

7 Ease and persuasion

Multiple processes, meanings, and effects

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Abstract

This chapter describes the mechanisms through which the experience of processing ease, or fluency, can influence attitudes and persuasion. In particular, we argue that ease can impact attitude change not only by serving as a peripheral cue (e.g., being experienced as positive affect or as input to an availability heuristic), but also by affecting the thoughts people generate and the confidence with which those thoughts are held. Of importance, the conditions necessary for each of these processes to operate are specified in this review. Because the different mechanisms operate in different contexts, appreciation of the multiple roles for ease can shed new light on situations in which ease effects should be more or less likely to emerge, and more or less likely to persist.

This chapter describes the mechanisms by which the experience of processing ease, or fluency, can influence attitudes and persuasion, specifying the conditions under which several distinct processes are likely to operate. In particular, we argue that ease can impact attitude change not only by serving as a peripheral cue (e.g., being experienced as positive affect or as input to an availability heuristic), but also by affecting the thoughts people generate and the confidence with which those thoughts are held. We begin by providing a brief description of some of the persuasion paradigms in which ease has been studied. We focus on paradigms in which people persuade themselves through their own thoughts, either in response to persuasive messages from external sources or in response to instructions to produce their own messages. In each case, the ease with which those thoughts come to mind plays a critical role in persuasion. The next section describes work on ease of retrieval conducted in the domain of attitude change, focusing on the multiple processes by which ease of retrieval effects can operate and examining the moderating conditions for each of those processes. Finally, we provide an overview of persuasion research suggesting that ease can be associated with different meanings.

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Persuasion as a function of thoughts

Classic and contemporary research on persuasion suggests that persuasive messages can influence people's attitudes through both thoughtful and non-thoughtful routes (e.g., Petty & Cacioppo, 1986). When persuasion is thoughtful, attitudes depend on the thoughts people generate in response to messages or message topics. The idea that persuasion depends on the extent to which individuals articulate and rehearse their own idiosyncratic thoughts to external messages was first outlined by Greenwald (1968) in what he called a *cognitive response theory* of attitude change (for a comprehensive review, see Petty, Ostrom, & Brock, 1981). This view essentially argues that people are persuaded (or resist persuasion) by virtue of their own thoughts rather than by learning the message per se, as had been argued by earlier learning theories (Hovland, Janis, & Kelley, 1953). Persuasive appeals that elicit thoughts that are primarily favorable toward a particular recommendation (e.g., "if that new laundry detergent makes my clothes smell fresh, I'll be more popular"), produce agreement whereas appeals that elicit unfavorable thoughts toward the recommendation do not (e.g., "I'm no better off just because that new laundry detergent comes in an attractive box"), regardless of whether the message content can be learned and recalled.

Although most work on persuasion focuses on messages that come from other people (e.g., advertisers), messages that people generate themselves can also be quite effective in producing attitude change. The persuasive effect of completely self-generated messages was shown in early research on role-playing. This literature shows that individuals who generate arguments (e.g., following instructions to convince a friend to quit smoking) are more persuaded than those who receive the same information passively (e.g., Janis & King, 1954). In this research, people were typically asked to generate messages on certain topics (e.g., the dangers of smoking), and their subsequent attitudes were compared with those in a control group who had either passively listened to the communication or who had received no message. Generally speaking, active generation of a message was shown to be a successful strategy for producing attitude change (Watts, 1967; Huesmann, Eron, Klein, Brice, & Fischer, 1983). Just as the act of generating a communication on a topic has been found to influence one's position on that topic, so too has the mere *anticipation* of performing such an act, by affecting the thoughts that people generate about the topic (e.g., Cialdini & Petty, 1979).

In addition to generating and anticipating messages, research has shown that people can persuade themselves when they try to remember past behaviors, imagine future behaviors, explain some behavior, or merely think about an event. For example, people who are asked to imagine hypothetical events come to believe that those events have a higher likelihood of occurring (e.g., Anderson, 1983; Anderson, Lepper, & Ross, 1983; Sherman, Cialdini, Schwartzman, & Reynolds, 1985). In another line of research, Tesser and colleagues showed that merely thinking about an attitude object, without any external information presented or requested, can lead to attitude change. For example, spontaneously thinking about a person who did something nice leads to more favorable evaluations of

that person (compared to when distracted from thinking), whereas thinking about a person who was insulting leads to more negative evaluations (see Tesser, Martin, & Mendolia, 1995, for a review). Thus, when work on cognitive responses is considered along with the research just described on role-playing and mere thought, it suggests that virtually all attitude change stems from self-persuasion. That is, at least when people are thinking, attitude change is based on the extent to which people generate favorable rather than unfavorable thoughts, on their own or in response to a persuasive message.

Ease of thought generation

Traditional approaches to persuasion have focused on primary thoughts—that is, the thoughts individuals have about attitude objects—whether self-generated or in response to a message. Interestingly, though, recent research suggests that in addition to primary thoughts, people can have secondary thoughts that is, thoughts about their primary thoughts or *metacognitions* (Briñol & DeMarree, 2012; Petty, Briñol, Tormala, & Wegener, 2007). According to this metacognitive view, generating favorable or unfavorable thoughts in response to a persuasive message is an important factor in producing attitude change, but what people *think* about their thoughts is critically important as well (e.g., Petty, Briñol, & Tormala, 2002). Of particular relevance to the current chapter is the perceived ease with which people's thoughts come to mind.

One of the earliest demonstrations of the effect of ease of thought generation on judgment came from Schwarz, Bless, Strack, Klumpp, Rittenauer-Schatka, and Simons (1991) now classic *ease of retrieval* studies. Schwarz et al. asked participants to rate their own assertiveness after generating six versus twelve examples of their own assertive behavior. They found that people viewed themselves as more assertive after retrieving six rather than 12 examples. This result was initially surprising because a straightforward application of accessibility and self-persuasion principles would have suggested that people generating 12 instances of assertiveness would have judged themselves to be more assertive than those generating six instances. The fact that the opposite was observed suggested that something beyond the mere number and direction of thoughts generated must have played a role. Schwarz and colleagues concluded that people also considered the ease with which their thoughts could be retrieved or generated.

Since this initial demonstration, the ease of retrieval effect has been observed in numerous domains and across diverse topics and measures (see Schwarz, 1998, 2004, Sanna & Lunberg, 2012, for reviews). In an example from our own research that is particularly relevant to persuasion, Tormala, Petty, and Briñol (2002) asked undergraduates to generate either two or ten arguments in support of a new campus policy. Results indicated that generating two favorable thoughts led to more favorable attitudes than did generating ten favorable thoughts. Thus, thinking of fewer arguments was more persuasive than thinking of many, because of the ease of generating those arguments when just a few were requested.

When it was easier to think of favorable arguments, those arguments carried more weight. Thus, the subjective experience of ease can play an important role in self-persuasion. Next, we discuss why ease matters.

Multiple processes driving ease effects

How does ease influence persuasion? Perspectives have varied with respect to the mechanisms driving ease of retrieval effects. Understanding these mechanisms is critical for a number of reasons, however, not the least of which is that it has implications for the immediate and long-term consequences of persuasion stemming from ease. For example, the more (less) thoughtful the mechanism that is involved, the more (less) the persuasion it creates is expected to be durable, resistant, and impactful over time (Petty, Haugtvedt, & Smith, 1995). Consistent with the Elaboration Likelihood Model of persuasion (ELM; Petty & Cacioppo, 1986; Petty & Briñol, 2012), we suggest that the psychological processes mediating the effect of ease on attitude change can be organized into a finite set that operate at different points along an elaboration continuum. Under low thinking conditions, ease—like other variables—can influence attitudes by operating as a judgment cue or heuristic. This would typically produce an effect consistent with its valence which is generally positive (e.g., see Winkielman & Cacioppo, 2001). When the likelihood of thinking is relatively high, the same experience of ease 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. When elaboration is not constrained to be very low or high, ease can influence attitudes by affecting the amount of thinking that occurs. Thus, the ELM describes several processes of primary cognition through which variables such as ease can affect persuasion: by serving as a simple cue, by affecting either the amount or direction of thinking, and by functioning as an argument.

In addition to these four possibilities, we have recently proposed that any variable (including ease) can also impact whether or not people use their thoughts by influencing what people think about their thoughts. This idea is referred to as the *self-validation hypothesis* (Petty, Briñol, & Tormala, 2002). The key tenet is that generating or having thoughts is not sufficient for these thoughts to impact judgment. Rather, people must also have confidence in the thoughts. When people perceive their thoughts to be valid, they have confidence in them and rely on them in forming their judgments. When people have doubt about their thoughts or perceive them to be invalid, they do not use them as a basis for judgment. Thus, self-validation provides a fifth mechanism by which variables such as ease can influence attitudes—by affecting thought confidence. Unlike previous mechanisms of attitude change that focus on primary or first-order cognition, this new process emphasizes secondary or meta-cognition.

As an illustration of the integrative power of this conceptual framework, consider the effect of another subjective experience—one's incidental emotions—on evaluative judgments. Consistent with the ELM, prior research has shown that a person's emotions can influence attitudes through multiple processes (see Petty,

Fabrigar, & Wegener, 2003). First, when thinking is constrained to be low, emotions tend to serve as simple associative cues and produce evaluations consistent with their valence (e.g., happiness leads to more persuasion than sadness; Petty, Schumann, Richman, & Strathman, 1993). When the likelihood of thinking is not constrained to be high or low by other variables, emotions can affect the extent of thinking. For example, people may think about messages more when in a sad than happy state either because sadness signals a problem to be solved (Schwarz, Bless, & Bohner, 1991) or conveys a sense of uncertainty (Tiedens & Linton, 2001). When thinking is high, emotions can bias one's ongoing thoughts (Petty et al., 1993). For example, positive consequences seem more likely when people are in a happy rather than sad state (DeSteno, Petty, Wegener, & Rucker, 2000). Finally, the self-validation hypothesis suggests that emotions can also affect thought confidence (e.g., happy people have more confidence in their thoughts than do sad people). Consistent with this possibility, Briñol, Petty, and Barden (2007) found that when placed in a happy (versus sad) state following a persuasive message, participants relied more on their valenced thoughts as a basis for their attitudes (e.g., forming favorable attitudes when their thoughts were favorable).

We postulate that ease, like emotions, can influence persuasion through multiple mechanisms. First, when thinking is low, ease should act as a simple cue to persuasion by invoking positive affect or a simple heuristic. In fact, in the very first report of the ease of retrieval effect, the explanation was based on a heuristic account. Specifically, Schwarz, Bless, Strack, Klumpp, Rittenauer-Schatka, and Simons (1991; see also Schwarz, 1998) argued that the effect is driven by an availability heuristic (Tversky & Kahneman, 1974), whereby the easier it is to generate information in favor of something, the more supportive information people assume there must be. Conversely, having difficulty induces the perception that there is little support available. When it is difficult to generate a list of positive thoughts about a policy, for instance, people are assumed to infer that there must not be many positive things about it. When it is easy to generate positive thoughts, on the other hand, people are assumed to infer that there must be many positive things about the policy. These simple inferences could provide simple cues to guide persuasion when one's motivation or ability to think is relatively low (Rothman & Schwarz, 1998). Indeed, Kühnen (2010) recently provided evidence that ease can influence judgment by working as a simple cue (at least when ease is salient) when motivation and ability to think are low.

Also consistent with the notion that ease can operate through low thinking processes, ease has been known to provide a simple associative cue that produces judgments consistent with its valence. Specifically, ease has been shown to be associated with, and even actively produce, positive affect (Moons, Mackie, & Garcia-Marques, 2009; Winkielman & Cacioppo, 2001; Winkielman, Schwarz, Reber, & Fazendeiro, 2003). This feeling can become attached to or associated with a persuasive advocacy, and thus produce more favorable attitudes following that advocacy, perhaps via misattribution effects or classical conditioning.

In sum, under low thinking conditions, ease of retrieving or generating arguments can influence attitudes by operating as a cue implying that the arguments

are frequent (Schwarz, Bless, Strack, Klumpp, Rittenauer-Schatka, and Simons, 1991), familiar (Garcia-Marques & Mackie, 2000), or true (Unkelbach, 2007). Which of these meanings drives persuasion likely depends on which is most salient in a particular context (e.g., a numerical context might prime frequency rather than familiarity). Of course, the meanings themselves also are malleable as a function of the context (e.g., ease can be interpreted as indicating truth or falsehood; Unkelbach, 2007). As we will describe later, we postulate that the inferences made from ease are more likely to be applied to external information (e.g., the persuasive message, the position advocated) under low thinking conditions, but to internal information (e.g., one's thoughts) under high thinking conditions.

In addition to this cue role that operates when thinking is low, when elaboration is not constrained to be high or low, ease can affect one's extent of information processing. Specifically, ease (compared to difficulty) appears to reduce processing activity (e.g., Alter, Oppenheimer, Epley, & Eyre, 2007). One potential reason is that when people feel confident due to ease of processing, they feel little need to seek out or consider additional information for their judgments. In contrast, when people lack confidence due to processing difficulty, they feel greater motivation to seek out and carefully scrutinize information that might provide more insight and a more valid judgment. Indeed, many forms of doubt stemming from sources other than difficulty have been found to increase information processing (see Petty & Briñol, 2009, for a review).

It is also clear that in the traditional ease of retrieval paradigm, the difficult condition involves more thinking than the easy condition. Indeed, in the difficult condition people are asked to generate a large number of thoughts, whereas in the easy condition people are asked to generate a lower number of thoughts. Recent research has shown that when people are asked to generate a large and difficult number of thoughts in this paradigm, they also spontaneously generate a number of unrequested thoughts—that is, thoughts in the opposite direction of those that are requested. Tormala, Falces, Briñol, and Petty (2007) found that the more difficult it is to retrieve or generate a given set of thoughts or arguments, the more likely it is that unrequested, or unwanted, thoughts also come to mind. Moreover, these unrequested thoughts are partly responsible for the ease of retrieval effect: when it is difficult to generate positive thoughts, for instance, more negative thoughts come to mind and those thoughts push attitudes in a negative direction (see also Wänke, this volume).

When people are motivated and able to think, ease can play other roles. For example, ease might bias thoughts in a positive manner, again assuming that ease is positively valenced. For example, if ease induces positive affect as suggested by Winkielman, Schwarz, Fazendeiro, and Reber (2003), then ease should increase the generation of favorable thoughts in response to persuasive messages and reduce the generation of counterarguments. In addition, when thinking is high, ease could be evaluated as evidence if it provides diagnostic information about the merits of an object. For example, processing ease could spark the perception that a product or device will be quick to learn, which could be interpreted as evidence supporting the claim that the device is simple and

straightforward. Of course, if people believe that their judgments are somehow being biased or influenced by the ease or difficulty with which they can process information (e.g., very simple fonts might seem like a blatant attempt to make a product appear easy to use), 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). In the domain of ease, discounting or correcting would leave people with the content of the thought (i.e., the primary cognition) as a basis for judgment (Strack & Hannover, 1996).

Finally, ease effects under high thinking conditions could stem from self-validation processes. Indeed, Tormala et al. (2002) found that self-validation can underlie ease effects in persuasion when people are motivated and able to think about an issue. In a series of studies, we found that when it was easy to generate positive thoughts about a policy (e.g., because two rather than ten were requested), participants were more confident in the validity of those specific thoughts. Furthermore, thought confidence mediated the effect of ease on attitudes following a persuasive message, but as we describe in the next section this only occurred under high elaboration conditions, when people had the motivation to reflect on their own thought processes.

As another example of ease affecting thought-confidence, consider work on embodiment suggesting that the feeling of ease can also stem from bodily experiences. For example, in a study applying self-validation to self-evaluation (Briñol & Petty, 2003, Experiment 4), participants were asked as part of an ostensible graphology study to think about and write about their best or worse qualities using their dominant or non-dominant hands. Then, participants rated the confidence they had in the thoughts they listed and they reported their self-esteem. Because writing with the non-dominant hand is difficult, whereas writing with the dominant hand is easy, it was expected (and found) that using the non-dominant hand decreased the confidence with which people held the thoughts they had listed. As a consequence, the effect of the best or worst qualities manipulation on state self-esteem was significantly greater when participants wrote their thoughts with their dominant rather than non-dominant hand. That is, writing positive thoughts about oneself with the dominant hand increased self-esteem relative to writing positive thoughts with the non-dominant hand, but writing negative thoughts with the dominant hand reduced self-esteem relative to writing with the non-dominant hand. Thus, people do not feel as badly about themselves even after listing negative self-relevant thoughts if they write those thoughts with difficulty.

In closing, we posit that under high thinking conditions, inferences about ease are more likely to be applied to one's thoughts, meaning self-validation processes are more likely to operate and there should be an interaction between ease and argument quality on attitudes. That is, regardless of whether ease operates through affect, familiarity, truth, or validity, it should interact with the direction of the thoughts under high thinking (such as when people have to actively generate their own thoughts). In other persuasion paradigms, however, in which thinking is constrained at a lower level, simple inferences of familiarity, truth, or affect stemming from ease are more likely to be applied to the arguments (not to the

thoughts), producing a main effect on attitudes regardless of argument quality. For example, if people are not thinking carefully, weak and strong arguments alike might be seen as more familiar, likable, and true, leading to more persuasion. If people are thinking carefully, however, then the unfavorable thoughts to weak arguments would be seen as more familiar, likable, or true, leading to less persuasion. As noted, the particular inference that comes to mind can depend on a number of different factors. Furthermore, even if more than one inference (e.g., frequency and validity) is made based on ease in a particular situation, those inferences might operate differently at different levels of thinking (e.g., validity concerns are more likely to play a mediating role under high thinking conditions). Indeed, Tormala et al., (2002) showed in a self-persuasion paradigm that both frequency and validity inferences come to mind from ease but only the later mediated the impact of ease on attitudes. This result suggests that many inferences are possible based on ease, but the effect of those inferences on attitudes depends on the circumstances.

Specifying the process by which ease operates is important for persuasion because different mechanisms have implications for the durability and impactfulness of attitudes derived from subjective ease. More thoughtful processes of persuasion tend to be more consequential. Specifically, attitudes changed with high thought tend to be more persistent over time, resistant to change, and predictive of behavior than attitudes change by low thought processes (Petty, Haugtvedt, & Smith, 1995). This aspect is crucial because it shows that the same source variable (e.g., ease) can lead to the same outcome (more persuasion) by serving as a simple cue (for conditions of low elaboration) or by biasing the generation of positive thoughts (for conditions of high elaboration) or by validating those thoughts (for conditions in which people think about their thoughts). Although those effects might seem similar on the surface, the underlying mechanism that produces these effects for ease is different, leading to differences in the strength of the attitudes formed.

Multiple moderators of ease effects

In addition to proposing new processes driving the impact of ease on attitudes, persuasion research also points to unique moderators for each of these processes. Thus, thinking about the mechanisms for ease effects in persuasion also has implications for understanding the circumstances under which ease is more or less likely to matter. Next, we describe two of those moderating variables.

Elaboration

The first moderating factor relevant for understanding ease of retrieval effects in persuasion is elaboration, or extent of thinking. There have been differing perspectives and divergent findings with respect to whether ease effects on persuasion are more likely to emerge under low or high elaboration conditions. As noted earlier, the first explanation for ease effects assumed that they were

heuristic in nature and, thus, most likely to operate when elaboration is low (see Schwarz, 1998). Some evidence has been produced that is consistent with this view (Grayson & Schwarz, 1999; Rothman & Schwarz, 1998; Ruder & Bless, 2003). Other research, however, has pointed to the exact opposite conclusion—that is, that ease effects are more likely to operate under high elaboration conditions, when people have the motivation and ability to attend to and interpret their own cognitive experience (Hirt, Kardes, & Markman, 2004; Tormala et al., 2002; Wänke & Bless, 2000).

This controversy may stem, at least in part, from different perspectives on the mechanism responsible for ease of retrieval effects. Researchers in this area originally assumed that ease of retrieval effects were mediated by availability inferences (see Schwarz, 1998). As explained earlier, difficulty in generating favorable arguments for a tax cut, for example, would be assumed to indicate in a simple cue-based fashion that few favorable arguments exist, implying that the tax cut is questionable. The experience of ease, on the other hand, would presumably suggest that many favorable arguments exist and, thus, that the tax cut is a good idea. Numerosity inferences like these are known to be especially likely under low elaboration conditions (e.g., Blankenship et al., 2008; Petty & Cacioppo, 1984). Thus, according to an availability account, ease of retrieval effects in persuasion should emerge mainly when elaboration is low.

As also noted earlier, however, other research (Tormala et al., 2002, 2007) suggests that ease effects can be mediated not only by perceptions of the number of arguments or thoughts available in memory, but also by feelings of confidence or validity associated with the particular arguments or thoughts retrieved. In particular, the easier it is to generate a list of arguments supporting a tax cut, the more confident one can be that those arguments are valid, or compelling (see also Wänke & Bless, 2000). Confidence has been implicated in ease of retrieval effects in other ways as well. Haddock, Rothman, Reber, and Schwarz (1999), for example, found that the easier it was for people to list arguments in support of their attitudes, the more certain they became of their attitudes. In any case, confidence or certainty adjustments of this nature have been found to be most likely and most influential on other outcomes when elaboration is high (Petty et al., 2002; Petty, Tormala, & Rucker, 2004; Tormala et al., 2002). Ultimately, our multiple roles perspective indicates that ease of retrieval likely plays a role in persuasion through distinct processes under different levels of elaboration likelihood.

Timing

Recent research has suggested that processing disfluency results in more detail-oriented, effortful strategies of problem solving (e.g., Alter et al., 2007). Song and Schwarz (2008) provided support for this idea using the Moses illusion (see Erickson & Mattson, 1981). In this illusion, when people are asked, “How many animals of each kind did Moses take on the ark?” most answer “two” even though the biblical protagonist actually was Noah, not Moses. When participants read the

Moses question in difficult-to-read (versus easy-to-read) font, however, they are more likely to take a careful approach and answer that Moses did not build the ark. This research suggests that compared to difficulty, ease might decrease processing of persuasive messages. We submit that this effect is likely moderated by the timing of the ease induction. In particular, ease (or fluency) might decrease message-processing when a sense of ease is induced before a message, because it increases feelings confidence, which is associated with decreased elaboration (e.g., Tiedens & Linton, 2001; Weary & Jacobson, 1997). As described already, though, our research on self-validation has shown that, by affecting thought confidence, ease of processing can also increase reliance on thoughts when the sense of ease accompanies message-processing (Tormala et al., 2002, 2007).

Bringing these two ideas together, it seems likely that ease can decrease thinking (e.g., by making people confident of their previous views) when induced before message-processing, or it can validate thinking (by making people confident in their thoughts about a message) when induced during or after message-processing. Future research should explore this question further by directly manipulating the timing of ease or fluency manipulations (for a review of other manipulations of timing, see Briñol & Petty, 2009). Also germane, future research should clarify the mental construct to which people apply their feeling of ease (e.g., attitudes vs. thoughts). If they apply ease to their initial attitude, they will likely feel more confident about that attitude and engage in reduced processing. If they apply ease to their thoughts, they should feel more confident about their thoughts and potentially change their attitudes to align them with those thoughts.

Multiple meanings of ease

As noted, people generally construe ease in retrieving thoughts as good by default. That is, all else equal, ease seems to have positive psychological value. For example, research has shown that processing fluency often translates into favorable judgments and feelings, including judgments of familiarity, truth, positive affect, liking, and beauty (e.g., Winkielman & Schwarz, 2001; Winkielman, et al., 2003). However, people need not perceive ease in such terms. Indeed, there could be natural variance in perceptions of ease and even room to manipulate those perceptions. If people's naïve theories regarding the meaning of ease vary (or could be varied), then different judgments could arise following the experience of ease.

In one study investigating this possibility, Briñol, Petty, and Tormala (2006) asked participants to generate either two or ten arguments in favor of a counterattitudinal proposal. In addition, Briñol et al. manipulated the perceived meaning of ease versus difficulty. Half of the participants were told that ease in generating thoughts generally reflected thoughts that were low in complexity and, accordingly, that intelligent people (who have more complex thoughts) typically experienced more difficulty generating thoughts than unintelligent people. The remaining participants received the opposite information implying that ease was an indicator of intelligence. Consistent with expectations, results indicated

that the traditional ease-of-retrieval effect emerged only among participants who received the “ease is good” instructions. That is, among these participants, those listing two positive arguments (an easy task) reported more favorable attitudes than did participants listing ten positive arguments (a difficult task). Among participants receiving the “ease is bad” instructions, the opposite effect emerged; this group reported more favorable attitudes when listing ten rather than two positive arguments. The same pattern was observed when processing ease was manipulated in other ways as well. Thus, people’s interpretation of the *meaning* of processing ease is critical in determining ease’s downstream consequences (see also Unkelbach & Greifeneder, Chapter 2, this volume).

The studies by Briñol et al. (2006) resonate with other research revealing that a variety of metacognitive experiences can have flexible interpretations and effects. For instance, although people generally associate perceptual fluency with familiarity and perceptual difficulty with unfamiliarity or novelty (e.g., Jacoby, Kelley, Brown, & Jasechko, 1989; Monin, 2003), this association is malleable. People can be trained to associate fluency with unfamiliarity (and difficulty with familiarity), which reverses the traditional effect of fluency on familiarity judgments (Unkelbach, 2006; Labbroo & Kim, 2009).

Other psychological constructs related to ease or fluency also have been shown to have divergent attitudinal effects depending on salient naïve theories. In one recent study, Tormala, Clarkson, and Henderson (2011) manipulated people’s perceptions that they had evaluated an issue quickly or slowly. They found that perceiving fast evaluation generally boosted attitude certainty among participants who trusted their intuitive gut reactions, whereas it dampened certainty among those who believed thoughtful analyses were more optimal. Similarly, Tormala et al. found that perceiving fast (versus slow) evaluation increased attitude certainty when people evaluated familiar objects or were expressing their attitudes, but reduced attitude certainty when people evaluated unfamiliar objects or were forming their attitudes. Most germane to the current concerns, mediation analyses suggested that when people expressed their opinions or evaluated familiar objects (about which they presumably already had opinions), fast evaluation indicated greater ease of processing, which boosted certainty in the evaluation that came to mind.

Similar effects have been observed with respect to cognitive depletion, or mental fatigue. In one set of studies, Wan, Rucker, Tormala, and Clarkson (2010) showed that people typically associate cognitive depletion with having invested a great deal of effort thinking about a particular subject. Moreover, Wan et al. found that because thinking carefully about something—or believing that one has done so (Barden & Petty, 2008)—is associated with increased certainty, people who feel depleted while evaluating an object subsequently report greater attitude certainty with respect to that object. However, when people are induced to associate depletion with reduced information processing, this pattern is reversed such that participants who feel depleted report less attitude certainty than participants who do not. Thus, in many different but related domains, people’s judgments regarding the meaning of their metacognitive experiences have been shown to be important determinants of attitudinal outcomes. What is more, people’s

judgments regarding the meaning of their metacognitive experiences are malleable, so people who are having similar metacognitive experiences can show very different judgments depending on their chronic or situational theories about these experiences (see also Job, Dweck, & Walton, 2010).

In sum, the meaning or valence of variables such as ease can vary across individuals and situations. If the meaning changes, the subsequent effects on attitudes also change (Briñol et al., 2006). This implies that the same variable might increase or decrease persuasion as a function of other variables such as naïve theories. For example, repetition of a judgment tends to increase the accessibility of the mental construct repeated, and therefore the ease with which it comes to mind. However, the meaning of that ease when it arises can vary as a function of a number of variables such as the construct repeated and even the number of repetitions. In other words, although repetition generally increases ease, that ease might have different meanings and effects depending on what is being repeated and how often.

In a series of recent studies, Briñol and Petty (2011) explored this possibility. In one experiment, participants were asked to list positive or negative thoughts about a proposal containing a mixture of strong and weak arguments, and to report their attitudes toward it. Next, participants were induced to repeatedly express either the thoughts they listed or the attitudes they reported. The key hypothesis was that repetition of a clear judgment (e.g., an attitude) would increase ease of retrieving the judgment and that ease would be interpreted as something good, producing an increase in attitude confidence. In contrast to attitudes, it was hypothesized that repeating one's thoughts might create a feeling of ease that was interpreted as something bad, undermining thought confidence. This is because thought repetition frequently is associated with rumination, which occurs when one is uncertain of one's thoughts. In essence, it was expected that repetition could increase or decrease certainty depending on whether thoughts or attitudes were being repeated, even though repetition increases ease, or fluency, in both cases. As predicted, the results indicated that repetition increased doubt when thoughts were repeated, whereas it increased confidence when attitudes were repeated. As a consequence of reducing thought-confidence, thought repetition decreased persuasion when the thoughts were positive but increased persuasion when thoughts were negative. These findings are consistent with previous research showing that repetition of mental content can be associated with either positive or negative consequences. For example, Holland, Verplanken, and van Knippenberg (2003) found that repeating one's attitude increased its accessibility and fostered greater attitude certainty (see also Petrocelli, Tormala, & Rucker, 2007). In contrast, Segerstrom, Stanton, Alden, and Shortridge (2003) showed that repeating thoughts that are perceived as uncontrollable (e.g., rumination) is associated with greater doubt and less well-being.

In addition to the specific construct rehearsed, it could be that the number of repetitions matters. For example, although more repetitions of a construct would increase ease relative to fewer repetitions of the same construct, the meaning of the ease that comes from excessive repetition might differ. That is, too many

repetitions still increase ease but might trigger doubt if continuing repetition signals that something is wrong with the attitude or thought in question. The logic would be similar to what has been observed in the literature on mere exposure effects (e.g., Cacioppo & Petty, 1979; Zajonc, 1968; Bornstein, 1989), where initial repetition leads to positive reactions but further repetitions can lead to tedium and negative reactions (see also Herzog & Hertwig, Chapter 12, this volume).

Recent studies have uncovered precisely this type of curvilinear effect in the classic mere thought paradigm. Clarkson, Tormala, and Leone (2011) asked participants to think about an attitudinal issue for a brief, moderate, or extended period and then examined attitude polarization versus depolarization as a function of time. Clarkson et al. found that although attitude polarization increased when participants thought about an issue for a moderate as opposed to brief period of time, this effect was undone and even reversed at extended period of times such that attitudes actually depolarized when participants thought about the issue for too long. Moreover, this curvilinear effect of time on polarization was driven by perceived ease of thinking and thought confidence. The curvilinear effect of thought time on attitude polarization was initially attributed to the setting in of “reality constraints” as people thought too much about an attitude object (e.g., “this ice cream can’t be that good!”; see Tesser, 1978). The self-validation hypothesis provides an alternative account. In particular, participants found it difficult to keep thinking new thoughts about an issue when the timeframe was too long, and this difficulty undermined their confidence in the thoughts they already had. Because thoughts were mostly attitude-consistent, reduced thought confidence led to attitude depolarization.

Summary and conclusions

The classic work on ease of retrieval, and much of the work we have discussed in this chapter, has relied on a paradigm in which the number of thoughts people generate is experimentally manipulated. In closing this review, it is important to note that there are many other sources of ease (and processing fluency more generally) that can be studied while holding the actual number of thoughts constant. For example, ease of processing is affected not only by exposure frequency (repetition and, thus, accessibility), but also by exposure duration, visual clarity, visual contrast, simplicity, symmetry, balance, prototypicality, priming, context congruity, and rhyme, among other variables (for a review see Alter & Oppenheimer, 2009). In one persuasion study exploring color contrast effects, Briñol et al. (2006) showed that people were more persuaded by strong arguments but less for weak arguments when the message appeared in a standard and easy-to-read format (black letters on a white background) rather than an unusual and difficult-to-read format (yellow letters on a pink background; see also Reber & Schwarz, 1999).

In closing, this review has described the ways ease, or processing fluency more generally, can affect attitude change and persuasion through different

mechanisms in different circumstances. Although we have described the multiple roles ease can have in persuasion, self-validation processes (i.e., thought confidence) have been highlighted as a more recently discovered mechanism by which variables such as ease can impact attitudes and other judgments. Of importance, the conditions necessary for each of these processes to operate have been outlined. Some of these effects have been studied, whereas others demand future attention to learn more about the many roles ease can play in this domain. As described in this chapter, specifying these different roles is important because different mechanisms have implications for the durability and impactfulness of attitudes derived from subjective ease. That is, when ease produces attitudinal effects is a thoughtful way (e.g., biasing or validating thinking), the resulting attitudes are more likely to persist over time, resist change, and predict behavior than when ease produces effects in a relatively non-thoughtful way (e.g., serving as input to a heuristic). Moreover, because the different mechanisms operate in different contexts, appreciation of the multiple roles for ease can shed new light on situations in which ease effects should be more or less likely to emerge, and more or less likely to be consequential. Recent work has made great strides in understanding ease effects in attitude change, but there is substantial room to deepen our insights in this domain.

References

- Alter, A. L., & Oppenheimer, D. M. (2009). Uniting the tribes of fluency to form a metacognitive nation. *Personality and Social Psychology Review*, 13, 219–235.
- Alter, A. L., Oppenheimer, D. M., Epley, N., & Eyre, R. N. (2007). Overcoming intuition: Metacognitive difficulty activates analytic reasoning. *Journal of Experimental Psychology: General*, 136, 569–576.
- Anderson, C. A. (1983). Imagination and expectation: The effect of imagining behavioral scripts on personal intentions. *Psychological Bulletin*, 93, 30–56.
- Anderson, C. A., Lepper, M. R., & Ross, R. (1983). Perseverance of social theories: The role of explanation in the persistence of discredited information. *Journal of Personality and Social Psychology*, 39, 1037–1049.
- Barden, J., & Petty, R. E. (2008). The mere perception of elaboration creates attitude certainty: Exploring the thoughtfulness heuristic. *Journal of Personality and Social Psychology*, 95, 489–509.
- Blankenship, K. L., Wegener, D. T., Petty, R. E., Detweiler-Bedell, B., & Macy, C. L. (2008). Elaboration and consequences of anchored estimates: An attitudinal perspective on numerical anchoring. *Journal of Experimental Social Psychology*, 44, 1465–1476.
- Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research, 1968–1987. *Psychological Bulletin*, 106, 265–289.
- Briñol, P., & DeMarree, K. G. (Eds.), (2012). *Social metacognition*. New York: Psychology Press.
- Briñol, P., DeMarree, K. G., & Smith, K. (2010). The role of embodied change in perceiving and processing facial expressions of others. *Behavioral and Brain Sciences*, 33, 437–438.
- Briñol, P., & Petty, R. E. (2003). Overt head movements and persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, 84, 1123–1139.

- (2009). Persuasion: Insights from the self-validation hypothesis. In M. P. Zanna (ed.) *Advances in experimental social psychology* (Vol. 41, pp. 69–118). New York: Elsevier.
- (2011). Thought repetition: The role of the object of repetition and the number of times. Unpublished manuscript.
- (2012). The history of attitudes and persuasion research. In A. Kruglanski & W. Stroebe (Eds.), *Handbook of the history of social psychology*. (pp. 285–320) New York: Psychology Press.
- Briñol, P., Petty, R. E., & Barden, J. (2007). Happiness versus sadness as a determinant of thought confidence in persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, 93, 711–727.
- Briñol, P., Petty, R. E., & Tormala, Z. L. (2006). The malleable meaning of subjective ease. *Psychological Science*, 17, 200–206.
- Briñol, P., Petty, R. E., & Wagner, B. C. (2012). Embodied validation: Our body can change and also validate our thoughts. In P. Briñol, & K. G. DeMarree (Eds.), *Social metacognition*. (pp. 219–240) New York: Psychology Press.
- Cacioppo, J. T., & Petty, R. E. (1979). The effects of message repetition and position on cognitive responses, recall, and persuasion. *Journal of Personality and Social Psychology*, 37, 97–109.
- Cialdini, R. B., & Petty, R. E. (1981). Anticipatory opinion effects. In R. Petty, T. Ostrom, & T. Brock (Eds.), *Cognitive responses in persuasion* (pp. 217–235). Hillsdale, NJ: Erlbaum.
- Clarkson, J. J., Tormala, Z. L., & Leone, C. (2011). A self-validation perspective on the mere thought effect. *Journal of Experimental Social Psychology*, 47, 449–454.
- DeSteno, D., Petty, R. E., Wegener, D. T., & Rucker, D. D. (2000). Beyond valence in the perception of likelihood: The role of emotion specificity. *Journal of Personality and Social Psychology*, 78, 397–416.
- Erickson, T. A., & Mattson, M. F. (1981). From words to meaning: A semantic illusion. *Journal of Verbal Learning and Verbal Behavior*, 20, 540–552.
- Garcia-Marques, T., & Mackie, D. (2000). The positive feeling of familiarity: Mood as an information processing regulation mechanism. In J. Forgas and H. Bless (Eds.), *The message within: The role of subjective experiences in social cognition and behavior*. Philadelphia: Psychology Press
- Grayson, C. E., & Schwarz, N. (1999). Beliefs influence information processing strategies: Declarative and experiential information in risk assessment. *Social Cognition*, 17, 1–18.
- Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. Greenwald, T. Brock, & T. Ostrom (Eds.), *Psychological foundations of attitudes*. New York: Academic Press.
- Haddock, G., Rothman, A. J., Reber, R., & Schwarz, N. (1999). Forming judgments of attitude certainty, intensity, and importance: The role of subjective experiences. *Personality and Social Psychology Bulletin*, 25, 771–782.
- Hirt, E. R., Kardes, F. R., & Markman, K. D. (2004). Activating a mental simulation mind-set through generation of alternatives: Implications for debiasing in related and unrelated domains. *Journal of Experimental Social Psychology*, 40, 374–383.
- Holland, R., W., Verplanken, B., & van Knippenberg, A. (2003). From repetition to conviction: Attitude accessibility as a determinant of attitude certainty. *Journal of Experimental Social Psychology*, 39, 594–601.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion: Psychological studies of opinion change*. New Haven, CT: Yale University Press.

- Huesmann, L. R., Eron, L. D., Klein, R., Brice, P., & Fischer, P. (1983). Mitigating the imitation of aggressive behaviors by changing children's attitudes about media violence. *Journal of Personality and Social Psychology*, 44, 899–910.
- Jacoby, L. L., Kelley, C. M., Brown, J., & Jasechko, J. (1989). Becoming famous overnight: Limits on the ability to avoid unconscious influences of the past. *Journal of Personality and Social Psychology*, 56, 326–338.
- Janis, I. L., & King, B. T. (1954). The influence of role-playing on opinion change. *Journal of Abnormal and Social Psychology*, 49, 211–218.
- Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego depletion – Is it all in your head?: Implicit theories about willpower affect self-regulation. *Psychological Science*, 21, 1686–1693.
- Kühnen, U. (2010). Manipulation-checks as manipulation: Another look at the ease of retrieval heuristic. *Personality and Social Psychology Bulletin*, 36, 47–58.
- Labroo, A. A., & Kim, S. (2009). The “instrumentality” heuristic: Why metacognitive difficulty is desirable during goal pursuit. *Psychological Science*, 20, 127–134.
- Moons, W. G., Mackie, D. M., & Garcia-Marques, T. (2009). The impact of repetition-induced familiarity on agreement with weak and strong arguments. *Journal of Personality and Social Psychology*, 96, 32–44.
- Monin, B. (2003). The warm glow heuristic: When liking leads to familiarity. *Journal of Personality and Social Psychology*, 85, 1035–1048.
- Petrocelli, J. V., Tormala, Z. L., & Rucker, D. D. (2007). Unpacking attitude certainty: Attitude clarity and attitude correctness. *Journal of Personality and Social Psychology*, 92, 30–41.
- Petty, R. E., & Briñol, P. (2012). The Elaboration Likelihood Model. In P. A. M. Van Lange, A. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology*. (Vol.1, pp. 224–245) London: Sage.
- Petty, R. E., & Briñol, P. (2009). Implicit ambivalence: A meta-cognitive approach. In R. E. Petty, R. H. Fazio, & P. Briñol (Eds.), *Attitudes: Insights from the new implicit measures* (pp. 119–161). New York: Psychology Press.
- Petty, R. E., Briñol, P., & Tormala, Z. L. (2002). Thought confidence as a determinant of persuasion: The self-validation hypothesis. *Journal of Personality and Social Psychology*, 82, 722–741.
- Petty, R. E., Briñol, P., Tormala, Z. L., & Wegener, D. T. (2007). The role of meta-cognition in social judgment. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: A handbook of basic principles* (2nd ed., pp. 254–284). New York: Guilford Press.
- Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on response to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, 46, 69–81.
- (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Petty, R. E., Fabrigar, L. R., & Wegener, D. T. (2003). Emotional factors in attitudes and persuasion. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 752–772). Oxford: Oxford University Press.
- Petty, R. E., Haugtvedt, C., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 93–130). Mahwah, NJ: Erlbaum.
- Petty, R. E., Ostrom, T. M., & Brock, T. C. (1981). *Cognitive responses in persuasion*. Hillsdale, NJ: Erlbaum.

- Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different roles for affect under high and low elaboration conditions. *Journal of Personality and Social Psychology*, 64, 5–20.
- Petty, R. E., Tormala, Z. L., & Rucker, D. D. (2004). Resisting persuasion by counterarguing: An attitude strength perspective. In J. T. Jost, M. R. Banaji, & D. A. Prentice (Eds.), *Perspectivism in social psychology: The yin and yang of scientific progress* (pp. 37–51). Washington, DC: American Psychological Association.
- Petty, R. E., Wheeler, S. C., & Bizer, G. (2000). Matching effects in persuasion: An elaboration likelihood analysis. In G. Maio & J. Olson (Eds.), *Why we evaluate: Functions of attitudes* (pp. 133–162). Mahwah, NJ: Erlbaum.
- Reber, R., & Schwarz, N. (1999). Effects of perceptual fluency on judgments of truth. *Consciousness and Cognition*, 8, 338–342.
- Rothman, A. J., & Schwarz, N. (1998). Constructing perceptions of vulnerability: Personal relevance and the use of experiential information in health judgments. *Personality and Social Psychology Bulletin*, 24, 1053–1064.
- Ruder, M., & Bless, H. (2003). Mood and the reliance on the ease of retrieval heuristic. *Journal of Personality and Social Psychology*, 85, 20–32.
- Sanna, L. J., & Lundberg, K. B. (2012). The experience of thinking: Metacognitive ease, fluency, and context. In P. Briñol, & K. G. DeMarree (Eds.), *Social metacognition*. (pp. 179–198) New York: Psychology Press.
- Schwarz, N. (1998). Accessible content and accessibility experiences: The interplay of declarative and experiential information in judgment. *Personality and Social Psychology Review*, 2, 87–99.
- (2004). Meta-cognitive experiences in consumer judgment and decision making. *Journal of Consumer Psychology*, 14, 332–348.
- Schwarz, N., Bless, H., & Bohner, G. (1991). Mood and persuasion: Affective status influence the processing of persuasive communications. In M. Zanna (ed.) *Advances in experimental social psychology* (Vol. 24, pp. 161–197). San Diego, CA: Academic Press.
- Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, 61, 195–202.
- Segerstrom, S. C., Stanton, A. L., Alden, L. E., & Shortridge, B. E. (2003). A multidimensional structure for repetitive thought: What's on your mind, and how, and how much. *Journal of Personality and Social Psychology*, 85, 909–921.
- Sherman, S. J., Cialdini, R. B., Schwartzman, D. F., & Reynolds, K. D. (1985). Imagining can heighten or lower the perceived likelihood of contracting a disease: The mediating effect of ease of imagery. *Personality and Social Psychology Bulletin*, 16, 405–418.
- Song, H., & Schwarz, N. (2008). Fluency and the detection of distortions: Low processing fluency attenuates the Moses illusion. *Social Cognition*, 26, 791–799.
- Strack, F., & Hannover, B. (1996). Awareness of influence as a precondition for implementing correctional goals. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 579–596). New York: Guilford.
- Tesser, A. (1978). Self-generated attitude change. In L. Berkowitz (ed.) *Advances in experimental social psychology* (Vol. 11, pp. 289–338). New York: Academic Press.
- Tesser, A., Martin, L., & Mendolia, M. (1995). The impact of thought on attitude extremity and attitude-behavior consistency. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 73–92). Mahwah, NJ: Erlbaum Associates.

- Tiedens, L. Z. & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, 81, 973–988.
- Tormala, Z. L., Clarkson, J. J., & Henderson, M. D. (2011). Does fast or slow evaluation foster greater certainty? *Personality and Social Psychology Bulletin*, 37, 422–434.
- Tormala, Z. L., Falces, C., Briñol, P., & Petty, R. E. (2007). Ease of retrieval effects in social judgment: The role of unrequested cognitions. *Journal of Personality and Social Psychology*, 93, 143–157.
- Tormala, Z. L., Petty, R. E., & Briñol, P. (2002). Ease of retrieval effects in persuasion: A self-validation analysis. *Personality and Social Psychology Bulletin*, 28, 1700–1712.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1130.
- Unkelbach, C. (2006). The learned interpretation of cognitive fluency. *Psychological Science*, 17, 339–345.
- (2007). Reversing the truth effect: Learning the interpretation of processing fluency in judgments of truth. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 33, 219–230.
- Wan, E. W., Rucker, D. D., Tormala, Z. L., & Clarkson, J. J. (2010). The effect of regulatory depletion on attitude certainty. *Journal of Marketing Research*, 47, 531–541.
- Wänke, M., & Bless, H. (2000). The effects of subjective ease of retrieval on attitudinal judgments: The moderating role of processing motivation. In H. Bless & J. P. Forgas (Eds.), *The message within: The role of subjective experience in social cognition and behavior* (pp. 143–161). Philadelphia, PA: Taylor & Francis.
- Watts, W. A. (1967). Relative persistence of opinion change induced by active compared to passive participation. *Journal of Personality and Social Psychology*, 5, 4–15.
- Weary, G., & Jacobson, J. A. (1997). Causal uncertainty beliefs and diagnostic-information seeking. *Journal of Personality and Social Psychology*, 73, 839–848.
- Wegener, D. T., & Petty, R. E. (1997). The flexible correction model: The role of naive theories of bias in bias correction. In M. P. Zanna (ed.) *Advances in experimental social psychology* (Vol. 29, pp. 141–208). Mahwah, NJ: Erlbaum.
- Winkielman, P., & Cacioppo, J. T. (2001). Mind at ease puts a smile on the face: Psychophysiological evidence that processing facilitation elicits positive affect. *Journal of Personality and Social Psychology*, 81, 989–1000.
- Winkielman, P., & Schwarz, N. (2001). How pleasant was your childhood? Beliefs about memory shape inferences from experienced difficulty of recall. *Psychological Science*, 12, 176–179.
- Winkielman, P., Schwarz, N., Fazendeiro, T.A., & Reber, R. (2003). The hedonic marking of processing fluency: Implications for evaluative judgment. In J. Musch & K.C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp. 189–217). Mahwah, NJ: Erlbaum.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9, 1–27.