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The Role of Attitude Strength in Addressing the COVID-19 Pandemic

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Abstract

We explore the role that *attitude strength* plays in influencing COVID-19 relevant behaviors. Strong attitudes are those that are durable and impactful in guiding behavior. After explaining the antecedents and consequences of strong attitudes, the first part of this essay focuses on two techniques that have proven successful in changing deeply entrenched views. The first relies on matching the message to some characteristic of the attitude such as presenting moral arguments to those whose attitudes are based on morality. The second involves using a two-sided rather than the traditional one-sided message to render people more open to opposing views. The second half of the essay describes research on when strong attitudes are more likely to govern behavior than weak ones versus when the opposite is more likely. We provide evidence for the idea that when a self-threat is salient, weak attitudes can be more effective in guiding behavior than are strong attitudes because of efforts to compensate for the threat by bolstering one's weakly held views. For each topic, suggestions for future research are included.

Keywords: persuasion, health communication, attitude change, attitude strength, certainty, morality

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Health professionals might have imagined that it would be relatively easy in the midst of a global pandemic to convince members of society to take relatively simple steps to protect their own lives and those of others. Yet, in the U.S. and elsewhere, vehement opposition to seemingly easy behaviors like mask wearing developed, and vaccine hesitancy in some segments of the population threatened to undermine reaching herd immunity. This essay addresses how health communicators might go about influencing strong attitudes and provides insight into the features of attitudes that help them guide behavior with special attention paid to health-relevant actions.

Attitude Strength

Strong attitudes are typically defined by their consequences. That is, strong attitudes, like strong people, are durable (stable over time and resistant to change) and impactful (biasing thoughts and influencing behavior; Krosnick & Petty, 1995). There are several specific attributes of attitudes that indicate whether or not they are likely to produce these consequences (Luttrell & Sawicki, 2020). For example, the more an attitude has a moral basis, or is held with certainty, or lacks ambivalence, the stronger it tends to be (see Chapters # and # on morality and uncertainty). Attitude strength is separate from the attitude itself. Thus, two people could both rate the desirability of a COVID-19 vaccine as an 8 on a 1 to 10 scale, but one person might have more confidence that their attitude is correct than another. Although the individual attitude attributes (like certainty and moral basis) are imperfect indicators of strength and can interact with each other to determine outcomes (cf. Visser et al., 2006), we will treat the most common strength indicators similarly in this essay because despite some differences, their similarities are more striking.

As noted, one of the core challenges in dealing with human behavior in a pandemic is that some people, those with the strongest attitudes, are resistant to attitude and behavior change

(Petty & Krosnick, 1995). Thus, it becomes important to understand how to influence these deeply entrenched attitudes if they are contrary to the public interest. The first part of this essay discusses two ways we have found that can be effective in making strong attitudes more open to change: (1) targeting the strength basis of the attitude with a message matching strategy, and (2) presenting recipients with a two-sided rather than the traditional one-sided communication. The second part of the essay explains the role that attitude strength plays in determining behavior. In most instances, the stronger the attitude is, the more it guides behavior. However, as we explain, in some instances that might be especially likely to occur in threatening contexts (such as during a pandemic), the opposite can occur. In short, this essay documents the importance of understanding the role that attitude strength can play in attempts to influence people's attitudes and behaviors related to COVID-19.

Changing Strong Attitudes

People are reluctant to change their strongly held attitudes because it can arouse dissonance (Festinger, 1957, *see Chapter #*). We describe two methods of changing strong attitudes. The first focuses on matching the message content to the reason the attitude is strong. The second focuses on providing a two-sided rather than a one-sided message.

Overcoming Resistance with Personalized Matching

One reason people resist changing their strong attitudes to a message is that the message arguments are misaligned with the attitudes' bases. Much research in persuasive communication has documented evidence for "matching effects" (Teeny et al., 2021) – messages are often more effective when they are tailored to some aspect of the recipient. Although these effects can take many forms, a common type of matching occurs when a message targets the attitude's underlying basis. If a message can be tailored to the reason an attitude is strong, it can undermine

the resistance that is typical.

Matching to Attitude Strength Attributes

Consider the challenge of changing moralized attitudes. Although such attitudes often resist social influence (Luttrell et al., 2016), our research suggests that messages that speak directly to moral concerns can be effective. In a series of studies, Luttrell et al. (2019) presented counterattitudinal messages to samples of pro-recycling and pro-marijuana legalization respondents. Participants were randomly assigned to read either a message containing moral arguments or one containing pragmatic arguments. In addition, all participants rated the extent to which their attitudes had a moral basis (Skitka, 2010). An interaction between message type and moral basis on attitudes revealed that, when people read pragmatic arguments, the typical effect of moralization emerged: greater moralization produced more resistance to change. However, when people read moral arguments, resistance was reduced. In fact, among people with highly moralized views, the moral arguments led to more attitude change than the pragmatic arguments.

A similar kind of moral matching has been demonstrated in the context of the COVID-19 pandemic. Prior health communication research has shown that other-focused messages (e.g., arguing to adopt a health practice to protect one's community) are often better at influencing people to adopt health practices such as hand washing (Grant & Hofmann, 2011), quitting smoking (Lipkus et al., 2013), and getting vaccinated (Kelly & Hornik, 2016) than are self-focused messages (i.e., protecting oneself; see Chapter # on cooperation). Because people typically perceive other-focused appeals to be moral arguments, we hypothesized and found that other-focused messages were rated as more persuasive and produced greater intentions to practice social distancing when an audience moralized public health (Luttrell & Petty, in press).

Notably, it is important to present the right kinds of moral arguments. Consistent with

research showing that politically liberal and conservative people differ in the moral values that they prioritize (Graham et al., 2013), a growing literature has shown that different moral arguments appeal to liberal and conservative audiences (Feinberg & Willer, 2019; see Chapter # on moral foundations). In accord with this more specific matching proposal, a recent set of studies found that arguments for wearing face masks were more persuasive to liberal audiences when they were framed in terms of fairness and avoiding harm as opposed to patriotism and purity (Trentadue & Luttrell, 2021).

The basic principle of personalized matching can be broadly applied to other attitude strength features besides morality. For example, people are often less likely to change attitudes they feel certain about (e.g., Bassili, 1996) in part because they pay less attention to a message when they already feel confident (Tiedens & Linton, 2001). However, if a message appeals directly to confidence (Tormala et al., 2008), it can undermine resistance by increasing the motivation to think about the message. Similarly, if one's attitude is strong because it is based on considerable thought, a message framed to appeal to high thinkers can be more successful than one framed for those who do not like to think (See et al., 2009; Wheeler et al., 2005).

Why Matching Undermines Resistance

There are several reasons why tailoring a message to strength attributes can be persuasive according to the Elaboration Likelihood Model of persuasion (Petty & Cacioppo, 1986). When people are relatively unmotivated or unable to think about a message, matching can act as a simple cue that the message's conclusion should be accepted because the conclusion seems correct (i.e., it matches the way the person thinks about the issue and feels right). However, when thinking is high, matched messages can be more persuasive because their arguments are evaluated in a biased way and actually seem stronger (Luttrell et al., 2019). When thinking is

unconstrained, matching can motivate people to process the message content, leading to greater persuasion when that content is compelling but less persuasion when the content is weak (see Teeny et al., 2021, for a detailed review of matching effects).

Future research on matching should investigate the longer-term consequences of matching effects that operate by different mechanisms. In addition, new ways in which messages can be tailored to strength-related attitude features should be studied. For example, perhaps health messages that directly contend with attitude importance, accessibility, or univalence (all strength attributes) could counteract the resistance these variables typically confer.

Overcoming Resistance with Two-Sided Messages

As just discussed, the extent to which a message connects to the reason one's attitude is strong can help undermine resistance. However, it is not always possible to construct compelling matched messages. Thus, it is important to consider other ways to influence deeply held views. In a series of studies, Xu and Petty (in press) found that messages containing arguments in favor of the advocated position as well as a few arguments in opposition – *two-sided messages* – can be more effective at persuading those with strongly held attitudes than messages that contain only arguments in favor of the advocated position -- *one-sided messages*.

Evidence for the Effectiveness of Two-sided Messages

Past research on message sidedness had shown that sometimes two-sided messages can have a persuasive advantage, but that this depended on various other factors such as the intelligence and educational levels of the recipients (Hovland et al., 1949). One important feature of two-sided messages is that they provide some acknowledgment that the side opposite to the side advocated has some merit. Thus, people with strong attitudes might especially appreciate their side being acknowledged and could reciprocate by being open to the advocate's position.

Acknowledging the recipient's opinion is conceptually similar to doing a favor for the recipient. Based on the norm of reciprocity (Cialdini et al., 1992), if another person does a favor for us, then we should do the same. So, if a speaker seems open to the recipient's position, the recipient should be open to the speaker's view. Importantly, acknowledging a person's strongly held opinion should be analogous to doing a larger favor and therefore produce greater reciprocation.

To test this hypothesis, in one study Xu and Petty (in press) used the topic of mask wearing in the context of COVID-19. Participants first rated their attitude toward the topic and only those who had a negative or slightly positive attitude toward mask wearing were included. To gauge the strength of their attitudes, participants' perceived moral basis was assessed. Next, everyone was randomly presented with a one- or two-sided message arguing that the public should always wear face coverings when they leave home during the pandemic. Then, participants responded to measures of openness to change, attitudes about mask wearing, and intentions to wear a mask when they left home. For each measure, a two-way interaction between moral basis and message sidedness emerged. As the moral basis of participants' attitudes increased, the two-sided message became increasingly more effective than the one-sided communication. Thus, this study demonstrated that using two-sided (vs. one-sided) messages can be a more effective influence tool as attitude strength (indexed by moral basis) increases. Finally, this study also provided evidence for the proposed reciprocity mechanism because a measure of how much recipients appreciated that the speaker acknowledged their view mediated the impact of the independent variables on openness, attitudes, and intentions.

To ensure the robustness of this effect, conceptual replications were conducted using additional topics (e.g., gun control), with success. In addition to using other topics, further research demonstrated that it was not sufficient to merely present a two-sided message, but that

the recipient's side needed to be acknowledged with respect. In one study, Xu and Petty (in press) manipulated the quality of the arguments presented on the second side (i.e., the side acknowledging the recipient's position). Results indicated that that a two-sided message elicited more appreciation and was more effective than a one-sided message among those with morally based attitudes only when the second side was presented with strong arguments. When weak arguments for the other side were presented, the two-sided message was no more effective than the one-sided communication.

Finally, although the initial studies on two-sided messages used moral basis as the method of indexing attitude strength, the same results were shown when different attitude strength indicators were examined. In one study, Xu and Petty (2021) presented participants with a one- or two-sided message that challenged their current views on appropriate dental hygiene practices. To measure attitude strength, the certainty with which participants held their positions was assessed. Again, it was observed that, as certainty in the participants' position increased, the two-sided message became increasingly more impactful over the one-sided communication. In yet another demonstration, participants received a message asking them to consider the views of the political party opposite to their own. Strength of party identification was used as the indicator of attitude strength. Results similar to those just reported were obtained. Finally, the interaction between message sidedness and attitude strength was also replicated when the advocacy was for people to shift from their existing consumer brand (e.g., from an iPhone to an Android) and the measure of attitude strength was brand loyalty (see Xu et al., 2021).

Future Research Directions

For future research, it is important to continue examining exactly what elements are

needed in the second side of a two-sided message for it to be more effective than a one-sided communication. For example, although a strong acknowledgement of the other side was effective, can the acknowledgement be too strong? And, should the acknowledgement of the other side occur at the beginning of the message or at the end (as in the reviewed studies)? Lastly, in future work, it would be of interest for researchers to explore the role of additional mechanisms beyond perceived appreciation. For example, a two-sided message might reduce psychological reactance (Brehm, 1966; *see Chapter # for more on reactance*), or might produce a type of self-affirmation (Steele, 1988; *see Chapter # for more on self-enhancement*), and this affirmation could render people more open to counterattitudinal messages.

Assurance v. Compensation Effects of Attitude Strength

Having discussed methods of influencing strong attitudes, we now consider when attitudes are most likely to result in behavior. In general, attitudes tend to be more predictive of behavior when they are strong – when based in morality or held with high certainty (Petty & Krosnick, 1995). That is, attitudes often best predict behavior when people feel *assured* about them. However, as described shortly, people can sometimes be more motivated to act on their attitudes precisely because they lack assurance in either themselves or their attitudes. Weaker attitudes are most in need of defending and might be most likely to produce compensatory behavior if this weakness is threatening for some reason. Before turning to our research on assured versus compensatory attitude-behavior consistency (ABC) and considering its implications for compliance with public health directives, we first provide some context by describing two other forms of *assured versus compensatory attitude effects*.

Assured versus Compensatory Conviction

The distinction between assured versus compensatory attitude effects was first evident in

work on attitudinal *conviction*. Conviction is conceptualized as possessing *extreme* attitudes and is frequently assessed by measuring an attitude's *polarization*, or distance from a bipolar scale's neutral midpoint (Abelson, 1995). Assured conviction occurs when feeling confident increases attitude polarization. For example, Baron et al. (1996) showed that increasing confidence (assurance) in a person's attitude by having others agree with it (social consensus) versus providing no statement of agreement led people's attitudes to become more extreme.

In contrast, compensatory conviction occurs when experiencing a threat increases attitude polarization because of a desire for confidence. For example, McGregor et al. (2001) demonstrated that having people experience threatening uncertainty from writing about a difficult personal dilemma versus a non-threatening situation led them to express more confidence and take more extreme positions on various unrelated political issues. Interestingly, this did not occur when participants repaired their sense of assurance by affirming their personal values prior to completing the measures (Steele, 1988). In sum, both feeling assured and feeling threat can enhance attitude confidence and extremity.

Assured versus Compensatory Thought Validation

Just as assured and compensatory conviction can stem from feelings of confidence and threat respectively, similar phenomena occur with respect to people's decision to rely on their own thoughts, which can polarize attitudes. Assured thought validation occurs when making people feel confident increases their thought reliance whereas compensatory thought validation occurs when making people feel threatened increases it. When people rely on their positive thoughts more, their attitudes become more extreme in a favorable direction, and vice versa for negative thoughts.

In the initial study on assured thought validation, Petty et al. (2002) exposed people to

messages presenting strong or weak arguments and assessed the participants' thoughts in response to the message. The confidence participants had in their thoughts was manipulated by telling them either that others had similar thoughts (social validation/high confidence) or not. Demonstrating assured thought validation, attitudes were more consistent with the quality of the arguments (i.e., more favorable when arguments were strong and less favorable when weak) when participants were in the high than the low confidence condition (see Briñol & Petty, 2009, for a review).

However, feeling threatened can also produce thought validation. In one study illustrating this compensatory validation, Briñol et al. (2015) exposed participants to a job candidate whose qualifications were compelling or lacking. Participants were then randomly assigned to write about their own death (threatening uncertainty) or their anxiety about exams (mild uncertainty; Pyszczynski et al., 2015), after which their attitudes toward the job candidate were assessed (*see Chapter # on terror management theory*). Consistent with a compensatory thought validation effect, participants in the threatening uncertainty (vs. mild uncertainty) condition relied on their thoughts more, reporting attitudes that were more consistent with the job candidates' qualifications (i.e., more polarized). In sum, both feeling assured and feeling threatened can enhance thought confidence and reliance, resulting in more extreme attitudes.

Assured versus Compensatory Attitude-Behavior Consistency

Much like people can compensate for feelings of threat by showing greater reliance on their thoughts to guide their attitudes, they can also compensate by showing greater reliance on their attitudes to guide their behavior. This third type of compensation, called compensatory attitude-behavior consistency (ABC), can take two forms. First, people who experience a threat to themselves, such as interpersonal rejection or mortality salience, can demonstrate a *fluid*

compensatory ABC effect (cf., Heine et al., 2006) by acting on their attitudes in a domain outside that in which the threat occurred (*see Chapter # on threat*). This outcome would parallel the research on compensatory conviction and thought validation just described in that people respond to a self-threat by affirming their attitudes in a domain different from the threat. Though conceptually sensible, this type of compensatory ABC has not yet been demonstrated in the literature.

A second form of compensatory ABC occurs in which people who experience threatening uncertainty about a particular attitude can attempt to compensate by acting on that very same attitude (Siev et al., in press; see also Sawicki & Wegener, 2018). This *attitude-specific compensatory ABC* outcome results in people being more willing to act on weak (e.g., uncertain, ambivalent) than strong (e.g., certain, univalent) attitudes and contrasts with the common and well-known assured ABC pattern in which the opposite occurs.

Attitude-Specific Compensatory ABC

Recent research (e.g. Siev et al., in press) points to conditions under which attitude-specific compensatory versus assured ABC is more likely. First, whereas increasing attitude certainty tends to increase ABC when feelings of threat are minimal, increasing attitude uncertainty can increase ABC when people experience the uncertainty as threatening in some way. Second, attitude-specific compensatory ABC may also be more likely when particular kinds of behavior are involved. For example, considering engaging in extreme behaviors (e.g., violent actions) is more likely to prompt compensation than considering more moderate behaviors because: (1) considering extreme behaviors suggests the possibility of additional threats (e.g., bodily harm) that could make attitude uncertainty more aversive and/or (2) engaging in extreme behaviors can offer a compelling response to attitude uncertainty because it sends a strong signal

to oneself and others about commitment to one's attitude. Extreme behaviors (much like extreme attitudes) can signal conviction because they are unusual and cannot be attributed to social norms (Kelley, 1973).

To test these ideas, in one study conducted during the COVID-19 pandemic (Siev et al., in press), participants reported their attitudes about social distancing, certainty in those attitudes, and interest in engaging in a moderate form of attitude-consistent behavior (avoiding crowds to prevent viral spread) as well as a more extreme form (fighting someone who disagreed with their views). A regression analysis including all three variables produced a significant three-way interaction among attitudes, certainty, and behavioral extremity (Figure 1). To understand this interaction, the data were analyzed separately for each kind of behavior. Significant two-way interactions between attitudes and certainty were obtained for both moderate and extreme behavior. Whereas greater attitude certainty enhanced prediction of moderate behavior (assured ABC, top panel Figure 1), lower certainty was associated with greater prediction of extreme behavior (attitude-specific compensatory ABC, bottom panel, Figure 1).

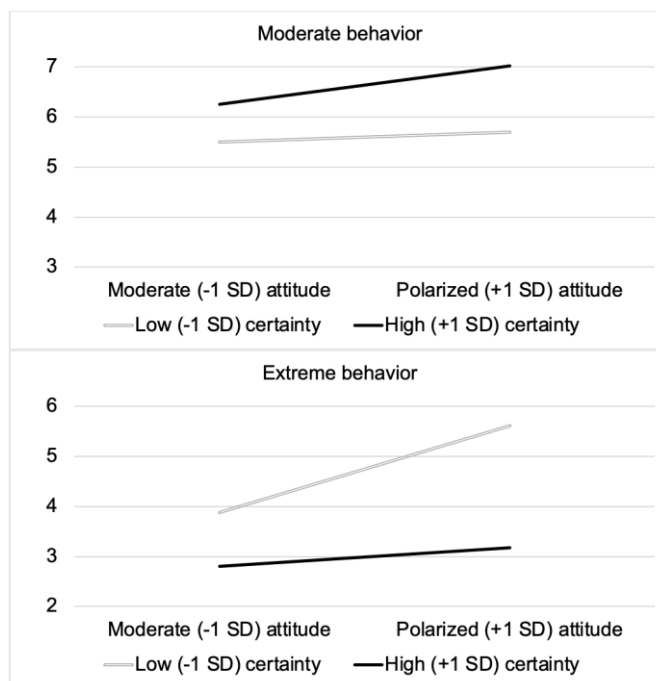


Figure 1. Assured ABC for moderate (top) and compensatory ABC for extreme (bottom) behaviors.

Contextual threat was also assessed by asking how concerned participants were that they or someone close to them would become seriously ill with COVID-19. We reasoned that being unsure about one's attitude toward social distancing would be more disconcerting when COVID-19 seemed threatening. An analysis including this measure as an additional predictor revealed that the assured ABC effect was most pronounced when those relatively low in contextual threat considered moderate behaviors and the compensatory ABC effect was most pronounced when those relatively high in contextual threat considered extreme behaviors. These findings suggest that whether ABC is assured or compensatory can depend on contextual factors (external threats) and properties of the behavior (extremity).

Implications and Future Research

All of the compensatory effects described are possible and even likely during a pandemic

because of the salient threats such conditions present. Thus, those expressing the most vehement pandemic-related opinions and the strongest behavioral commitment to them might paradoxically be people who actually feel some underlying attitudinal uncertainty and experience these doubts as threatening. Future research inspired by our findings might consider whether, when addressing audiences who generally favor mitigation efforts, emphasizing the threats posed by the virus would increase compliance among those harboring doubts about the issue. When addressing those who oppose mitigation policies, however, alleviating threats as much as possible could help reduce at least the most confrontational and extreme forms of defiant behavior.

Summary and Conclusions

We have examined the role that attitude strength plays in influencing behavior, especially as it relates to the COVID-19 pandemic and health communication more generally. We first addressed how particularly strong attitudes might be influenced and provided evidence for two techniques: (1) matching messages to the strength basis of the attitude, and (2) providing two- rather than one-sided messages. We then reviewed how extreme attitudes could result not only from assurance but also from threat and how behavior is sometimes more likely to be guided by attitudes held with certainty but sometimes by attitudes held with doubt. The behavioral challenges presented by the COVID-19 pandemic are complex, and the science of persuasion continues to generate novel findings that can help address them. Nonetheless, there are still new insights to be uncovered.

For Further Reading

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