

What Do We Do Unconsciously? And How?

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In this reply, we endorse Chartrand's (2005) taxonomy of conscious awareness for different stages of consumer decisions affected by environmental cues. In addition, we attempt to broaden the scope of this taxonomy by discussing its usefulness for consumer decisions in general. We generally support Simonson's (2005) claim that research based on consumers as conscious decision makers is indeed predictive of a wide variety of behavior. However, we also argue that the importance of consciousness should not be overstated. Conscious processes observed in a research laboratory are not representative of conscious processes in real life. The alternative model to describe effects of the environment on behavior by Janiszewski and van Osselaer (2005) may be useful to explain automaticity in goal-directed behavior, but it poorly describes other automatic behaviors.

In our target article (Dijksterhuis, Smith, van Baaren, & Wigboldus, 2005), we argued that consumer behavior is strongly influenced by cues in the environment. We are usually unaware of these cues, and we are almost always unaware of the fact that we are indeed influenced by such cues. Stimuli as diverse as music, scent, and other people permeate our decisions and change our behavior continuously and automatically. Clearly, our bold characterization of the consumer as an almost mindless "victim" of the environment evoked highly interesting and stimulating responses. Chartrand (2005) called for a more precise treatment of conscious awareness in consumer behavior. Simonson (2005) argued that we overstated our case and that consumers are not quite as mindless as we proposed. Finally, Janiszewski and van Osselaer (2005) offered an alternative explanation for the nature of the unconscious psychological processes we described. In our reply, we first discuss some thoughts elicited by the commentaries of Chartrand and Simonson. Then, we comment on Janiszewski and van Osselaer.

To emphasize the assumed importance of the unconscious in shopping behavior, we used the example of a shopping trip in the local supermarket. During such a trip, many choices are made largely unconsciously. We argued that at least some of the choices our hypothetical shopper made were caused by subtle environmental forces and therefore were introspectively blank (e.g., "Why did I buy ice cream? Well, I guess I

felt like it"). One of the items bought in our example was peanut butter, and the reason our hypothetical shopper bought it was that a small boy running through the aisles reminded the shopper of his or her 5-year-old nephew, an avid peanut butter fan.

Simonson (2005) rightly remarked that such an example does not yet explain which particular kind of peanut butter someone buys and that such a decision is often dependent on at least some thoughts about attributes such as brand, price, or fat content: "Overall, although the shopper would not recognize what triggered the peanut butter idea, the choice would involve a set of mostly conscious processes" (Simonson, 2005, p. 212). This remark points to the importance of Chartrand's (2005) proposed taxonomy of awareness. One can (as we did in our target article) make general claims about whether people are consciously aware of consumer decisions, but often people are consciously aware of some aspects and not of others, as both Chartrand and Simonson noted. Chartrand distinguished between three types of awareness, arguing that one can be aware or unaware of (a) the environmental cue or cues that can affect behavior, (b) the processes by which these cues affect behavior, and (c) the outcome itself—the behavior or the decision.

In addition, Chartrand (2005) described recent research programs on the relation between the environment and consumer behavior. The phenomena under investigation were classified according to her own taxonomy, thereby demonstrating its utility. If we adopt a bird's-eye view of these different research phenomena, we may draw the following conclusions: (a) Consumers are *sometimes* aware of the environmental cues that can affect their behavior (Stage A),

(b) consumers are *usually not aware* of the processes by which such cues affect behavior (Stage B), and (c) consumers are *usually aware* of the outcome of the process (Stage C).

When we move beyond the empirical work by Chartrand (2005) and colleagues to explain effects of the environment on consumer behavior in real life, we think these conclusions generally hold, but with two qualifications. The first is that stating that one is consciously aware of Stage C, the outcome, is often trivial in the realm of consumer behavior. It means that it is uncommon to buy peanut butter without ever becoming aware of buying peanut butter. However, as Chartrand pointed out, even if the average person is normally aware of what he or she is doing in a broad sense, the person may still lack meta-awareness of the behavioral details, and thus of the specific effect of these cues. For example, in one experiment, participants primed with the goal to be cooperative indeed were more cooperative in a resource dilemma task, but they did not report being any more cooperative than unprimed participants, and their self-reports were uncorrelated with their actual behavior (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001). Such opaqueness of the specific nature of one's behavior can easily occur in a consumer situation. For example, seeing someone eat a large quantity of ice cream leads individuals to eat more ice cream themselves. Although these people are clearly aware that they are eating ice cream, it has been shown that they are not aware of the greater amount they eat (Johnston, 2002). Similarly, the hunger-inducing smell of freshly baked bread wafting from the bakery may cause a shopper to buy more groceries than usual, but the shopper may not notice how many extra items are in the shopping cart—at least, not until the cashier rings them up and the total appears on the register. Such meta-awareness is important because if consumers are unaware of such changes in their behavior—either because such changes are subtle or because consumers do not closely monitor their actions—they are unlikely to counter the influence of these cues.

The second qualification is more important for our argument. It is tempting to overestimate our awareness of environmental cues (Stage A). We may think we are often aware of them, because instances during which we were indeed aware of them are relatively salient and memorable. We tend to underestimate the frequency with which we are unaware of environmental cues because, during conscious reflection, these instances are hard to find in memory. As Jaynes (1976) once said,

Consciousness is a much smaller part of our mental life than we are conscious of, because we cannot be conscious of what we are not conscious of. ... It is like asking a flashlight in a dark room to search around for something that does not have any light shining upon it. (p. 23)

An interesting question is whether Chartrand's (2005) taxonomy can be extended to the broader realm of consumer

choices, including those not largely based on environmental cues. One could posit that Stage A refers to awareness of all variables that drive a certain consumer decision. In the case of peanut butter, this would include the running boy, the fat content, the price, the music played in the supermarket, one's relative hunger, and so forth. Stage B and C are the same as in Chartrand's formulation. Stage B refers to awareness of the processes by which such variables affect behavior, whereas Stage C refers to awareness of the outcome. Using this taxonomy for consumer behavior in general, we may again conclude that people are usually aware of the outcome of a process (Stage C) and that people are usually not aware of (at least some aspects of) the process (Stage B). That is, people's self-insight tends to be limited and their introspective ability flawed (e.g., Nisbett & Wilson, 1977), as Simonson (2005) acknowledged.

But what about Stage A? Are we usually aware of the critical variables that drive our decisions? In Simonson's (2005) view we indeed are, at least in the sense that we consciously process them. That is, he argued that consumer decisions are primarily driven by conscious and willful evaluation of relevant aspects. In our view, this is only true for infrequent decisions of high importance (e.g., buying a house).¹ In the supermarket, however, we are often not aware of the variables driving our choices, even when these choices are not merely driven by cues in the environment.

Simonson (2005) discussed interesting findings to provide evidence for this conscious processing. However, we feel that these findings do not support his own view of a decisive consciousness. For instance, in research by Simonson and Tversky (1992), consumers were more likely to pay \$6 for an attractive pen if they also had the option to pay \$6 for a less attractive pen. Simonson concluded that, although participants are not aware of the impact of the inferior choice, the effect is driven by "detailed processing of the options values and the set configuration" (p. 214). But do these findings speak to the issue of conscious awareness of consumer choice in real life? In our view, they do not. First, participants engaged in relatively detailed processing merely because the experimenter (implicitly or explicitly) asked them to. Second, such conscious processing is not necessary for such effects to occur. An abundance of social psychological research shows judgmental contrast effects: We find people less aggressive after comparing them with Hitler (Herr, 1986), we find ourselves less intelligent after being primed with Einstein (Dijksterhuis et al., 1998), and we judge a building to be taller after being primed with one less tall (Mussweiler, 2003). Moreover, these effects occur even

¹In fact, recent research suggests that such complex decisions are actually best left to unconscious processing (Dijksterhuis, 2004). Thinking consciously about complex decisions (e.g., deciding which one of four apartments is the most attractive one) is sometimes counterproductive, whereas a period of distraction ("to sleep on it") is beneficial in that it improves the quality of the decision.

when the comparison stimulus is primed subliminally (Stapel & Blanton, 2004). In other words, conscious awareness of the inferior pen is not even necessary to explain Simonson and Tversky's (1992) results.

In general, even if consumer decisions involve some degree of conscious processing, it is important to demonstrate that this processing is critical to the actual decision. Conscious processing may occur but be superfluous. For example, a classic phenomenon in social psychology is behavior-induced attitude change, where individuals whose behavior and attitude conflict tend to change their attitudes to be more in line with their behavior. Such attitude change was thought to involve conscious processing of the discrepancy between attitude and behavior (e.g., Festinger, 1957). This assumption of consciousness was fruitful, inspiring decades of experiments. However, once it was directly tested, it was found to be invalid: Even individuals who are incapable of consciously remembering this discrepancy (i.e., amnesic patients) or of consciously processing it (i.e., those under cognitive load) still change their attitudes accordingly (Lieberman, Ochsner, Gilbert, & Schacter, 2001). For us to be certain that consciousness is of importance in consumer choice and behavior, we must observe what happens when the possibility of conscious thought is removed. Otherwise, we researchers become like the participants in Nisbett and Wilson's (1977) experiments, telling stories about the finer weave on the pair of socks we chose when what really mattered was its position in the display.

Another example is the work by Liu and Simonson (2004). Here, some participants were asked to rank a set of chocolates, whereas others were asked to rate the various chocolates on a scale. Next, participants were given the choice between \$2 and their favorite chocolate. Participants who ranked the options were more likely to select their favorite chocolate over the \$2. Again, it was concluded that the choice of the participants was based on the conscious evaluation of the options. There is no arguing with this, but again, it does not speak to conscious awareness of consumer choice in real life. Participants evaluated the options consciously simply because they were asked to do so. However, in supermarkets people are not asked to rank different brands of peanut butter before they buy them. In sum, whereas Simonson (2005) claimed that unconscious influences are much less likely to operate in the clean form in which they are typically studied, this "artificial cleanliness" may be a much bigger problem for the study of conscious influences. Conscious processes in laboratory experiments are almost always the result of explicit requests by experimenters, and do not speak to the conditions under which task-relevant conscious processes occur in real life.

We would like to emphasize that we do agree with another of Simonson's (2005) general observations. It is indeed true that the assumption that consumers base their choices on conscious, willful evaluation explains a wide range of phenomena quite well. This certainly does not mean that people

are usually consciously aware of the factors underlying their choices, but it does mean that this general approach is good at predicting real behavior. Simonson also provided the major reason for why the "unconscious approach" lacks this explanatory power: Environmental cues are often less predictable and less stable and enhance noise levels more than anything else. The goal of our target article was to emphasize the importance of the unconscious and at the same time emphasize that we run the risk of greatly overestimating the importance of consciousness. However, formulating a detailed and systematic a priori prediction of unconscious inputs to consumer choice is indeed difficult.

Although Janiszewski and van Osselaer (2005) agreed with our general statement of the power of the unconscious, they offered an alternative explanation for how the environment specifically affects behavior. They proposed a "behavioral choice model" whereby behavior results from selection. They assumed that various percepts (and other constructs) can activate behaviors at the same time and that actual overt behavior is the consequence of an active selection of one such action over others. Their model is reminiscent of some older models of controlled behavior (e.g., Norman & Shallice, 1986) as well as more recent models aimed at explaining goal-related behavior (Kruglanski et al., 2002). Indeed, we believe their model is useful in explaining goal-related behavior, including behavior in situations where goal pursuit takes place largely unconsciously. The explanatory power of their model in the domain of goals notwithstanding, we think this same model poorly describes effects of perception on behavior.

Janiszewski and van Osselaer (2005) concluded that our "perception-behavior link" formulation fails to explain various findings. Unfortunately, this conclusion is based on a misrepresentation of our ideas. What we failed to explain, according to Janiszewski and van Osselaer, are findings where effects of perception on behavior do not ensue or where these effects are moderated. However, as we have elaborately argued before (e.g., Dijksterhuis & Bargh, 2001; Dijksterhuis, Bargh, & Miedema, 2000; Dijksterhuis & van Knippenberg, 2000), we do not assume that perception always leads to corresponding behavior. *Instead, our formulation entails that the default consequence of perception is corresponding behavior, but that this effect can be inhibited or moderated by various factors.* For example, we know that self-awareness (Dijksterhuis, Bargh, et al., 2000; Dijksterhuis & van Knippenberg, 2000; van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003) and conflicting goals can inhibit or "overrule" effects of the perception-behavior link (Macrae & Johnston, 1998). In fact, many of the known moderators have been identified in research that we have done ourselves (Dijksterhuis, Aarts, Bargh, & van Knippenberg, 2000; Dijksterhuis, Bargh, et al., 2000; Dijksterhuis et al., 1998; Dijksterhuis & van Knippenberg, 2000; van Baaren et al., 2003).

The fundamental difference, then, is that we propose a process whereby perception affects behavior except when

this is inhibited or moderated, whereas Janiszewski and van Osselaer (2005) proposed a process whereby perception does not affect behavior except when this is facilitated by some additional selection process. Dijksterhuis and Bargh (2001) extensively discussed these two possibilities (referred to as the “inhibitor” option and the “facilitator” option) and concluded in favor of the inhibitor option. One reason to prefer the inhibitor option is its consistency with what we know about evolution. In a large variety of species (e.g., fish, frogs) a direct *unmoderated* link exists between perception and behavior (e.g., Ingle, 1973; Pitcher, 1979). New species develop via the addition of new brain parts to existing old ones. Old modules do not suddenly cease to exist; instead, new moderators are added. Our model is clearly consistent with this idea, whereas the behavioral choice model is at odds with it. The assumed selection process itself is not problematic, but the behavioral choice model assumes that the perception–behavior link is at some point in evolution thrown away. This is not how things work.

However, and perhaps more important, in our view the behavioral selection model has great difficulty explaining the majority of findings in the perception–behavior link domain. The major problem of the model is that it *always* assumes selection. Let us use the example that Janiszewski and van Osselaer (2005) used, the experiment by Bargh, Chen, and Burrows (1996) in which participants walk slowly after being primed with the older person stereotype. Janiszewski and van Osselaer said that

The person has a number of behavioral options for getting to the elevator, including running, skipping, brisk walking, leisurely walking, walking backward, or crawling. Each of these means will have a level of activation, owing to prior use, direct priming, and indirect priming, and a predictive association to the goal. ... The choice of a means is volitional and reasoned, even if it is nonconscious. (p. 221)

This is unlikely. People would indeed be very inefficient if they had to make a volitional and reasoned choice between crawling and walking every time they want to move themselves.

However, their example also misrepresents the experiment. Many effects of the perception–behavior link are not instances of the instigation of new behavior. Instead, the behavior itself is usually elicited by other means (such as a request by an experimenter), and perception (i.e., priming) only changes the parameters of the behavior. Participants in the Bargh, Chen, and Burrows (1996) experiment did not walk to the elevator because of the prime. They walked to the elevator because the experimenter dismissed them. The prime only affected the *speed* with which they walked. It is puzzling to conceive of this as the consequence of a selection process. It also seems unnecessary (and not very parsimonious) to assume such an active process to guide something so

basic, as if we need a volitional and reasoned selection to determine the speed with which we breathe.

Matters become worse when one takes into account more basic actions. We know we imitate very subtle changes in facial expressions. We know we imitate yawning. We know we imitate nose rubbing. Why would one hypothesize a selection process that decides to sometimes imitate such actions and sometimes not? And on what basis does this selection process decide? Janiszewski and van Osselaer (2005) hypothesized that an important selection criterion is the relative contribution of the behavior to achieving a goal. But what goal is served by nose rubbing? The idea of a selection procedure that looks at whether behavior is in the service of current goals is even more problematic than the assumption of selection itself. Social perception can lead people to become more stupid (Dijksterhuis & van Knippenberg, 1998), forgetful (Dijksterhuis, Aarts, et al., 2000), and bad at mathematics (Dijksterhuis & Bargh, 2001) to name just a few examples. If such behavior would have passed a selection process responsible for monitoring goal pursuit, either people hold active goals that are not very good for them (such as the goal to come across as stupid), or this is a poorly designed selection process indeed.

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