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BEING THREATENED AND BEING A THREAT CAN INCREASE RELIANCE ON THOUGHTS

A Self-Validation Approach

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The psychological impacts of threats are very broad. The chapters in this volume document how threats can influence a wide range of cognitive, affective, behavioral, and motivational responses. In this chapter, we focus on how threats can influence metacognition, or a person's thoughts about their thoughts. Specifically, this chapter describes recent research on *self-validation*—a metacognitive process that determines whether people rely on their thoughts. We propose that people can come to rely on their thoughts as a psychological defense against all kinds of threats, including threats to personal security.

The key tenet of the *self-validation hypothesis* (Petty, Briñol, & Tormala, 2002) is that generating thoughts is not sufficient for these thoughts to have an impact on deliberative judgments. Rather, thoughts are more likely to be used the more confidently they are held. Judging how valid one's thoughts are or how much one likes them is a metacognitive judgment as it occurs at a second level of cognition and involves reflection on the first-level thoughts (i.e., thinking about one's thinking; Briñol & DeMarree, 2012; Petty, Briñol, Tormala, & Wegener, 2007).

Research on self-validation has typically found that a feeling of confidence from various sources exerts a *magnifying* effect on one's cognitions relative to a feeling of doubt (Briñol & Petty, 2009). The focus of this chapter is not on this well-documented effect, however. Rather, as will be explained shortly, we focus on situations in which doubt stems from a threat to the self, because under these conditions doubt can lead people to behave in ways that aim to restore a sense of confidence, often resulting in an increased impact of current thoughts over what is found in conditions of non-threat. The first part of this chapter covers research focused on death-related threats and threats coming from being attacked. Across different paradigms, we present evidence revealing that such manipulations cause people to rely on their thoughts more, presumably as part of a mechanism to defend themselves against those threats.

After describing how people respond to threatening doubts by validating their own thoughts, in the second part of this chapter we examine recent research showing that thought validation also occurs when people believe that they are a threat to others. In the second part of the chapter, we cover research suggesting that mental and physical states associated with attacking others can lead people to show increased reliance on their own thoughts.

Taken together, in the present chapter we describe research focused on thought reliance in response to psychological threats (part I) as well as research focused on thought reliance as a function of threatening others (part II). Thus, we move from cases in which people are threatened (e.g., by being attacked by others) to cases in which people are the source of the threat (by attacking others).

Finally, we distinguish the metacognitive process of thought validation from other processes focused on primary cognition and specify the conditions under which self-validation effects in response to threat are particularly likely to occur. In closing this chapter, we outline some general conclusions and highlight a number of current and future issues.

Part I: Thought Validation in Response to Threat

Being Threatened by One's Own Death

One's own death is perhaps the greatest actual and symbolic threat that people encounter. Terror Management Theory holds that the knowledge of one's inevitable death is a critical threat for most people and that people tend to defend themselves psychologically against this fear of death. One way to cope with this fear is by creating, maintaining, and validating one's *cultural worldview*, which provides a sense that the world is meaningful and orderly (Landau et al., 2004; Solomon, Greenberg, & Pyszczynski, 1991). Consistent with this idea, both laboratory and field studies have demonstrated that death reminders lead to more favorable evaluations of people who personify cultural values and to more negative evaluations of people who defy those values (see Greenberg, Solomon, & Pyszczynski, 1997, for a review).

For example, in a classic study, Greenberg, Pyszczynski, and colleagues (1990) found that mortality salience (MS) led American participants to prefer a pro-US essay author and to dislike an anti-US essay author to a greater extent than control participants. These results, combined with dozens of similar findings, reveal that death reminders can *polarize* evaluations of people and ideas that disagree or agree with one's worldviews. Stated differently, reminders of death can make some attitudes more positive (e.g., toward worldview-supporting positions and individuals) and other attitudes more negative (e.g., toward worldview-opposing positions and individuals; Burke, Martens, & Faucher, 2010). We suggest that the self-validation mechanism offers a new explanation for why MS can lead to such polarized judgments. Specifically, we hypothesized that one way in which MS influences attitudes is by increasing reliance on one's own thoughts as a way to deal with threatening doubt.

This view is based on the idea that MS can lead to high levels of uncertainty, which people are motivated to reduce (Van den Bos & Lind, 2002). Notably, when people feel threatened by their doubts, they may deal with that uncertainty in psychologically defensive ways, often leading to paradoxical responses. Most relevant to our research is the idea that people can deal with threatening doubts by claiming *increased* certainty as a compensatory response in other domains (e.g., McGregor, Zanna, Holmes, & Spencer, 2001). When such compensation occurs, we argue that threatening doubt can lead people to rely *more* on their current mental states, including their attitudes, goals, and beliefs (for supportive findings, see also Holbrook, Sousa, & Hahn-Holbrook, 2011; McGregor & Marigold, 2003).

Because one's own death is the ultimate threat and creates a great deal of uncertainty, in accord with other theorists (Hart, 2014; Heine, Proulx, & Vohs, 2006; Holbrook et al., 2011; Jonas et al., 2014), we argue that responses to MS would often be compensatory in nature. In contrast, less threatening forms of doubt produce more direct effects (i.e., non-threatening doubts reducing the impact of current thoughts; Briñol & Petty, 2009). More uniquely, we propose that the uncertainty induced by MS, because of its threatening nature, can foster self-validation processes and

thereby increase reliance on people's internal thoughts. In order to test this novel prediction that MS-induced polarization can occur via self-validation, Horcajo, Briñol, Petty, See, and DeMarree, (2015) exposed participants to a worldview-enhancing or worldview-derogating message. Specifically, all participants read a report by an international student who had studied in Spain as part of an exchange program. This report included information in favor of or against Spaniards. For example, the message in favor of Spaniards stated that "Spanish people are very warm and open to friendship," and "Spanish people are good-natured, and they are a very happy and optimistic people." The message against Spaniards stated that "Spanish people are untidy, they are incompetent, and they always skive off work," and "They have racist and xenophobic opinions, and they do not value ecology."

Not surprisingly, this manipulation led Spanish participants to have more positive thoughts about the student in the "pro-Spain" than in the "anti-Spain" condition. After participants read the report and wrote their thoughts about it, MS was experimentally manipulated. Specifically, participants were asked to describe what they think will happen when they die (MS induction) or to write about anxiety toward exams (control). Unlike most previous work on MS, we manipulated MS *after* participants read the worldview-relevant message. As we will describe in more detail later in this chapter, the timing with which variables are introduced can influence the processes by which they operate.

After the MS manipulation and a brief delay (commonly used in research on MS and other threats; Wichman, Brunner, & Weary, 2014), all participants reported their attitudes toward the visiting student. Critically, we also measured participants' elaboration. As we describe in more detail later in the chapter, this variable is important because previous research indicates that validation processes are most likely to occur when people are thinking carefully (e.g., Petty et al., 2002). Briefly, this could occur for two reasons. First, the more thoughts a person has in response to a message, the more thoughts there are to be validated or invalidated. Second, the factors that motivate high amounts thought and evaluation in response to a message would also likely motivate people to think about and evaluate the validity of their thoughts in response to that message. Thus, if attitude polarization emerges to a greater extent among people who reported thinking carefully, it would be consistent with the idea that polarization was driven by self-validation processes.

As predicted, we found that MS induced *after* processing a worldview-relevant message resulted in increased attitude polarization. That is, participants' attitudes were a better reflection of their thoughts when they were experiencing MS (versus not). As a consequence, the MS induction (compared to control) increased attitude favorability for those originally exposed to the positive report (favorable thoughts condition) but decreased attitude favorability for those exposed to the negative report (unfavorable thoughts condition). Critically, this effect was constrained to those who reported thinking carefully about the persuasive message. Both of these findings are consistent with the operation of the self-validation mechanism. Of course, these findings can also be viewed as consistent with the Terror Management account of MS effects in that those who were high in thinking may have polarized their thoughts in addition to their attitudes. Although we think this is unlikely since the MS induction followed message processing, we conducted a further study to provide clearer evidence in favor of the self-validation mechanism.

In addition to proposing a different mechanism, one important and relatively unique feature of the self-validation framework for understanding MS effects is that the attitude polarization effect should not be limited to worldview-relevant topics. That is, the defensive confidence elicited by an MS threat could be attributed to any thought, regardless of its worldview relevance (for another view on MS leading to effects beyond worldview defense, see also Holbrook et al., 2011). Our next study examined a worldview-irrelevant topic and sought to more firmly establish that inducing MS can lead to increased thought confidence and that this thought confidence is the critical mediating variable producing attitude polarization. Specifically, Horcajo, Briñol, Petty, See, and DeMarree (2015) exposed

participants to the printed vita of an ostensible job candidate that was designed to elicit primarily favorable or unfavorable thoughts. This was accomplished by manipulating aspects of the job candidate's past work and educational background to make him appear to be more or less qualified (e.g., relevance of the languages spoken to the business environment; cf. Petty, Tormala, Briñol, & Jarvis, 2006). After participants read the vita and wrote their cognitive responses about it, MS was experimentally manipulated in a manner similar to the previous study. Finally, all participants reported their attitudes toward the candidate, listed their thoughts, and rated the confidence they had in their thoughts.

In line with the self-validation hypothesis, we found that the effect of candidate qualifications on attitudes toward the job candidate was greater under the MS condition than the control condition. Importantly, the MS induction did not affect the number or profile of thoughts listed about the candidate, but it did affect participants' confidence in the thoughts they listed. Furthermore, confidence in thoughts mediated the impact of MS on attitudes. These results therefore support the idea that MS participants relied on their thoughts in forming attitudes toward the job candidate to a greater extent than control participants and that this accounted for the polarizing effect that MS had on attitudes. Furthermore, this study established that the MS effects on polarized attitudes did not require a worldview-relevant topic.

In sum, these two studies revealed that MS can influence attitude change by the metacognitive mechanism of increased thought confidence, therefore increasing the impact of attitude-relevant thoughts on attitudes. Among other things, these findings are important because they provide an entirely unexplored mechanism (self-validation) by which MS can induce attitude polarization. In addition to the theoretical advance of the present research, we introduced a new setting in which MS can exert its impact. Specifically, in our studies, MS was manipulated after the receipt of information (i.e., the essay about the Spanish people or the résumé of the job candidate). That is, the placement of the MS treatment followed the persuasive information. To our knowledge, research on MS has nearly always manipulated death reminders prior to the message. As noted earlier, in this paradigm people have *already* thought about the message, and thus the obtained polarization was not likely to occur via the most commonly discussed mechanism in the MS literature—biased or enhanced thoughts about the message or features of the persuasive episode (e.g., for a description of this view on biasing thoughts, see Y. See & Petty, 2006).

In addition, this research opens the question of whether the self-validation mechanism can account for other MS findings, including also the cases when it is induced before generating thoughts. For instance, prior research has demonstrated that MS increases the extent to which people act in ways that are consistent with their chronic self-esteem (e.g., Landau & Greenberg, 2006) or their need for structure (e.g., Landau et al., 2004). The current research suggests that MS might increase people's use of accessible self-concept or thinking style to guide their behavior because of self-validation processes by which they claim confidence in these aspects of themselves. This view is consistent with recent theorizing on MS that proposes certainty as a key component of its effects (Hart, 2014; see also Hart, this volume).

Finally, there are a number of other hypothesized existential motives beyond those invoked by MS that can be associated with threatening doubts and therefore might be expected to operate via the self-validation mechanism in the appropriate contexts (e.g., Heine et al., 2006; Kay, Whitson, Gaucher, & Galinsky, 2009). For example, Proulx, Inzlicht, and Harmon-Jones (2012) have argued that all existential threats, as well as a wide range of non-existential inconsistencies (e.g., dissonance, inconsistent trials on Stroop tasks), share some fundamental similarities. They argue that the aversive states these threats or inconsistencies produce all stem from expectancy violations (see also Proulx, 2012). Future research should examine the extent to which expectancy violations (Mendes, Blascovich, Hunter, Lickel, & Jost, 2007; Olson, Roese, & Zanna, 1996) and other forms of conflict (e.g., Petty, Briñol, & Johnson, 2012) can create a state of threatening uncertainty that people are motivated to reduce.[1]

Validating Thoughts When Under Attack (Threats From Failure)

As noted earlier, because the prospect of our own death is the ultimate threat, MS can lead to the kind of threatening uncertainty that people are motivated to reduce. However, MS is not the only source of threatening doubt that can lead people to seek compensating certainty that results in thought validation. In addition to those mentioned above (e.g., disturbing violations of expectations), another source of such threat is when people are criticized in an important domain. Consistent with previous work on MS, we propose that when attacked in a personally relevant domain, people feel threatening doubt and compensate by increasing reliance on their current thoughts.

In a line of research designed to explore this idea, Paredes, Briñol, and Petty (2015) asked participants to read a strong or a weak version of a vita from a candidate for a job (similar to the method described above). After listing their thoughts toward the candidate, participants were told that because there was extra time remaining in the session, they would be asked to participate in another line of research about prototypical reactions to common life events. In this task, participants were asked either to describe personal experiences in which they had been heavily criticized or to describe a relatively neutral experience. Indeed, asking people to remember episodes of severe criticism has been found to be an effective procedure to induce threat to one's sense of self and social security (e.g., Carver & Harmon-Jones, 2009). Finally, participants reported their attitudes toward the candidate whose vita they had initially read.

Compared with participants in the control condition, participants in the threatening criticism condition showed greater reliance on their thoughts. That is, in line with the self-validation hypothesis, the effect of thought direction on attitudes was greater for participants in the threatening criticism condition compared with those in the control condition. For those who listed positive thoughts in response to the strong vita, attitudes toward the candidate were more favorable after thinking of criticism than after thinking of neutral experiences. In contrast, for those who listed mostly negative thoughts in response to the weak vita, attitudes toward the candidate were less favorable after thinking about criticism than after thinking about neutral experiences.

This experiment revealed that threatened participants relied on their thoughts in forming their attitudes toward the job candidate to a greater extent than non-threatened participants did. Importantly, a second experiment in this series replicated the same pattern of results (attitude polarization as a function of severe criticism) and also established that the criticism effect on attitudes was mediated by thought confidence. Taken together, these two studies revealed that other forms of threat beyond MS can influence attitude change by increasing the confidence with which people hold their own thoughts.

In a follow-up line of research, Horcajo, Briñol, Petty, and See (2015) asked participants to read a persuasive proposal composed of strong or weak arguments. After listing their thoughts toward the proposal, participants were assigned to either write about personal experiences of doubt (mild cognitive doubt induction) or complete a test of intelligence and receive false feedback regarding their poor performance (threatening doubt induction). Compared with participants in the mild doubt condition, participants in the threatening doubt condition showed more reliance on their thoughts. This finding suggests that threatening doubt is especially powerful in causing people to rely on their thoughts compared to milder doubts, which prior research has shown can reduce thought reliance compared to a no-doubt condition (e.g., Briñol, Gascó, Petty, & Horcajo, 2013; Briñol, Petty, & Barden, 2007; see also Jonas et al., 2014, for additional comparisons between threatening and non-threatening doubts).

External Threats Can Validate Thoughts

In the previous two sections we described research in which threats came mostly from inside the person, either in the form of thoughts about death or as a consequence of thinking about

being criticized. As shown, people respond to these and other threatening doubts (e.g., thinking that one has done poorly on a test) by claiming greater confidence in their unrelated current thoughts and by showing more attitude extremity. In this section, we continue with this logic by describing research showing that people can come to rely on their thoughts as a psychological defense mechanism against other, more external threats. For example, in one study DeMarree, Briñol, Petty, and Smith-Genthôs (2015) asked participants to generate their own arguments in favor of, or in opposition to, a program to improve parks in their home state. After listing their thoughts, participants were presented with photographs containing threatening facial expressions of anger or non-threatening facial expressions (neutral or sad faces). All pictures had a direct gaze toward the participants so that they would be more likely to interpret the faces as being angry *at them* (see Adams & Kleck, 2003). Finally, participants reported their attitudes toward the park beautification program. Therefore, in this study participants were presented with faces that could be construed either as threats (i.e., angry) or not (i.e., neutral or sad) after generating positive or negative thoughts about the same park beautification program. In line with the self-validation hypothesis, participants' thoughts impacted their attitudes to the greatest extent when they saw faces that appeared to be angry at them relative to the other conditions.

Thus, consistent with responses to other forms of threat, when confronted with an interpersonal threat (i.e., angry facial expressions), people relied on their thoughts to a greater extent than when exposed to relatively non-threatening facial expressions. It is possible that this finding extends to other social threats, such as threats of ostracism or social identity threats. One ironic implication of this research is that being threatened by another person can lead to positive feelings if it increases the confidence in currently salient positive thoughts.

Part II: Thought Validation by Being a Threat

The research described thus far has demonstrated that a variety of psychological threats lead people to rely more on their current thoughts. Specifically, across four different lines of research, we have shown that people validate their thoughts when threatened by their own death and failures, criticism from others, and angry facial expressions. In addition to responding to threats with increased confidence, we argue that the act of threatening other people can lead to validation of thoughts. In this section of the chapter, we describe ongoing research suggesting that mental and physical states associated with attacking others can lead people to show an increased reliance on their own thoughts via the self-validation mechanism. Put differently, these lines of research examine situations in which participants are the agent, rather than the target, of threat.

Validating Thoughts When Powerful

People can exert control over others through the use of interpersonal power. Indeed, power often gives people the potential to both threaten and attack others in a variety of domains (physical, social, professional). For example, children learn that their more powerful parents can grant privileges and punishment and that older, physically stronger (i.e., more powerful) siblings or other taller children are able to coerce them physically (e.g., Argyle, 1988). Evidence from metaphors also suggests that power is associated with being on top: when someone has a high status or is higher up in the hierarchy, he or she has control over and can oversee, control, and dominate others who have lower status (Lakoff & Johnson, 1999). For example, research indicates that people who are standing are viewed as more dominant than people who are sitting (Schwartz, Tesser, & Powell, 1982), that big people hit little people (Felson, 2002), and that the victor in a fight is typically on top (Schubert, Waldzus, & Seibt, 2008).

In line with the self-validation hypothesis, we hypothesized that having power increases reliance on thoughts relative to being powerless. For example, in one study Briñol, Petty, and Wagner (2009) asked participants to think about and write down their best or worst qualities while sitting with their backs erect and pushing their chests out (i.e., confident posture potentially associated with high power) or while sitting slouched forward with their backs curved (i.e., doubtful posture potentially associated with low power; Carney, Cuddy, & Yap, 2010; Carney, Hall, & Lebeau, 2005; Huang, Galinsky, Gruenfeld, & Guillory, 2011). Then participants completed a number of measures, including of self-esteem. In line with the self-validation hypothesis, it was predicted and found that the thoughts generated about the self affected self-attitudes only in the confident, more powerful posture. Thus, the effect of the direction of thoughts on self-esteem was greater when participants wrote their thoughts in the confident rather than the doubtful body posture (see Briñol, DeMarree, & Petty, 2010, for a review on validation in the context of self-related thoughts).

A subsequent study replicated these results and extended the validating role of power to the domain of impression formation (Briñol, Petty, & Stavraki, 2012). Participants in this experiment were first led to generate either positive or negative thoughts about a job candidate by being presented with a strong or weak vita. Following this manipulation, participants were instructed to remember episodes of their lives in which either they had power over others or others had power over them. Finally, participants' attitudes toward the job candidate were assessed, including perceived competence and perceived friendliness or warmth (Fiske, Cuddy, & Glick, 2007). Relative to powerless participants, those induced to feel powerful showed greater reliance on their thoughts. As a consequence, the effect of the direction of the thoughts on subsequent judgments of the job candidate (in all dimensions) was greater for participants with high as opposed to low power.

In line with the idea that anything that is currently available in people's minds can be validated, recent research on self-validation has shown that power can validate thoughts beyond self-relevant traits and first impressions about others. In other words, the confidence that emerges from one's power can magnify the effect of anything that is currently available in people's minds, including not only their thoughts about people but also other mental contents.

To investigate the idea that confidence applies to whatever mental contents are salient and available at the time, DeMarree, Loersch, et al. (2012, Study 1) examined whether power could validate people's goals. In this study, participants were first primed with words related to competitive (e.g., *compete, win*) or cooperative (*help, share*) goals using a word completion task. Following this induction, participants wrote about times when they had power over someone else or when someone else had power over them. Finally, participants engaged in simulated economic games, in which they had an opportunity to share money with another participant or not. Consistent with the idea that power produces confidence (and powerlessness produces doubt), the goal affected participants' behavior in the economic games only when they wrote about high power after the goal was activated. That is, under these conditions, cooperation-primed participants gave more money to their partner in the economic games than did competition-primed participants (see DeMarree, Briñol, & Petty, 2014, for additional examples of the validating role of power).

Across a wide range of paradigms, when people experience the ability to control other people (i.e., high power), they rely more on their current thoughts. This self-validation logic held whether power was induced by a powerful posture or by recalling instances of power. It also held whether the thoughts that were validated were about the self or another person, or stemmed from a goal prime.[2]

Validating Thoughts by Threatening Others

There is a link between power and threatening others. As noted, power often gives people the potential to control, threaten, and even attack others. In part because threatening others is putting

oneself in a position of power, we argue that mental and physical states associated with attacking can lead people to increase their reliance on their own thoughts. In addition to power, threatening others involves readiness. Thinking and acting as if one is ready to attack can automatically activate the primitive, inborn response that prepares the body to fight (e.g., Blanchard, Hynd, Minke, Minemoto, & Blanchard, 2001). Survival and adaptation demand the resolution of competing action tendencies into a single unequivocal behavioral orientation that maximizes readiness to respond to challenges and threats in the environment. This readiness to respond is necessary for organisms in preparation to attack. Thus, on the one hand, because the primitive fight or flight response requires that people resolve these competing action tendencies, pursuing one of these should be associated with confidence. Finally, because fight responses often stem from appraisals that one can overcome the threat, one can expect that preparation to fight in particular should lead to increased confidence.

In a recent line of research designed to examine this idea, Briñol, Petty, and Wagner (2015) tested whether being ready to attack could influence attitudes by validating thoughts. As part of an ostensible research program investigating factors contributing to professional performance, participants were asked to write about their best or worst qualities as job candidates while raising their upper lips and showing their teeth (i.e., in an attack/biting pose) or while covering their lips to avoid showing their teeth (i.e., neutral pose). Then participants reported their self-evaluations related to their potential professional success.

We chose this induction based on embodiment for the first study because of its subtleness and also because of its very primitive nature. For example, Darwin (1872/1965) noted that the lips of humans are protruded during rage in a manner that follows from our descent from a more primitive, ape-like species. According to his observations, "the appearance is as if the teeth were uncovered, ready for seizing or tearing an enemy" (p. 238). Although humans do not need to use their teeth in fighting or in threatening others (Archer, 1988, 1995), we argue that such a behavioral display can still lead people to the same mental state that is associated with fighting, and this readiness to attack can lead to enhanced thought reliance. Indeed, previous research on embodiment has already demonstrated that other (more positive) bodily responses (such as head nodding, smiling, and powerful postures) are capable of affecting attitudes via the thought validation mechanism (see Briñol, Petty, & Wagner, 2012, for a review).

In sum, consistent with previous work on embodied validation (Briñol, Petty, & Wagner, 2012), we expected reliance on one's thoughts to be greater when one is engaged in the hostile facial expression than in the control facial expression because when people are enacting an attack expression, they should be particularly confident in the self-relevant thoughts they are recording. This is because making an attacking or threatening facial expression should produce a greater sense of confidence than does making a less aggressive facial expression. Indeed, in order to fight, people need to rid themselves of doubt (e.g., Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003).

Consistent with this reasoning, Briñol, Petty, and Wagner (2015, Experiment 1) found that the effect of the direction of thoughts on self-related attitudes was greater when participants made a hostile, threatening face than when they had a neutral expression. Thus, with a hostile but confident expression, participants seemed to rely on their thoughts in forming their self-attitudes more so than did participants performing a more neutral expression. As a consequence, being ready to attack (vs. control) increased the positivity of self-evaluations when thoughts were positive but increased the negativity of self-evaluations when thoughts were negative.

A second study explored whether another induction of attack would also operate via the self-validation mechanism. Similar to the previous experiment, participants in this study began by listing three positive or negative self-attributes relating to future career performance. Then attack was primed by asking participants to write about a time when they wanted to attack somebody else (attack group) or to write about their activities on an average day during the previous week (neutral group). To disentangle the potential confound with angry emotions, instructions for the attack condition stressed that participants not write about times when they felt angry or violent but, rather, about times when they were about to attack somebody or something in the absence of any particularly angry feelings (e.g., in the context of showing off; Koyama & Smith, 1991). Also important, in this study the attack manipulation came *after* participants had already listed their self-relevant thoughts, precluding the possibility that the attack manipulation could affect the content or quality of participants' self-relevant thoughts. As we noted earlier and will describe in more detail later, the timing with which variables are introduced can influence the processes by which they operate. Following the thought listing and the attack manipulation, participants reported their self-attitudes as job candidates.

As predicted, the results by Briñol, Petty, and Wagner (2015, Experiment 2) showed that the effect of the direction of thoughts (positive/negative) on self-related attitudes was significantly greater when participants wrote their thoughts in the attack than in the neutral condition. Consistent with the self-validation hypothesis, the obtained interaction between facial expression and valence of traits listed showed that among those listing positive self-attributes, those in the attack condition tended to report more favorable self-attitudes than did those in the neutral condition. However, among participants listing negative self-attributes, those in the attack condition reported less favorable self-attitudes than did those in the neutral condition.

Taken together, the results of these two studies, examining very different inductions of attack, were consistent with the self-validation interpretation. Future research should examine whether the same effects can be found using other readiness-to-attack behaviors (e.g., making a fist; Schubert, 2004), actual violent behaviors (e.g., hitting with a bat; Bushman, 2002), and merely framing one's attitude in an aggressive manner (Bizer, Larsen, & Petty, 2011; Bizer & Petty, 2005; Requero, Briñol, & Petty, 2015). Along the same lines, future work should explore the extent to which other forms of readiness can also validate thoughts beyond the domain of aggression (e.g., being ready to take a test; Carroll, Briñol, & Petty, 2015), and even if mere arousal is capable of increasing reliance on thoughts (e.g., physical exercise; Stangor, 1990; Storbeck & Clore, 2008; Wichman, Briñol, & Petty, 2015).

Validating Thoughts by Acting Violently

The research described above reveals that being ready to attack can increase reliance on our own thoughts. In this section, we describe another recent line of research suggesting that not only does readiness to attack enhance thought use but also that actual attacking actions can validate thoughts. Importantly, the research described in this section also specifies who is more likely to rely on their thoughts when acting aggressively. The general idea behind this moderation approach is that people are likely to have more confidence in their thoughts when they do something that matches or fits their own nature rather than when the actions they engage in do not fit. For example, people who are high (vs. low) in trait aggressiveness should be more likely to rely on their thoughts following violent action. That is, it is possible that individual differences in trait aggressiveness and violent behavior could interact in predicting reliance in thoughts.

In one of the studies designed to examine this possibility, Santos, Briñol, Cárdaba, and Petty (2015) first asked participants to read a strong or weak message about a new (fictional) company. This manipulation was designed to influence the favorability of participants' thoughts. After generating positive or negative thoughts toward the company, participants were randomly assigned to play either a violent videogame (Grand Theft Auto: Vice City) or a control videogame (Burnout Paradise; Engelhardt, Bartholow, Kerr, & Bushman, 2011). In order to classify participants in trait aggressiveness, they were asked to complete the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992). Finally, participants reported their attitudes toward the company they read about at the beginning.

As predicted, the results showed that when there was a match between the aggressiveness of the person and the aggressiveness of the videogame, participants relied on their thoughts more than when there was a mismatch. That is, in conditions that provided a match between a person's personality and the level of violence they engaged in (i.e., high trait aggressiveness and violent videogame; low aggressiveness and neutral control videogame), there was a higher use of thoughts relative to more discrepant conditions (i.e., high aggressive people playing neutral videogames, and low aggressive people playing violent videogames). Thus, matching the aggressiveness of the person and the situation increased the impact of one's thoughts on judgments relative to mismatching those variables. As a consequence of the impact of matching on thought validation, persuasion increased in the match versus mismatch conditions when the arguments were strong (and positive thoughts dominated) but decreased when the arguments were weak (and negative thoughts dominated). Among other reasons, these results are important because they reveal that, at least under some circumstances, aggressive people can have more positive attitudes than non-aggressive people when they play violent videogames. As noted, that would be the case when they initially generated positive thoughts under high thinking conditions and then those thoughts were validated by playing the violent videogame.

There are a number of approaches to considering the psychological processes leading people to trust and like their thoughts more when there is a match rather than a mismatch. For example, one possibility is that when the situation is matched to the person, people might come to accept their thoughts because their thoughts "feel right" (Cesario, Grant, & Higgins, 2004) or are easier to process (e.g., Lee & Aaker, 2004; Tormala, Petty, & Briñol, 2002). In addition to these two reasons, matching can lead to more thought validation through other processes. For example, a match between trait aggressiveness and violence might lead people to feelings of happiness or to feelings of anger, both of which are associated with confidence (Tiedens & Linton, 2001; see also Blankenship, Nesbit, & Murray, 2013; Briñol, Petty, Stavraki, Wagner, & Diaz, 2015). Furthermore, highly aggressive people playing violent videogames might feel particularly powerful, and power leads to greater confidence and use of thoughts (Briñol, Petty, Valle, Rucker, & Becerra, 2007).

As noted previously, the self-validation effect that emerges from this aggression-matching should be particularly likely to occur if the situation is one of high thinking and the match becomes salient after message processing (Briñol & Petty, 2009). As we describe in more detail in the next section of this chapter, any variable (including the very same match between aggressiveness and violence) can lead to attitude change through different processes under other circumstances (see Briñol, Tormala, & Petty, 2013; Petty, Wheeler, & Bizer, 2000, for reviews of the processes underlying matching effects in persuasion).

One implication of the research on matching for the research described previously on power is that for people who might dislike power or be uncomfortable with it, being assigned to have power would create a mismatch, leading to doubts (rather than confidence) in thoughts (Chen, Langner, & Mendoza-Denton, 2009). Thus, our work on matching can serve to specify who is more likely to rely on their thoughts when induced to feel powerful: those who already like having power. Similarly, being ready to attack others would be particularly validating for those who enjoy violence (e.g., score high in trait aggressiveness).

Part III: Thought Validation Versus Other Processes

We've shown that a wide variety of threats, as well as being a threat oneself, can magnify the impact of current thoughts via the self-validation process. However, we should note that these effects are dependent on various contextual factors such as the specific levels of elaboration or the order in which events occur. As described previously, the metacognitive process of self-validation requires a level of elaboration that is sufficiently high for individuals to both generate thoughts and consider

their validity. Next, we describe some research in which either the timing of the validation manipulation or the extent of elaboration likely in the context was varied to demonstrate that the same variable (e.g., power) can affect attitudes by different processes depending on the circumstances.

Timing

As emphasized in this chapter, variables (e.g., threat, power) are more likely to influence judgments by a process of thought validation when the variables are introduced during or after rather than before thought generation. One study providing empirical support for this assertion manipulated the order in which the validating variable (power) was induced relative to a persuasive appeal that contained compelling arguments in favor of a new cell phone (Briñol, Petty, Valle, et al., 2007). In this study, when power was induced following the message, the results mirrored those described above. People who experienced power relied more on their (primarily positive) thoughts than people who experienced the lack of power, consistent with the self-validation mechanism. However, when the experience of power preceded the message, a different pattern emerged. In line with past research showing that preexisting experiences of confidence can decrease information processing because people already feel certain in what they believe and therefore do not need to think about the message (e.g., Tiedens & Linton, 2001), we found that preexisting experiences of high (versus low) power reduced persuasion. Because the message was compelling, this decrease in persuasion likely occurred because people devoted less careful thought to the message when they were already confident. As a result, participants in the high-power condition did not generate as many positive thoughts as those who lacked power. Other studies from the same article offered further support for the notion that power, when induced before a persuasive message, decreases information processing, thereby decreasing persuasion for strong messages and increasing persuasion for weak messages. Notably, this is the opposite pattern of findings from those found when power was induced following a persuasive appeal. These findings suggest that the same power behaviors can have different (and opposite) effects in persuasive settings depending on when the manipulation is introduced. Other variables (e.g., threat, violent behavior) are similarly likely to work differently when they are induced before rather than after thought generation.

Elaboration

Power can also serve as an example to illustrate the multiple roles that any variable can play depending on the extent of thinking in the situation, according to the Elaboration Likelihood Model of persuasion (Petty & Briñol, 2012; Petty & Cacioppo, 1986). As was the case for other variables (ranging from embodiment to matching), several mechanisms have been shown to operate for power, and these processes can be organized into a finite set that operate at different points along an elaboration continuum.

In accord with the Elaboration Likelihood Model, the simplest mechanism is when power act as a simple cue to judgment by serving as a positive signal or invoking a simple heuristic. Under low ability and motivation to think, power can lead a person to heuristically conclude that his or her own position is valid and should be adopted, whereas feelings of low power would imply that one's position is invalid and should be rejected (Kelman, 1958).

Second, if feelings of power are high before message exposure, and elaboration is not constrained to be very high or low by other variables, then the role of power in the persuasion process is likely to be a reduction of elaboration. As described in the previous section on timing, this is consistent with previous research showing that power can reduce the extent of incoming information processing, reducing argument quality effects in persuasion (Briñol, Petty, Valle, et al., 2007),

increasing stereotyping (Fiske, 1993), and leading power-holders to ignore the advice provided by others (K. See, Morrison, Rothman, & Soll, 2011).

Third, when the likelihood of thinking is relatively high, the same experience of power before the message can impact persuasion by other processes. For example, power might bias thoughts in a positive manner if one assumes that power is positively valenced. Power can also bias the content of the thoughts that come to mind in other ways less related to valence and therefore less relevant for persuasion. For example, work by Guinote and colleagues have shown that high (vs. low) power leads people to focus more on their personally relevant goals, increasing the accessibility of and attention paid to what they consider more important at the moment (Guinote, 2007).

Furthermore, when thinking is high, power could be evaluated as an argument (evidence) if it provides diagnostic information about the merits of an object. For example, power could spark the perception that a person possesses some particular abilities or personality traits (e.g., ambition, social skills) in an impression formation task, or could be perceived as a compelling argument for jobs related to politics. Of course, if people believe that their judgments are somehow being biased or influenced by their power, and they do not want this to occur, people can adjust their judgments in a direction opposite to the expected bias (i.e., a correction effect; Wegener & Petty, 1997).

Finally, we have described throughout this chapter that power can also impact the extent to which people use their thoughts through a metacognitive process of thought validation. As should be clear by now, these self-validation effects are particularly likely to occur under high elaboration conditions and when power follows thought generation.

In one study varying elaboration directly, Briñol and Petty (2015) put participants in a high or low personally relevant situation (Petty & Cacioppo, 1979) and then presented them with a persuasive message introducing a new company. The message was composed of either strong or weak arguments about the firm. After reading and thinking about this information, participants listed their thoughts in response to the company. Next, power was manipulated by asking participants to recall incidents in their lives either in which they had power over another person or in which someone else had power over them. We predicted and found that high power increased the impact of thoughts in response to the message compared to low power but only under high personal relevance (i.e., high thinking conditions). This self-validation effect replicates the results described previously throughout this review for the metacognitive impact of power. In contrast, under low personal relevance conditions, which should not have triggered high levels of thought, power served as a simple valence cue, with high power leading to more positive attitudes toward the company compared to low power, *regardless* of argument quality. These findings reveal that the effect of power inductions can cut both ways. Under high elaboration, power induced after thinking can lead to more or less persuasion depending on whether one's message-relevant thoughts are positive or negative. Under low elaboration, power may increase persuasion overall, to the extent it serves as a simple positivity cue. Thus, understanding the range of underlying processes through which power operates can allow us to predict different persuasion outcomes for the same variable depending on the circumstances (see Horcajo, Briñol, and Petty, 2014, for a replication using source status instead of recipient power; see Briñol, Petty, Durso, & Rucker, 2015, for a review).

Summary and Conclusion

Research on self-validation has shown that most of the time mild metacognitive doubt is likely to merely attenuate the use of primary cognition. However, in the present chapter, we have described recent research on self-validation showing that when the doubt imposes some threat to the self, it can lead people to want to restore confidence and thereby rely on their thoughts even more. As noted, the basic idea of compensating for threatening doubt suggests that people sometimes try to correct for the doubts they do not want to have (or cannot handle because they are too threatening)

by engaging in thought validation. In several different lines of research, we discussed how people validate their current thoughts when facing a threat, such as death, criticism, or potential attack from (angry) others. Then we presented research revealing that people validate their thoughts also when they are a threat to other people, such as when they are ready to attack others or when they act aggressively by playing violent videogames, or have the power to do those things. Therefore, the present review demonstrates that thoughts can be validated both when people are the subject of threats and also when they themselves are threat initiators. That is, thought validation can result from compensatory confidence that emerges from threatening doubts or more directly from the confidence needed to be ready to act when threatening others. Although on the surface these two routes to confidence (compensatory vs. direct) lead to apparently similar outcomes (increased thought reliance and attitude extremity), future research should examine whether they are different in any long-term consequences.

Another take-home message from the present review is that any given variable can play multiple roles in a persuasive setting. Consistent with the Elaboration Likelihood Model notion of multiple roles (Petty & Briñol, 2012), the same fundamental processes described for power are relevant for understanding threat. In the bulk of this chapter, we have focused on describing how threats can *validate* a person's thoughts. As noted, that metacognitive process is most likely to operate when elaboration is high and threat follows the generation of thoughts. However, in closing the review, it is important to reiterate that other roles are possible for threat under different conditions.

First, when elaboration is not constrained to be very low or high to begin with, threat—like other variables—can influence attitudes by affecting the amount of thinking that occurs. In line with this reasoning, we have examined the impact that threats from MS have on information processing when elaboration is not constrained. When MS precedes the receipt of information, the need for certainty associated with that threat can be pursued by increased thought about the information. In one study, for example, Horcajo, Briñol, Petty, See, and DeMarree (2015) found that when the amount of elaboration was not constrained and MS (versus control) was induced prior to message reception, people devoted more attention to the message. This was manifest as both thought and attitudes that were in line with the quality of the information they encountered (i.e., more positive with strong than with weak messages). Although the pattern of attitudes observed was the same as in the validation studies described earlier where MS followed message reception, the pattern of measured thoughts was different. That is, in the validation studies, the valence of thoughts in response to the message could not be and was not impacted by MS (because thought had already occurred), and what differed was people's *reliance* on these thoughts. This interpretation was further supported by the mediation of the impact of MS on attitudes through thought confidence. However, when MS was induced before the message, the differences in attitudes were mediated by differences in the valence of participants' thoughts, with more polarized thoughts observed in the MS compared with the control condition, and these polarized thoughts led to polarized attitudes.

Second, when the likelihood of thinking is relatively high, the same experience of threat can impact persuasion by affecting the direction of the thoughts that come to mind, or by serving as a piece of evidence (i.e., an argument) to be scrutinized. Regarding the first of these high thought processes, past research has examined the ways in which threat can influence the direction of people's thoughts when elaboration is likely to be relatively high (i.e., high personal relevance, low distraction). In past MS studies, for example (e.g., Greenberg, Pyszczynski, et al., 1990), MS biased people's thoughts in a way that reinforced preexisting worldviews. Although these past studies have not included the process variables to conclude that biased thought occurred, the situations encountered in most of these studies were such that biased processing was likely. First, in these studies the MS threat came before people encountered a message. Second, and consistent with Terror Management Theory, MS has the potential to provide a motivational impetus to defend one's

worldview, providing a plausible positive bias for worldview-supportive messages and a negative bias for worldview-opposing messages. As noted earlier, for a variable (threat) to bias the content of thoughts, people need to have high motivation and ability to think.

When people are motivated and able to think, threat can also play other roles, such as serving as a relevant argument per se. In some cases, this might be a weak and non-compelling argument (e.g., if you feel threatened by a friend's behavior in a friendly context), whereas in other cases it might be a strong and compelling argument (e.g., if you feel threatened while watching a horror movie; Martin, 2000).

Finally, we argue that threat can impact judgment not only by affecting the amount, direction, content, and confidence associated with thinking but also by serving as a peripheral cue when people are not motivated and able to think. Thus, under low thinking conditions, threat—like other variables—can influence attitudes by operating as a judgment cue or heuristic, producing an effect consistent with its valence. Given that most people are likely to experience threat as a negative feeling, the resulting impact on judgments is also likely to be negative. That is, threat can be interpreted as—and even actively produce—a negative affective feeling, and this feeling can become attached to a persuasive advocacy, or associated with it, and thus produce less favorable attitudes following that advocacy, perhaps via misattribution effects or classical conditioning (see Petty & Briñol, 2015, for a review). Future research should explore these and other possibilities for threat.

Notes

1   Not all expectancy violations would be expected to be threatening necessarily. Getting a surprisingly good gift would violate expectancies but would not be personally threatening.
2   The low-power manipulations used in these studies were relatively mild, and therefore they were not threatening. A loss of power in an important domain could produce threat, which could then lead to a compensatory confidence effect consistent with the effects outlined in the first part of this chapter (see Rucker & Galinsky, 2008, for an example of compensatory effects of low power).

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4

PSYCHOLOGICAL INSECURITY AND LEADERSHIP STYLES

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One of the most fundamental human motives is the need for security. Individuals desire predictable, structured, and sheltered niches. They want to experience control over their lives, render their social interactions understandable, and make sense of themselves and their social environment. Already in his theory of motivation, Maslow (1943) highlighted the importance of the need for security. He distinguished among five categories of needs: physiological needs, security, belongingness, esteem, and self-actualization. He proposed that these needs form a hierarchy, such that a higher-order need is activated only when the lower-order need is satisfied. Security occupies a basic position in this hierarchy and is preceded only by physiological needs. Establishing and maintaining security, then, is primary to belongingness, esteem, and self-actualization. Times of terrorism, political upheavals, economic crises, national conflicts, and increasingly demanding social interactions pose substantial threats to the need for security for individuals in many cultures. Of course, these threats differ on several dimensions. Yet they all entail unpredictability, loss of control, and potential harm. As such, they may impact negatively on the individual. One such negative impact is self-uncertainty (cf. Kagan, 1972).

In order to cope with self-uncertainty, individuals might implement several strategies (e.g., seeking social support, attempting to stabilize their environment, disengaging from their environment) that will help them to reestablish a sense of security. In the present chapter, we focus on a strategy that has received limited empirical attention: preference for a specific leadership style. We address the questions of when and why individuals who normally endorse democratic values prefer an autocratic over a democratic leadership style, and we discuss the relevant role of self-uncertainty as a situational trigger and of self-esteem as a dispositional moderator.

Self-Uncertainty

The concept of uncertainty has had its share of definitional bids. In this chapter, we focus on *self-uncertainty*. The self is conceived of as an organizing structure that directs thinking, feeling, and behaving (Markus, 1977; Sedikides & Gregg, 2003). As such, self-uncertainty arises when subjectively important self-aspects are in question (Sedikides & Strube, 1997; Trope, 1983). Some persons are prone to experiencing this sort of uncertainty more persistently than others. Consistently, De Cremer and Sedikides (2005) operationalized dispositional self-uncertainty in terms of self-doubt, self-esteem instability, and self-concept unclarity. *Self-doubt* refers to individuals' lingering doubts and concerns about their competence and abilities (Braslow, Guerretaz, Arkin, & Oleson, 2012).