on when the emotion is induced (prior to or after message exposure). Beyond timing, the effects of curiosity also depend on which of the two appraisals is salient (pleasantness or uncertainty). When emotion was induced prior to receipt of a persuasive message, Stavraki and colleagues (2022) showed that, among participants induced to feel curiosity (vs. disgust, a negative but confident emotion), those focused on a confidence appraisal showed higher levels of information-processing. This is because when curious individuals focused on the doubt that accompanied their emotion, those feeling curious felt more uncertain about their own existing views than those feeling disgust, which increased their motivation to be open to processing new information. In contrast, individuals induced to feel curiosity (vs. disgust) who focused on the pleasantness appraisal of the induced emotion showed lower levels of processing the presented information. This is because curiosity is more pleasant than disgust, leading people to think that everything is fine and that there is little need to process information (Bless et al., 1990). In sum, curiosity, when induced before a persuasive message, not only can increase openness to considering that message carefully (compared to disgust) but also can decrease it depending on the appraisal that is considered regarding the emotion (pleasantness or uncertainty).

Importantly, when emotions occur following the message, the emotion can influence how open people are to using the thoughts previously generated. In these circumstances, when the confidence appraisal of curiosity (vs. disgust) was made salient, curiosity was found to reduce use of thoughts because of the association with uncertainty (“I feel doubt about my thoughts, so I will not use them”). In contrast, when the pleasantness appraisal of curiosity (vs. disgust) was salient, curiosity enhanced thought use because when people feel good about their thoughts they use them. The same results have been found for other emotions often associated with openness, like hope, surprise, and awe, compared to other unpleasant but certain emotions, like anger and helplessness (Briñol et al., 2018; Requero et al., 2021; Stavrakaki et al., 2021).

In closing this section, we note that person variables and situations relevant to openness also can be studied in combination. In particular, recipient variables can interact with source, message, and context variables to produce unique effects. For example, in one study, persuasive messages were matched to the Big 5 personality dimensions, and this matching produced an increase in persuasion. Specifically, Hirsh and colleagues (2012) found more attitude change for matching arguments to each of the Big 5 dimensions than mismatching. Most relevant to understanding openness to change, these researchers found that using words related to openness was more persuasive for those with higher scores on the Big 5 openness to experience dimension. This is an example of how a persuasive proposal can be made more appealing to people already high in “openness” simply by using the right words. It is important to note that this and other kinds of matching can influence attitudes by processes of primary cognition (e.g., by biasing thoughts when elaboration is high or by increasing the amount of thinking when it is unconstrained) and by metacognitive processes (e.g., affecting thought validation when elaboration is high and the match follows rather than precedes thought generation; see Teeny et al., 2021, for a recent review of matching effects in persuasion).

## **Person Variables as Sources of Openness**

Some people are more open to change than others. One sign is the willingness to process the proposal and accept or reject it on its merits. Another sign is the willingness to consider the merits of one’s own thoughts about the proposal. In this section, we describe three additional areas of research relevant to individual differences in openness. First, we cover general variables relevant to openness, ranging from classic work on authoritarianism to more recent research on perceived attitude stability and confidence. Second, we describe

research on openness as an objective motive to consider all sorts of information. Third, we cover individual differences in biased processing.

## Individual Differences in General Openness

Researchers and practitioners historically have been interested in developing and measuring a persuasibility dimension which would identify individuals who are generally open versus resistant to change in response to any persuasive treatment across topics and proposals. Early approaches assessed variables such as dogmatism (Rokeach, 1954) and authoritarianism (Altemeyer, 1996) as proxies to persuasibility. We discuss more recent approaches next.

Although the construct of openness has mostly referred to whether or not people are open to change (or at least receptive to considering an advocacy), one contributor to this is just how stable people's attitudes are over time even when not directly confronted. That is, a person whose attitude is highly stable would presumably be less open to change in response to a message than someone whose attitude bounces around naturally. Recent research by Xu and colleagues (2020) has found that people seem to be aware of their attitude stability and that measuring these perceptions can predict actual attitude stability. These individual differences can be assessed reliably with the Personal Attitude Stability Scale (PASS), which includes items such as "It is hard for me to change my ideas." Across several studies and distinct topics, Xu and colleagues showed that the PASS predicts attitude stability following a delay period of about 2 weeks. One question of particular interest to openness would be to what extent the predictive ability of the PASS depends on individuals not receiving any new information in the intervening period (i.e., no persuasive attacks on their original attitudes). In the Xu et al. work it was possible that there were some attempts to influence people's attitudes during the period (e.g., through advertisements or political campaigns). That is, it may have been the case that despite having their attitudes challenged, some people resisted influence more than others, leading to more stable attitudes. If the latter is the case, then the PASS might be useful in predicting persuasibility in addition to stability.

In addition to variations in the beliefs regarding one's own attitude stability, people differ in their perception of attitude stability in others (Petrocelli et al., 2010). Furthermore, it is also possible to measure perceptions about the extent to which people see their personality as stable (entity theorists) or as changeable (incremental theorists). For example, Ehrlinger and colleagues (2016) showed that teaching people growth mindsets led to more openness



to difficult information (process of primary cognition) and to being less overconfident in their judgments (a metacognitive process).

There are also individual differences in attitude confidence, which, as noted previously, is linked to openness to change (Rucker et al., 2014). Earlier, we described how attitude confidence could vary with particular issues, but recent research has shown that people can vary in how certain they are about all of their attitudes, therefore making them generally less open to change. To assess dispositional differences in attitude confidence, DeMarree et al. (2020) had participants report their attitudes toward a variety of objects (e.g., taxes, political candidates) and report their certainty in each evaluation. Confidence in attitudes toward one issue was predictive of confidence in attitudes toward other unrelated issues, even a completely novel one. This dispositional tendency to be confident in one's opinions across multiple topics is important because it allows making predictions about whose attitudes will be stronger and more resistant to change and therefore about who is more likely to be open to new information.

### **Individual Differences in Openness as an Objective Motive**

The motivation to be open can be conceptualized as a general individual difference to seek and process information in a relatively objective mindset in which people are willing to consider the merits of all information from others (Riggs, 2010). Some variables have been associated with a person being open to process virtually all contents, such as individual differences in curiosity (Kashdan et al., 2018), openness to experience (Stumm, 2018), NC (Cacioppo & Petty, 1982), need for closure (Webster & Kruglanski, 1994), open-minded cognition (Price et al. 2015), and humility (Porter & Schumann, 2018). In addition to these, other scales have focused more specifically on the motivation to be open to considering both sides of an issue such as the receptiveness to opposing views scale (Minson et al., 2020) and measures of holistic and dialectical thinking capable of predicting how open people are to contradictory information (Santos et al., 2021), mixed information (Luttrell et al., 2022), and two-sided persuasive messages (Ein-Gar et al., 2012).

### **Individual Differences in Openness as a Biased Motive**

A third category of individual differences considers being primarily open to information in a particular direction (i.e., biased processing). For example,

variables relevant to self-enhancement (e.g., narcissism; Raskin & Terry, 1988) are associated with being open to just some information about the self (e.g., positive, pleasant, rewarding), with still other variables being associated with openness to information that verifies any previous self-views, even if those views are negative, such as preference for consistency (Cialdini et al., 1995).

As a final example of how people can vary in what kind of specific information they are open to, consider recent research on the need to evaluate (NE). Whereas the original NE scale focused on classifying people according to their tendency to possess attitudes (Jarvis & Petty, 1996), research by Xu and colleagues (2021) introduced two additional NE scales focused on the tendencies to learn and express attitudes. Those who are motivated to learn evaluations are particularly open to advocacies presented by others, especially if they employ evaluative language. In contrast, those who are motivated to express evaluations are particularly open to persuasive messages that they generate themselves.

## The Meaning of Openness

People are likely to vary in their naive theories about the extent to which openness to persuasion (and openness more generally) is something good or bad. That is, the meaning associated with openness can vary across individuals, situations, and cultures. For example, feeling that one is open-minded often has a clear positive association (e.g., growth, improving, advancing). However, the experience of openness can sometimes include appraisals of negative valence (e.g., openness is bad when it is associated with perceived vulnerability, oscillation, and flip-flopping), uncertainty (e.g., openness is sometimes wrong due to unpredictability of what a new message can deliver and how the resulting change might feel), and an avoidance orientation (e.g., openness can paralyze when perceived as uncontrollable or when it is associated with ambivalence and conflict during decision-making).

Although the effects of people's naive theories about openness on actual openness have not been studied explicitly, the meaning of related constructs like being open to persuasion have received some empirical attention. For example, Briñol and colleagues (2015) manipulated participants' views of persuasion to establish an initial causal claim about the relationship between the meaning of persuasion and the amount of message processing. In the *persuasion good* condition, participants were given the target word *persuasion* and asked to choose the five best words to define persuasion from a list that was

only positive (e.g., *communication, dialogue, negotiation*). In the *persuasion bad* condition, participants were given the same task but had to choose from a list of only negative words (e.g., *brainwashing, manipulation, and propaganda*). After this manipulation, participants received an argument quality manipulation about a new foster care program and reported their attitudes toward the proposal. Those who were induced to have salient negative associations about persuasion scrutinized the information presented in a message more carefully. A second experiment by Briñol and colleagues (2015) replicated these findings by showing that individuals who naturally held more negative views of persuasion scrutinized the message more carefully than individuals who naturally held more positive views of persuasion. The studies are consistent with other persuasion work demonstrating that people are more likely to attend to the quality of persuasive messages when they have some skepticism, such as when a message source is seen as untrustworthy (e.g., Priester & Petty, 2003).

## Summary and Future Directions

Throughout this chapter, openness has been treated as an outcome, as a motive, and as a process. The motive to be open can be relatively objective or biased, and it can affect processes of both primary and secondary cognition. Understanding these processes is critical for predicting when variables like curiosity, ambivalence, and morality relate to openness and for predicting long-term consequences associated with openness to change.

As noted, the motivation to be open can come from people's particular attitudes, with weaker attitudes (e.g., those held with doubt and ambivalence) being associated with greater openness to all relevant information and with moral attitudes being associated with greater openness to some information (e.g., moral messages, two-sided messages) more than others (practical messages, one-sided messages). Situations can also prime openness directly (by making openness salient) or indirectly (e.g., by presenting two-sided messages and by showing that the source is open to the recipient's view). The motivation to be open can also come from the person, with some individuals being particularly open to all information and thoughts (e.g., those high in curiosity, intellectual humility, NC, open-minded cognition) but others primarily being open to particular kinds of information (e.g., NE-learning is especially open to external information, while NE-expressing is more open to self-generated thoughts). Indeed, we noted that many of the processes discussed would apply both to openness to persuasive information coming from external sources as well as to openness to self-generated insights.



Furthermore, we illustrated how openness and other related constructs can be imbued with positive (e.g., growth) but also with negative (e.g., vulnerability) meanings, with potential consequences for actual openness. Finally, although the chapter focused on understanding the openness of the person who serves as the recipient of persuasion, we also acknowledged the importance of taking into account how potential advocates signal openness to others (Hussein & Tormala, 2021; Xu & Petty, 2022), how people come to perceive openness in others (e.g., Petty et al., 2008; Teeny & Petty, 2022), and how others are expected (Bohns, 2016) and perceived to be responding (Itzchakov et al., 2018) to their persuasive attempts.

Although this chapter focused on two key processes of persuasion based on primary and secondary cognition, there are other relevant mechanisms. For example, openness can operate by serving as a simple cue of acceptance, acquiescence, and agreeability (e.g., a process that is more likely to occur when motivation to process is low), and openness can also serve as a persuasive argument itself (e.g., when it is informative about the merits of the proposal, such as when screening patients for psychotherapy). According to the ELM, inductions of openness could serve these multiple roles depending on the circumstances (acting as a cue when elaboration is low, affecting processing when elaboration is unconstrained, biasing the generation and subsequent use of thoughts under high thinking conditions, etc.). Furthermore, people can perceive their openness as an unwanted bias and try to correct for it, and people can be open by correcting for particular biases or all biases (Wegener & Petty, 1997).

One might conclude from this chapter that variables like *doubt* are inherently beneficial for being open-minded since uncertainty can motivate people to seek information relevant to the object for which the doubt exists. But it is important to clarify that the impact of doubt can vary as a function of the meaning of doubt and what the doubt is about. If the person has doubt about the validity of their previous attitudes, then doubt will trigger openness by facilitating processing of relevant information (Gur et al., 2021; Vitriol et al., 2019). However, if the thoughts invalidated by doubt were going to trigger openness, then doubt in those thoughts would reduce openness (Shoots-Reinhard et al., 2015). Therefore, doubt can increase or decrease openness depending on what mental constructs are invalidated by that doubt (e.g., prior views vs. initial motivation to process).

Finally, we end with an important question for future research. That is, can people deliberately use the techniques described throughout this chapter to try to be more open? We know that openness in a person can be primed

externally (e.g., by presenting two-sided messages, by inducing curiosity) and that it can be communicated to others intentionally, but can people choose to deliberately generate doubtful memories to invalidate their own thoughts and be more open to other points of view? Or can people decide to be more humble and use it strategically to facilitate openness to exchanging opinions? The response to these questions awaits further research.

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