THE CONSTRUCT OF CONSCIOUSNESS IN CONSUMER RESEARCH

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Contribution statement. In this paper, we examine the field’s treatment of the construct of consciousness, highlighting opportunities to build more clarity (and skepticism) into our thinking about this important construct. We found a good deal of conceptual ambiguity regarding in researcher’s treatment of consciousness. By taking a fresh look at consciousness, we call attention to opportunities for consumer behavior researchers to increase the conceptual rigor with which we as a field develop causal accounts of behavior, and also to increase the degree to which such accounts are conceptually integrated and consistent with findings from adjoining fields (e.g., neuroscience and physiology). In the spirit of Lynch and Srull (1982), we encourage researchers to take a deeper look ‘under the hood,’ and bring more knowledge from adjoining disciplines to bear on our theories and hypotheses. Doing so should aid us consumer researchers in our efforts to develop fuller explanatory accounts of major phenomena (i.e., choice, self-control, and persuasion).
An outsized focus on the explanatory value of conscious thought can hamper opportunities to more rigorously examine the influence of low-level, bodily, or otherwise unconscious drivers of consumer behavior. This paper proposes a more circumscribed conceptualization of consciousness, distinguishing it from other higher-order mental processes such as deliberation and control. We outline the benefits of this more precise, disaggregated, and minimized perspective on consciousness for guiding research on choice, self-control, and persuasion. Last, in a concluding set of recommendations centering on theory, methods, and training, we suggest ways for consumer researchers to more critically evaluate whether the contents of consciousness, compared to more biological and mechanistic factors, play a meaningful role in driving behavior.
It is a common intuition that conscious thought leads to behavior (Dalton and Spiller 2012; Dulany 1968; Fishbein and Ajzen 1975; Gollwitzer 1999; Ryan and Bonfield 1975; Sheppard, Hartwick, and Warshaw 1988; Wegner 2002). Indeed, when people ascribe reasons for their own moment-to-moment behavior—or the behavior of others—they almost always point to conscious will as the immediate causal force behind action (Alba, Vanhouche, and van Osselaer 2009; Baumeister, Masicampo, and Vohs 2008; Clarkson et al. 2015; Searle 1983; Vohs and Schooler 2008). This tendency to attribute action to conscious thought emerges early in childhood, persists into adulthood, and is quite reasonable from an ecological and evolutionary perspective (Leslie, Friedman and German 2004). Thus, the way people think about the causes of behavior is based on their own personal experience of conscious will (“I thought about buying it, then I bought it; therefore the thought caused me to buy it”). For the everyday situations consumers face, this default way of thinking about causes makes sense for efficiently predicting and explaining behavior. However, when attempting to scientifically determine the root causes of behavior, these types of default assumptions should be critically examined.

In this paper we examine the degree to which this intuitive view of consciousness affects the conclusions theorists in our field draw about the causes of consumer behavior. In adjoining disciplines such as cognitive psychology and neuroscience, researchers have long assumed that it is “the exception, not the rule, when thinking is conscious” (Lachman, Lachman, and Butterfield 1979, p. 207). Yet, despite earlier efforts (Lynch and Srull 1982), this assumption does not fully characterize modern-day consumer research. Instead, conscious thought is still often assumed to play a causal, mediating role in consumer outcomes (e.g., the unstated null hypothesis appears to be that consumer behavior is caused by conscious thinking unless shown otherwise; Dijksterhuis et al. 2014; Evans 2014).
Our analysis reveals that there is substantial fuzziness in how the field conceptualizes consciousness. Compounding this, we find that although researchers typically demand (appropriately) high standards of evidence for ruling in unconscious influences on consumer behavior, the standard of evidence for determining the influence of conscious thought is often (unacceptably) low. These problems (fuzzy conceptualizations along with a lower bar for accepting evidence of conscious causation) play a role in determining the research questions the field deems worthy of pursuit, the approach we take to addressing such questions, and the nature of the recommendations we make to marketing practitioners for shaping consumer outcomes.

This paper has two high-level aims. First, we wish to encourage consumer researchers to build more *conceptual rigor* into their models and hypotheses surrounding the role of consciousness in consumer behavior and choice. As a field, our attempts to adjudicate amongst explanatory accounts for behavior will be aided by adopting more precise, disaggregated, and distinct definitions of key constructs (e.g., distinguishing between conscious awareness and, say, conscious control; Baumeister et al. 2011). Second, we wish to encourage consumer researchers to build more *conceptual integration* into their models (cf. Cosmides, Tooby, and Barkow 1992), by more deeply considering the way in which neural and physiological processes are implicated in consumer behavior. Given that low-level biological factors have been shown to impact phenomena of great interest to consumer researchers (Durante et al. 2011; Genevsky and Knutson 2015; Griskevicius et al. 2011; Knutson et al. 2007; Van den Bergh, Dewitte, and Warlop 2008), we suggest that a deeper appreciation of these factors can improve the predictive power of models of consumer behavior. We offer these ideas less as a critique and more as an attempt to highlight fertile opportunities for building harmony and clarity into our models of the causes of consumer behavior.
In what follows, we call attention to the lack of clarity we currently have regarding the construct definitions of consciousness. We then propose a new take on defining conscious influences that emphasizes precision (e.g., identifying which elements of thought are causal) and integration with knowledge from adjoining disciplines (e.g., neuroscience). We describe the benefits of this new perspective for augmenting current knowledge on three substantive domains of interest to consumer researchers: choice, self-control, and persuasion. Finally, we offer recommendations for explicitly testing the independent and joint contribution of conscious and unconscious processing for consumer behavior. All of these points are considered in the service of improving the quality of consumer science.

THE FIELD’S CONCEPTUALIZATION OF CONSCIOUSNESS: DEFINITIONAL AMBIGUITY COUPLED WITH PREFERENTIAL STATUS

Early in the development of the field of consumer research, authors noted that behavior can be guided by processes of which consumers are consciously aware, or by processes that lie beneath the surface, seemingly inaccessible to conscious thought (Bettman 1979; Lynch and Srull 1982). Indeed, Lynch and Srull (1982) challenged researchers to recognize that memory and attentional processes beyond the reach of conscious control guide much of consumer behavior. Since these early acknowledgments, a great deal of consumer behavior research critically examined the degree to which conscious thought has a causal influence on both consumers’ judgments and the overt behaviors involved in choice, self-control, and responding to persuasion. For example, researchers have studied the degree to which consumer choice is determined by consciously accessible information (Bettman, Luce, and Payne 1998; Feldman
and Lynch 1988; Simonson 1989) or instead by more automatic and intuitive influences (Kahneman 2003; Loewenstein 1996; Pocheptsova et al. 2009). Likewise, researchers interested in consumer self-control often examine the interplay between conscious and unconscious influences (Baumeister et al. 2008; Shiv and Fedorikhin 1999; Vohs and Faber 2007). Furthermore, research on persuasion has focused on the degree to which consumers’ responses to marketing communications are guided by effortful elaborative thought (Petty, Cacioppo, and Schumann 1983), or the extent to which conscious awareness is needed for persuasion at all (Janiszewski 1988; Shimp, Stuart, and Engle 1991; Sweldens, van Osselaer, and Janiszewski 2010).

We applaud these efforts and are quite sympathetic to the aims of this research. We believe that a deep understanding of the causes of consumer behavior is useful for both academic research and marketing practice. For example, if one assumes that conscious awareness is necessary for conditioning brand associations, then attempting to modify a conditioned association should be relatively easy. All one needs to do is present convincing information to consumers that the conditioned association should not exist. Such cases are important in the context of marketing communications, where an advertiser may wish to weaken or eliminate a conditioned association between one’s brand (Jell-o, Macy’s) and a scandal-ridden celebrity (Bill Cosby, Donald Trump). However, if the process is assumed to occur outside of the reach of awareness, then 1) the conditioning may be more persistent and 2) intervention attempts may need to take a different approach (relying less on explicit debiasing and more on strategies known to alter implicit attitudes e.g., evaluative conditioning; Sweldens et al. 2010).

The undeniably positive legacy of Lynch and Srull (1982) has been the field’s increased interest in exploring the role of unconscious processing in influencing consumer outcomes,
bringing these into the frame of inquiry. However, we note that despite their efforts, the default assumption that conscious thought causes these same outcomes largely persists, and has been met with little skepticism. This is evidenced by the use of verbal thought protocols as process evidence, as well as the near-universal requirement that authors show evidence that their effects are mediated by some variable, often measured by (consciously accessible) self-reports.

By calling into question the field’s treatment of consciousness, we do not at all mean to suggest that conscious thought is unnecessary to explain behavior. Instead, we wish to encourage researchers to build a healthy dose of empirical skepticism into their thinking about consciousness and the causal role it may (or may not) play in producing outcomes of substantive interest to researchers and practitioners alike (e.g., choice, self-control, and persuasion). To do this, we suggest that the field should first 1) develop a clearer definition of consciousness and 2) abandon any tendency to give consciousness preferential treatment as a candidate cause of behavior (e.g., by requiring lower standards of evidence for conscious vs. unconscious causation). We discuss both of these issues below.

Ambiguity in the field’s definition of consciousness

The term “consciousness” means different things to different people. To get a handle on how consumer researchers talk about consciousness, we systematically examined papers published in four of the top marketing and decision-making journals: Journal of Consumer Research (JCR), Journal of Marketing Research (JMR), Journal of Consumer Psychology (JCP), and Organization Behavior and Human Decision Processes (OBHDP). These four journals were selected given their status as prominent outlets for consumer behavior researchers (who adopt
more of a social cognition/information processing orientation) and judgment and decision-making researchers (who adopt more of a behavioral decision theory orientation). These journals were examined from their respective inceptions until 2014 (spanning 50 years in the case of JMR and 40 years in the case of JCR). Using Google Scholar (scholar.google.com) and JStor’s Data for Research websites (dfr.jstor.org), we identified 220 papers that included the phrases “conscious thought,” “conscious awareness,” or “conscious control” in the title, abstract, or main text (we used these search terms to avoid papers focused on other common meanings of ‘consciousness’ in the consumer literature e.g., ‘self-consciousness’ or ‘price conscious’).

We found wide variation in the way in which researchers defined conscious processing, attesting to the degree of conceptual fuzziness surrounding this important construct. For many authors, saying that consumers are conscious of a process merely denotes that they can verbalize that process and mentally represent it in a series of coherent thoughts (e.g., conscious = aware; Carlson et al. 2014; Chartrand and Fitzsimons 2011; Galli and Gorn 2011; Holbrook and Hirshman 1982; Joy and Sherry 2003; Fitzsimons, Nunes, and Williams 2007; Yang et al. 2012). However, for other authors, saying that consumers are conscious of a process suggests that they have the ability to manipulate that process via volitional, top-down, executive processes (conscious = control; Berns 2005; Briley and Aaker 2006; Fennis et al. 2009; Krishna and Morrin 2008; Lane and Scott 2007; Pechetsova et al. 2009). For some, labeling a process as conscious indicates that it involves cognitive (as opposed to affective) operations (conscious = cognitive; Kramer and Block 2011; Miller and Kahn 2005). And indeed, other authors defined conscious processing in terms of effort or resource-intensive mental activity (conscious = effortful; Alba and Hutchinson 1987; Bargh 2002; Peracchio and Luna 2006). Thus at the outset we have a problem: the term “conscious” has been used in different ways by different
researchers contributing to the same body of knowledge; this hurts the consistency of the
literature and limits the ability for researchers to constructively build upon each other’s findings.

This problem is compounded by the consideration that some of the concepts widely used
to define consciousness have been empirically dissociated from consciousness. For example,
tenability has sometimes been considered one of the hallmarks of conscious thought
\( \text{conscious} = \text{intentional} \); Dhar and Gorlin 2013), but consumers are able to adopt and pursue
intentions unconsciously (Chartrand et al. 2008; Custers and Aarts 2010; Laran and Janiszewski
2009; Sela and Shiv 2009. Similarly, in our analysis we find that many authors equate conscious
thought with deliberation \( \text{conscious} = \text{deliberate} \); Ferris et al. 1994; Orhun and Urminsky
2013). However, consumers have been shown to deliberate unconsciously while mentally busy
(Bos, Dijksterhuis, and van Baaren 2011; Dijksterhuis et al. 2006; Messner and Wanke 2011;
however for alternative perspectives on this point see Huizenga et al. 2012 and Payne et al.
2008). Finally, researchers traditionally have viewed flexibility and adaptive integration of
information as defining features of consciousness \( \text{conscious} = \text{flexible} \); Kahneman 2003;
Polman and Russo 2012), but emerging evidence points to the existence of an adaptive, flexible
unconscious (Hassin, Bargh, and Zimerman 2009; Mudrik et al. 2011). (We note here that motor
programs, e.g., for catching a ball, are considered to be some of the most flexible, context-
sensitive, and sophisticated feats of the mind, yet these largely operate unconsciously;
Rosenbaum 2002). Thus, many of the features that are viewed as defining consciousness are not
in fact unique to consciousness.

It is worth noting that only 50 of the 220 papers we identified in our analysis provided
some statement defining conscious processing. This is suggestive of the intuitive way in which
the field treats consciousness: researchers seldom advance a construct definition of
consciousness because we think that we know it when we see it. Moreover, when construct 11 definitions of consciousness were in fact provided, those definitions tended to combine many of the mental operations discussed above (e.g., “conscious processing consumes cognitive resources and is intentional, controllable, and within the awareness of an individual,” Peracchio and Luna 2006; p. 25). By using multiple features of thought to define consciousness, the field is left with an amorphous and ambiguous sense of what consciousness is, at the conceptual level.

Conscious thought is (assumed to be) for doing

In addition to fuzzy conceptualizations of consciousness, we observed a good deal of readiness to treat consciously accessible, verbally reported thoughts as causal drivers of consumer behavior. Marketing researchers have long lamented the trouble associated with interpreting self-report data (Dholakia and Morwitz 2002; Petersen and Kerin 1981). Nonetheless, self-reports are consistently used to rule in process explanations for consequential findings in the consumer literature. Likewise, researchers have highlighted the problems with making causal claims from correlational mediation analyses (Fiedler, Schott, and Meiser 2011; Spencer, Zanna, Fong 2005), but the use of such analyses in consumer research is near ubiquitous (indeed, we casually observed that nine of the 13 behavioral papers published in the December 2014 issue of JCR feature at least one meditational analysis in which the mediator is measured via self-report). We contend that the attractiveness of using self-report data as causal evidence betrays a biased way of thinking about consciousness: because the idea that conscious thought causes behavior is intuitively appealing, there appears to be less of a need for rigorous and systematic evidence to ‘rule in’ its causal influence.
As evidence for this preferential treatment of consciousness as a cause of behavior, we examined twelve of the most highly cited papers published in JCR between 1974-2014. Specifically, we took the three top cited behavioral papers from each of four time periods (1974-1984, 1985-1994, 1995-2004, 2005-2014). We then coded these papers for whether the authors used 1) verbal thought protocol data and/or 2) mediation analyses (in which the mediator was measured via self-report) to make causal claims regarding their effects. We find that eight of the twelve top cited papers used self-report evidence as the basis for a causal claim regarding the process by which they obtained their effects (see online Appendix). Put differently, the majority of the most influential papers in our field implicitly advance the idea that consciously accessible thoughts cause behavior on the basis of little more than self-reports.

As a thought experiment, consider an alternate state of the world in which researchers assumed that unconscious processes were the primary causes of behavior, and it was consciousness that was viewed with a healthy amount of suspicion and awe (cf. Evans 2014). In that world, would researchers have been willing to accept data from verbal protocols as evidence that choice was determined by consciously accessible reasons (Simonson 1989), or instead would there have been a more resounding chorus of alternative accounts (e.g., the act of choosing at the unconscious level may in fact precede the recruitment of justifications for the choice)? Or consider Oliver’s (1993) influential work on the antecedents of consumer satisfaction, in which he assesses the mediating role of self-reported positive and negative affect. In a world where accounts of conscious causation are rigorously scrutinized, would the field have been accepting of this data, or might there have been louder critics arguing that these mediators are too strongly correlated with both the measured predictors (perceived product
performance/underperformance) and the dependent measure (satisfaction/dissatisfaction) to provide useful insight into underlying process?

Let us be quite clear: these counterfactuals are not presented as an indictment of the substantive findings from past research, but are instead offered as starting point for taking a more measured approach to studying consciousness and the role it plays in producing consumer behavior.

A NEW LOOK AT CONSCIOUSNESS: BUILDING PRECISION AND DEPTH INTO CONCEPTUAL MODELS OF CONSUMER BEHAVIOR

Given the state of affairs outlined above, we believe that there is ample opportunity to move the field closer to a clearer understanding of conscious processing. Here, we aim to provide guidance for consumer researchers interested in when, why, and how conscious though plays a causal role in producing consequential consumer behavior (e.g., choice, self-control, and responses to persuasion).

Our perspective on consciousness can be summarized in three points. First, we define consciousness as awareness alone. In this way, we advocate for a more precise, disaggregated treatment of conscious influences on consumer behavior, where it can prove beneficial to abandon a global notion of ‘consciousness’ as a collection of “System 2” processes (Kahneman and Frederick 2002) and instead specify how distinct mental processes (i.e., awareness, control, deliberation, intentionality, and effort) affect outcomes independently and/or interactively (cf. Bargh 1994, Chartrand 2005). Second, guided by theories in psychology and neuroscience, we maintain that consciousness serves important psychological functions (we do not seek to frame
consciousness out of the discussion). However, we maintain that the causal role of consciousness in producing consumer behavior should be empirically examined and not assumed a priori, so that we can more fully bring neural, physiological, and otherwise unconscious influences on behavior into the frame. We expand upon these points below.

**Consciousness is merely awareness.** Although consumer researchers often lump many features together when describing conscious processing (i.e., conscious = aware, controlled, deliberative, and effortful thinking; in effect equating consciousness with System 2 processing), we suggest that it is conceptually cleaner to define consciousness in terms of awareness alone, and nothing else. In this view, conscious thought corresponds with the internal monologue and stream of images that serve as the basis for consumers’ verbal reports. This view is consistent with efforts in psychology, where researchers distinguish between sentience (aka conscious awareness) and manipulation (aka mental control; Baumeister and Masicampo 2010; Baumeister et al. 2011). This view is also consistent with the treatment of consciousness in neuroscience, where it is viewed as a field or a frame that permits the integration of disparate mental activities (Baars 2002; Merker 2013; Morsella 2005; Morsella et al. 2015).

By defining consciousness in terms of awareness alone, and thereby distinguishing it from control, deliberation, and intentionality, we can be more precise in specifying the aspects of thinking that exert a causal influence on consumer behavior. Echoing earlier calls (Bargh 1994; Chartrand 2005), we encourage consumer researchers to adopt a disaggregated taxonomy when reasoning about the causes of behavior (figure 1), instead of treating conscious processing as an amorphous collection of System 2 properties. A disaggregated view of consciousness makes it easier to theorize about the specific features of mental processing that are linked with behavioral outcomes. For example, consider the influence of behavioral primes on subsequent behavior.
As cogently noted by Chartrand (2005), by isolating awareness from other processes, it becomes easier to recognize that awareness of a prime ≠ awareness of the influence of a prime (for a deeper discussion of the various points at which awareness can impact choice processes, see Newell and Shanks 2014).

More critically, with this disaggregated view, it is also easier to acknowledge that awareness is dissociable from mental control (as anyone who has desperately tried to rid one’s mind of summer’s hit song can attest; Wegner 1994). Also, as discussed above, intentional goal pursuit can occur without awareness as well (Chartrand et al. 2008; Laran and Janiszewski 2009). Likewise, the presence of a conscious thought does not necessarily imply that it is the result of deliberation; when confronted with a tempting dessert, a representation of one’s dieting goals may pop into mind with no deliberation at all (Fishbach, Friedman, and Kruglanski 2003). The primary benefit of defining conscious this way is that doing so should attenuate any tendency for researchers to conflate awareness with controllability (more on this point below).

FIGURE 1

A DISAGGREGATED PERSPECTIVE ON CONSCIOUS AND UNCONSCIOUS MENTAL OPERATIONS
Consciousness is functional. Cognitive psychologists and philosophers of the mind have at times argued that consciousness is merely epiphenomenal (i.e., consciousness is a by-product of natural selection processes and has no true functional value; Dennett 1991; Wegner 2002). For example, Wegner (2002) argued that conscious will was merely illusory, recruiting evidence that the mind can be fooled into thinking that it caused impossible events (Wegner and Wheatley 1999). Although we agree with Wegner’s (2002) high-level point that the causal impact of consciousness has been overemphasized, we also agree with Baumeister and colleagues’ (2011) argument that conscious thought is an important feature of mental life. For example, Baumeister and Masicampo (2010) review evidence suggesting that conscious thought facilitates social interaction and allows people to smoothly and effectively interact with each other in the service of building shared cultural understanding. Consciousness facilitates simulation, which in turn facilitates the transmission of social and cultural knowledge. In their view, conscious thought is not the “driver in full charge of behavior,” but is rather more akin to “a fancy navigation system,” (Baumeister and Masicampo 2010; p. 948).
Additionally, in neuroscience there is growing consensus regarding what consciousness does well: it integrates (Poehlman, Jantz, and Morsella 2012; Seth 2009). For example, Baars (2002) views consciousness as a mechanism that permits various components of the mind to “talk” to each other, broadcasting goal-relevant information. Another theory based on insights derived from neuroscience and psychology suggests that conscious thinking plays a critical role in facilitating the behavioral expression of the beneath-the-surface goals and motor programs that conflict with each other (Morsella 2005; Morsella et al. 2015). In this view, consciousness permits mental systems vying for control of skeletal muscle to coordinate with each other, which is especially important in cases where contradictory actions cannot be expressed simultaneously, leading Morsella (2005) to conclude that the primary function of consciousness is to facilitate voluntary action in everyday life. Notice that these theoretical perspectives on the function of consciousness speak primarily to the function of awareness itself, and not to the broader collection of System 2 properties.

Given these functional accounts of consciousness, we reject the view that consciousness is illusory or an inert by-product of natural selection processes. However, as we discuss below, we believe that there is great value in empirically examining the role that conscious processing plays in producing behavior, instead of (implicitly) assuming that consciousness is in the driver’s seat.

*Consciousness may (not) cause behavior.* As discussed above, there appears to be an unspoken assumption guiding much of the conceptual development in consumer research that behavior is consciously mediated unless proven otherwise. For example, some researchers suggest that the act of making a choice is isomorphic with conscious processing (Hansen 1976; Simonson 2005), despite suggestions to the contrary (Lynch and Srull 1982). Although
psychology and neuroscience has uncovered many viable functions for consciousness, it should not be assumed *a priori* that conscious thought must play a causal role in the production of consumer behavior. Instead, we argue that the impact of conscious thinking in outcomes of interest to consumer behavior researchers should be empirically derived and tested (cf. Dhar and Gorlin 2013).

In this respect it is informative to honestly confront the limits of consciousness, to better understand when, why, and how conscious thinking can cause behavior. It is important to recognize that just because a consumer may be consciously aware of a mental state does not mean that s/he has the ability to directly control that state, or the outcomes produced as a result. For example, consumers are often aware of their emotions, but largely lack the ability to directly control their moment-to-moment emotional states, making themselves feel happier or less anxious by sheer force of will (much to the relief of the pharmaceutical industry). Likewise, consumers are often aware of the self-control conflicts they encounter in daily life (“I want to stay healthy, but the cookie is calling for me”), yet they simultaneously feel “out of control” and subject to the whims of their visceral desires (Loewenstein 1996). Thus it is clear that there can be meaningful dissociations between consumers’ awareness of mental processes and their ability to consciously control those processes. However, in the consumer behavior literature researchers often conflate awareness and control (e.g., assuming that if consumers are aware of an influence, that awareness alone is sufficient to alter outcomes).

In our view, the main reason why researchers should minimize any reliance on the assumption that consciousness (awareness) mediates consumer outcomes is so that they can increase the degree to which low-level, bodily-based influences outside of awareness are considered as plausible candidate causes for behavior. The danger with implicitly prioritizing
conscious thought as a cause for behavior is that it boxes in our thinking, such that we become much more likely to tackle questions that feature an awareness component than those that do not. This is important, because researchers have demonstrated that processes that occur at low neural or physiological levels (outside of consciousness) can account for unique variance in predictive models of behavior (above and beyond verbalizable self-reports; Knutson et al. 2007, Genevsky and Knutson 2015).

Take sleep for example. Consumers spend roughly a third of their life sleeping, and numerous effects of sleep on mental functioning have been documented in cognitive psychology (Fenn, Margoliash, and Nusbaum 2013; Walker 2005) and neuroscience (Wilhem, Wagner, and Born 2011; Yoo et al. 2007; see Barnes and Drake 2015 for a recent synthesis). However, the consumer behavior literature has been virtually silent on the impact of sleep on substantive outcomes. A search of Google Scholar and JStor revealed that through 2014 there were zero papers published in JCR, JMR, or JCP that mention “sleep” in the title or abstract (only four papers matching those criteria were published in OBHDP). However, emerging research documents how different sleep patterns are associated with variation in moment-to-moment affective experience and self-control, topics of great concern to consumer researchers. For example, compared to morning larks, night owls consume more sin products and are more likely to procrastinate (Adan 2006; Diaz-Morales, Ferrari, and Cohen 2008). Thus, even though sleep effects may very well represent important moderators of consumer behavior, with the notable exception of Jacob Hornik’s work on diurnal variation in consumer response (Hornik 1988; Hornik, Ofir, and Shaanan-satchi 2010) we find that such effects are underexplored in the literature. Although one might argue, “Well, maybe sleep’s just not that interesting,” at the risk of stating the obvious we contend that the way in which we consumer researchers conceptualize
consciousness partially determines what we find interesting, as well as our underlying assumptions, experimental designs, and interpretations of our research.

Indeed, numerous consumer researchers have already demonstrated how bringing low-level bodily or otherwise unconscious influences into the frame enhances the consumer research knowledge base. For example, by incorporating physiological perspectives on satiety, consumer researchers now have a better sense of the dynamics of hedonic adaptation (Galak, Kruger, and Loewenstein 2013; Nelson, Meyvis, and Galak 2009). Likewise, an understanding of impact of visceral factors (Loewenstein 1996) has led to the development of fuller accounts of consumers’ valuation of objects (Brendl, Markman, and Messner 2003). Last, researchers have shown that accounting for the influence of hormonal states helps predict consumers’ preferences for conspicuous, luxurious products (Durante et al. 2011; Saad and Stenstrom 2012). We suggest that continued efforts to build low-level biological influences into models of consumer behavior will be aided by a reduced reliance on consciousness as an explanatory construct.

These considerations suggest that by nudging consciousness toward the background and allowing low-level neural, physiological, and other unconscious influences on behavior to share the stage, researchers can build conceptual models with greater explanatory power, accounting for more of the variance in their outcomes of interest.

NUDGING CONSCIOUSNESS TO THE BACKGROUND AND BRINGING UNCONSCIOUS INFLUENCES INTO THE FRAME

Here we consider how a more disaggregated understanding of consciousness, coupled with an appreciation of the limitations of conscious processing, can be fruitfully applied to
generate new insights in three substantive areas of consumer behavior research: choice, self-control, and persuasion. We rely on an analogy to structure our thinking around the points below. As a consumer navigates her world (making difficult decisions, resisting temptations, and being bombarded by persuasive attempts), she faces conflict on all sides. That is to say, decision alternatives compete against each other, pre-potent biologically derived urges go head to head with propositional forward-looking thinking, and the desires of marketers may be in direct opposition to the consumer’s own will. Accordingly, we liken her behavioral productions to military battles. To fully understand the outcome of any given battle, one must look past the fighting on the field; the preparatory and motivational factors leading up to the battle can have at least as much explanatory value, if not more. We likewise suggest that it is necessary to look beyond the contents of consciousness when trying to predict consumer behavior. Bringing unconscious influences to the fore of our conceptualizations can improve the quality of interventions, by giving us insight into the factors that colloquially “win or lose the battle before it is ever fought.”

Choice. Despite the tendency to sometimes equate choice with conscious processing (Hansen 1976; Simonson 2005), we endorse the view that the classic choice situation in which consumers consciously weigh the pros and cons of one option over others is the exception, not the rule (Dijksterhuis et al. 2005; Hoyer 1984). There is clear value in developing a deeper understanding of the interplay between conscious and unconscious processes in determining choice. For example, as new brands enter the marketplace, it is tremendously important to get into consumers’ consideration sets (Nedungadi 1990; Roberts and Lattin 1991). Successfully doing so can require more than simply engaging consumers in conscious deliberation; the use of strategies to overcome deep-seated biases and pre-potent tendencies that are more unconscious in
nature (e.g., status quo bias; Samuelson and Zeckhauser 1988) can help brands cross the threshold into consideration.

One such approach may involve evaluative conditioning, where one would seek to develop implicit associations between positive affect and one’s brand elements (Custers and Aarts 2005; Sweldens et al 2012). Such positive associations can increase the likelihood that a brand will be retrieved from memory and included in a consideration set (Shapiro 1999).

Another approach would focus more on structuring environments than directly manipulating consciously accessible thoughts. Berger, Meredith, and Wheeler (2008) adopted this approach when showing that the polling location had a measurable impact on voting behavior, above and beyond people’s preexisting political attitudes. The strategic use of brand-related environmental cues can increase the likelihood that one’s brand is considered in critical moments (e.g., the point of purchase; cf. Chartrand et al. 2008).

Whether conscious or unconscious, we contend that a mechanistic understanding of the processes involved in choice, taking biology and physiology into account, can improve researchers and practitioners’ ability to predict and ultimately assist consumer decision-making. Technological advances in neuroendocrinology and physiology are permitting investigations into deep causes of adult behavior; causes that may either augment or supplant ‘consciousness-centric’ models of behavior. For example, emerging perspectives in neuroendocrinology suggest that exposure to maternal stress hormones in the womb affect the emotions and decisions people make later in life (Loman and Gunnar 2010). Furthermore, accumulating evidence that the low-level interactions between our bodies and the microorganisms that live within us shape psychological states in a bottom-up fashion (see Kramer and Bressan 2015 for a recent review).

Exploring the role that low-level physiological factors like maternal stress and microbiota play in
shaping behavior may be particularly appealing to marketing practitioners in their efforts to segment and target consumers. Furthermore, policymakers may be particularly persuaded by evidence suggesting that a healthy balance of microbes in the brain and body reduces the likelihood of reckless or otherwise impulsive behavior (Kramer and Bressan 2015), as such a causal account lends itself to a clearly prescribed remedy (e.g., pharmaceutical intervention).

Additionally, by considering the biological and neuroendocrinological consequences of living through stressful upbringings (i.e., life history theory), researchers have been able to predict why some consumers are more likely to make risky choices or fail to delay gratification than others (Griskevicius et al. 2011; Mittal and Griskevicius 2014). Experiencing comfort and stability in one’s early life is associated with the pursuit of a ‘slow’ reproductive strategy that prioritizes planning, whereas growing up in a world full of instability and deprivation is associated with the pursuit of a ‘fast’ reproductive strategy that prioritizes capitalizing on the moment (Griskevicius et al. 2011). Given our disaggregated perspective on consciousness, we advocate for a research agenda that examines how life history impacts the degree to which consumers’ choices are made deliberately versus spontaneously, or the degree to which consumers’ intentions are more versus less predictive of choice. Such research presents an opportunity for researchers to more clearly spell out whether or not conscious awareness plays a meaningful role in guiding these choices that are (at least partially) determined by factors literally beyond the individual’s direct control.

**Self-control.** Causal accounts of self-control failure can focus on weakness in conscious influences (e.g., too little conscious control, too little conscious deliberation), or on overly powerful unconscious influences (e.g., impulses are too strong; Vohs and Faber 2007). With a more precise conceptualization of consciousness, it is easier to recognize that self-control
failures can also be due to overly strong conscious influences (e.g., too much consciously accessible rationalization; “I already broke my diet, so what the hell I might as well enjoy myself,” Herman and Mack 1975), and/or weakness in unconscious influences (e.g., too little unconscious emotional control; Williams et al. 2009). Although they are often cast as the enemies of self-control, low-level bodily influences may in fact be critical in helping people stay true to their goals. For instance, it could be the case that a consumer’s microbiome moderates ego depletion effects, such that a healthy gut bacteria profile inoculates her against the deleterious effects of previous self-control efforts.

By adhering to an intuitive view that consciousness causes behavior, researchers, marketers, and policymakers interested in improving consumer welfare and aiding self-control may devote a disproportionate amount of attention and money to conscious influences, missing out on opportunities to intervene on the unconscious side (Lynch and Wood 2006). [We would characterize this tendency as focusing too much on the battle, and not enough on the dynamics of the war]. For example, if self-control is isomorphic with conscious thought (Hoch and Loewenstein 1991; Vohs and Faber 2007), then it would make sense for interventions to focus on explicit strategies, rules, and plans that can be considered consciously. However, if instead researchers and practitioners viewed unconscious influences as being more powerful drivers of self-control, then it would be better to design interventions to disrupt the power of impulses via habit formation (Verplanken and Wood 2006; Wood and Neal 2009), or disrupt the implicit associations between vices and positive affect (see Aarts et al.’s 2007 work on the nonconscious cessation of goal pursuit). Likewise, if consumers’ pursuit of sinful products (e.g., fatty foods, drugs, and alcohol) are driven more by visceral states and less by rational consideration of
tradeoffs and deliberative thought, then so-called ‘sin taxes’ designed to reduce consumption may prove ineffective (Lynch and Wood 2006).

Additionally, research and observation shows that many consumers have difficulty making financially sound decisions that best serve their interests (Duclos, Wan, and Jiang 2011; Lynch et al. 2010). If one adopts a view that the problem lies primarily in consumers’ conscious thinking about financial information, then it would be appropriate to devote resources to explicit instruction in financial education. However, a recent review suggest that the effect of such financial educations programs is essentially nil (Fernandes, Lynch, and Netemeyer 2014). Therefore, it may be the case that instead of intervening at the conscious level, marketers and practitioners would have better success improving consumers’ financial welfare by targeting low-level drivers of spending and saving behavior. For example, extrapolating from work demonstrating that self-controllability is modulated by glucose consumption (Danziger, Levav, and Avnaim-Presso 2011; Gailliot et al. 2007), researchers might examine whether there is a predictive relationship between physiological markers of glycemic disorders and financial decision-making. Future research in this important substantive domain may benefit from a deeper consideration of the causal role low-level biological (or otherwise unconscious) processes play in maintaining (or draining) consumers’ financial health.

**Persuasion.** Finally, researchers focused on attitude change have long been interested in exploring how the depth and degree of conscious information processing influences the effectiveness of persuasive messages (Friestad and Wright 1994; Petty et al. 1983; Wright 1973). Indeed, the bulk of the elaboration likelihood research agenda has focused on the ways in which a greater versus lesser degree of conscious thought influences consumers’ attitude formation (Petty, Wegener, and Fabrigar 1997). In addition to modifying conscious thought, marketers can
benefit from shaping consumers’ low-level, beneath-the-surface brand associations via conditioning (Allen and Janiszewski 1989; Hütter et al. 2012; Shimp et al. 1991; Sweldens et al. 2010). As mentioned above, the persistence, valence, and accessibility of consumers’ attitudes may vary depending on whether they are instantiated at a conscious or unconscious level (Forehand and Perkins 2005). Greater specificity regarding the nature of conscious and unconscious determinants of consumer attitudes can improve the field’s understanding of substantive outcomes (e.g., consumers responses to affect-laden advertising), which can in turn improve the quality of our recommendations to practitioners.

Sweldens and colleagues’ research program on evaluative conditioning provides a great model for the benefits of conceptualizing conscious and unconscious processes carefully and precisely (Hütter et al. 2012; Sweldens et al. 2010). Research on evaluative conditioning suggests that such conditioning effects can be either direct or indirect. The indirect route is typically assumed, the view being that the conditioning effect depends on the mediating role of brand-US associations (e.g., the initially positive stimulus is activated by thoughts of the brand, and the positive affect associated with that US is transferred to the brand; De Houwer 2008). Sweldens et al. (2010) present evidence supporting a view that evaluative conditioning can lead to direct affect transfer, in cases where the multiple positively valenced USs are simultaneously paired with the brand (CS). Here, there is less learning about specific brand-stimuli associations, and instead the learning is tied to the affect itself (learning via conditioning that the brand is positively valenced). Critically, the authors show how such direct evaluative conditioning effects are not dependent on conscious awareness of the contingency between the CS and the US. Further, for both direct and indirect conditioning, the top-down activation of persuasion knowledge does not wipe out conditioning effects for neither explicit nor implicit attitudes.
These latter two findings suggest that processes beyond the reach of both conscious awareness and control are capable of shaping evaluations and downstream preferences.

In sum, we suggest that building physiological influences into our traditional models as predictors can help us account for more unexplained variance in these critical outcomes. The extent to which outcomes such as choice, self-control, and persuasion are impacted by physiological or otherwise unconscious influences should interest consumer researchers of all stripes.

LOOKING AHEAD: CONSCIOUSNESS AND THE FUTURE OF CONSUMER RESEARCH

In this final section, we provide a set of recommendations for carefully and critically examining the causal role of consciousness in consumer outcomes. These recommendations center on theory building, experimental design, data interpretation, and doctoral training. Changing the way in which the field treats consciousness will require buy-in all the way from the top down. Journal editors and reviewers are encouraged to more deeply scrutinize the degree to which authors’ proposed processes map onto the psychological and physiological realities of consumers’ mental lives. Researchers themselves are encouraged to bring theory from adjacent disciplines to bear on their data, holding their data accountable to what is known about how the mind works. And Ph.D. program coordinators are encouraged to reward graduate students’ efforts to augment their understanding of consumer behavior with training in adjacent disciplines (e.g., psychophysiology, neuroimaging, and neuroendocrinology).

Such recommendations are timely as consumer researchers reevaluate their paradigms and mandates (Simonson 2014). It is our hope that researchers will take these considerations
into account as they tackle the next generation of questions concerning the underlying causes of consumer judgment and choice.

Theory building. First, we suggest that the deeper and more precise perspective on consciousness offered above can serve as a useful starting point for conceptual development and theory building. When reasoning about the nature of consciousness, we caution researchers to be sensitive to a fundamental asymmetry: whereas only some unconscious processes are prompted by conscious thought, all conscious processes are preceded and caused by unconscious processing (Bargh and Morsella 2008; Baumeister and Masicampo 2010). As such, by emphasizing and prioritizing conscious contents in explanatory models of behavior, we may be ignoring the bulk of the iceberg that constitutes human mental processing.

It is also important to recognize that although there are compelling mechanistic accounts for unconscious thought, we do not know how consciousness works. Unconscious mental processes can be understood readily in terms of the associative nature of memory (Lashley 1951; Lynch and Srull 1982; Tulving and Schacter 1990), classical and operant conditioning (Custers and Aarts 2010; Sweldens et al. 2010), patterns of neural activation (Janiszewski, Kuo, and Tavassoli 2013), the rate of oxygen consumption by distinct neuroanatomical structures (Knutson et al. 2007), and the selective release and reuptake of neurotransmitters (e.g., dopamine and serotonin; Berridge and Robinson 2003). However, we cannot claim the same level of mechanistic understanding of consciousness. Nearly half a century has passed since the Cognitive Revolution swept Behaviorism out of the spotlight and researchers fully embraced the ‘mind as a computer’ metaphor (Neisser 1967), and yet we do not know how the neuroanatomical structures (and the electrochemical processes that guide their operation) give rise to consciousness. A precise mechanistic understanding of how consciousness works (e.g.,
how sentience can result from biological material) has eluded psychologists for decades, and philosophers for centuries before that (indeed, this is colloquially known as the “hard problem” in consciousness research; Chalmers 1995; Gray 2004). Hence, we recommend that as a field we move away from treating consciousness (which is a mysterious and poorly understood mental phenomenon) as the primary cause of consumer behavior.

Indeed, by more carefully examining the precise mechanisms responsible for consumer behavior, we can move beyond dual process accounts for behavior (Dhar and Gorlin 2013; Kahneman and Frederick 2002). Dual process models have been useful from a heuristic standpoint, but offer little by way of a mechanistic understanding of the causes of behavior (Keren and Schul 2009). When reasoning about the conscious and unconscious determinants of consumer behavior, we need not adopt an “either-or” approach. Such thinking can limit our ability and willingness to uncover the true mechanisms at work, which are likely comprised of both conscious and unconscious components. Moving forward, we encourage researchers to more carefully specify the relative degree to which conscious and unconscious processes interactively shape behavior (cf. Chartrand and Fitzsimons 2011).

Indeed, instead of the typical focus on whether or not participants were aware (evidenced by the widespread use of funneled debriefing techniques in priming studies; Bargh and Chartrand 2000; Carlson et al. 2014), it may be better to test instead for the presence of the specific mental operation (e.g., deliberation, control, effort, intention) predicted to impact the phenomenon at hand. For example, researchers can test for whether participants engaged in deliberation by measuring the accessibility of upstream, highly elaborated concepts (e.g., via lexical decision tasks or other implicit measures). Janiszewski, Laran, and Salerno (2015) recently exemplified such an approach in their examination of the difference between conscious and unconscious goal
pursuit. The authors demonstrate that compared to unconscious goal activation, when a goal is consciously activated the subsequent consideration of means involves elaborative thought. This increase in elaboration is reflected by the increased accessibility of competing goals, measured via word stem completion tasks.

The degree to which executive control was used in a process can be assessed by the degree to which participants are ego depleted afterward. Adopting this type of check may be useful for identifying situations in which executive processes are indeed unconsciously yet effortfully engaged, such as in situations featuring vicarious self-control (Ackerman et al. 2009). And, with sufficient training in neuroimaging techniques, researchers would be able to assess the degree to which participants resolve mental conflict by measuring activity in the anterior cingulate cortex, a brain region implicated in the processing of conflicting goals (Botvinick et al. 2004; Greene et al. 2004). With the disaggregated model of mental operations in mind, such efforts can help consumer researchers develop more precise mechanistic accounts for their effects.

Furthermore, by adopting our proposed perspective on consciousness, researchers can better align the process-level accounts for their effects with established theories and maxims from biology and neuroscience. In this way, consumer researchers can improve the understanding of what causes behavior across the academy, permitting a fuller account of how the body and mind work in concert to produce behavior. A biologically-constrained approach to theory building was recently exemplified by Janiszewski and colleagues’ (2013) examination of the impact of mere selective attention on subsequent choice. In their paper, they used principles of neural excitation and inhibition to derive hypotheses regarding the extent to which consumers’ product preferences were impacted by selective attention (vs. inattention), and found that
products that were previously attended to (neglected) in an unrelated context were subsequently more (less) preferred in choice tasks. Janiszewsi et al.’s (2013) work serves as a model for the approach we advocate here: proposed consumer behavior processes should be mechanistically consistent with what is known about the physical operations of the mind.

*Experimental design and measurement.* In addition to reevaluating theory development, we recommend that consumer researchers also evaluate the effectiveness of the experimental designs and measures used to rule in conscious causation (or alternatively rule out unconscious causation). In so doing, we echo earlier calls (Chartrand 2005; Dhar and Gorlin 2013) for greater specificity and precision when identifying when and how consumers are aware of the proximal drivers of behavior. For example, in the context of evaluative conditioning, it is important to recognize that consumers can be consciously aware of stimuli, the contingencies between stimuli, the process by which affect transfers between stimuli, or of the outcome of such affect transfer (Sweldens et al. 2010, also Chartrand 2005). We encourage researchers to be precise in specifying which mental operations are responsible for exerting a causal influence on behavior, and whether it matters at all if consumers are consciously aware of those operations.

To this end, we recommend that researchers use manipulations that are capable of distinguishing between low-level and high-level drivers of consumer behavior. For example, the effective use of cognitive load manipulations allows researchers to examine the degree to which outcomes depend on the availability of mental resources (Dhar and Gorlin 2013; Pocheptsova et al. 2009; Shiv and Fedorikhin 1999). Additionally, a working knowledge of the psychological consequences of pharmaceutical interventions can help researchers develop sharper process accounts. For example, Durso, Luttrell, and Way (2015) demonstrate that, compared to a placebo, acetaminophen attenuates people’s responses to emotionally evocative stimuli.
Researchers might be able to leverage these findings and use Tylenol to experimentally ‘turn down the volume’ on consumers’ subjective emotional experiences, in order to assess the degree to which they impact behavioral outcomes.

Moreover, we suggest that researchers more carefully design the measures they treat as evidence for conscious mediation, with the recognition that the ability to self-report on a process does not imply conscious causation of that process (i.e., awareness does not equal control). As documented above, when examining the causal influence of conscious thought researchers often include some conscious measure (e.g., verbal protocols, self-report scales) in their statistical models as a mediator. The danger with this approach is that statistical mediation does not always correspond with psychological mediation (Fiedler et al. 2011). Indeed, any observed significant mediation pattern can be due to a genuine mediator, but could also be due to a spurious mediator or even a correlate of the to-be-explained outcome that exerts no causal influence (Fiedler et al. 2011; see also Zhao, Lynch, and Chen 2010). Conscious awareness of a thought can be mistakenly viewed as a cause for behavior in the same way that the sky’s darkness can be mistakenly viewed as causing rain (Wegner and Wheatley 1999). Thus, we echo the calls of methodologists (Zhao et al. 2010) and suggest that researchers examine multiple mediation models featuring measures of both conscious and unconscious thought, to more cleanly examine the mediating role of conscious factors while controlling for unconscious factors. Another useful approach here would be to rely on Jacoby’s (1991) process-dissociation approach, which allows experimenters to decompose a process into its conscious and unconscious inputs.

Data interpretation. We also encourage researchers to apply consistent standards of evidence when considering the degree to which conscious and unconscious processes shape behavior. When an intuitive causal explanation is adopted to explain outcomes, it is all too easy
to use a lower standard of evidence for confirmatory information and a higher standard of evidence for information inconsistent with one’s intuitions (Klayman and Ha 1987). We casually observed what appears to be shifting standards at play in our analysis of the consumer research literature. Initially, awareness checks were sufficient to document the unconscious nature of an effect (Janiszewski 1988), but later researchers seemed compelled to use subliminal presentations of stimuli to rule out awareness as a cause of such effects (Adaval and Monroe 2002; Chartrand et al. 2008). Although the adoption of high standards of evidence serves the field well, we believe that the field will be best served by applying equally high standards for ruling in conscious and unconscious influences alike.

**Doctoral student training.** Last, we believe that there is ample opportunity to strengthen the training of future generations of consumer behavior researchers, by encouraging greater exposure to important disciplines beyond psychology, such as neuroscience and physiology. Often in marketing Ph.D. programs, students have the ability to supplement their core curriculum with classes taught elsewhere on campus. We encourage consumer behavior students to seek out courses that will improve their ability to examine low-level, biologically based, unconscious drivers of behavior. Consumers are not disembodied minds floating through space, but are instead biological machines whose behaviors are intimately tied to physical states (Krishna 2009; Nisbett and Kanouse 1969; Williams, Huang, and Bargh 2009). While the study of consumer behavior has been heavily influenced by psychology (and in particular social psychology), a deeper consideration of the theories, methods, and findings of neuroscience and physiology is warranted, as these fields are becoming increasingly influential in producing accounts of behavior (Kramer and Bressan 2015).
As such, we challenge students in the field to develop a well-rounded understanding of human functioning, taking neuroscience and other physiological factors into account. This challenge is analogous to the one issued recently by Feinberg (2015): just as he exhorted students of empirical modeling to bolster their computer science skills to be better prepared to handle the ever-expanding datascape, we recommend that consumer behavior students improve their working knowledge of neuroimaging, neuroendocrinology, microbiotics, and physiological measurement approaches like EEG and EMG, to more fully explore how the body and mind work in concert with each other to produce consumer behavior.

The methods for taking a closer look at body and brain functioning are becoming increasingly refined and ‘accessible,’ and the tools for doing so are becoming less and less expensive. For example, portable, wireless, and inexpensive EEG recording systems (such as the Emotiv system; Khushaba et al. 2013) could permit consumer researchers to develop a deeper understanding of the processes involved in consumer choice as they actively deliberate between options in shopping spaces. A similar case can be made for eyetracking software, which can permit researchers to refine theories on the relationship between attention and choice (cf. Brasel and Gips 2008).

On the endocrinology side, researchers have already begun to document the importance of hormone levels for predicting diverse outcomes, such as consumers’ risk-seeking behavior (Sendstrom et al. 2011), preference for varied assortments (Durante et al. 2015), and overconsumption (Lumeng et al. 2014). The tools and methods for assessing hormone levels are not particularly complex, invasive, or expensive. Indeed, exposure to prenatal testosterone can be assessed in adults by measuring finger lengths, and cortisol levels can be measured via saliva and hair samples.
Similarly, as discussed above, physiologists have documented a direct causal impact of the constitution of the ecosystem of microorganisms in the digestive systems (gut bacteria, microbiota) on mental states. Examining the impact of microbiota on consumer decision-making could involve manipulations as simple as randomly assigning participants to probiotic (vs. control) regimens. In one fMRI study, participants randomly assigned to a probiotic diet later showed less reactive responses to emotional faces (Tillisch et al. 2013), most likely through bacteria’s ability to synthesize important neurotransmitters such as serotonin and dopamine (Lyte 2013). Young consumer researchers can adopt such methods to better understand the interplay between bodily states and psychological outcomes.

All of these recommendations are made with an eye on reducing the error in our predictive models, by exploring hitherto unexplored bodily influences that may very well mediate or moderate many of the outcomes we intensively study as consumer behavior researchers. Students cannot undertake such training alone; instead gatekeepers (advisors, editors, reviewers, hiring committees, etc.) must clearly signal that there is value in bringing a multidisciplinary focus to the study of consumer behavior (cf. MacInnis and Folkes 2010). The barriers to developing a deeper understanding of how neuroscience and physiology impact consumer behavior are low, but gatekeepers must ensure that the rewards are greater than the costs.

Taken together, we hope these recommendations increase both the quantity and quality of research examining the full spectrum of underlying causes of consumer behavior. It is understandably easy to place an outsized emphasis on conscious contents when exploring the causes of behavior, but there is often no reason a priori to suspect that the processes in awareness are in fact the most influential drivers of consumer outcomes. Therefore, we suggest
an alternative approach where we as a field more explicitly derive hypotheses assessing the relative impact of conscious processing on substantive outcomes, keeping unconscious influences at the forefront of our thinking.

CONCLUSION

Research on consumer information processing and behavioral decision theory has produced a tremendous amount of generative insights into the nature of human decision-making. By examining the underlying processes, anomalies, contextual influences, and individual differences that shape consumer choice, we have staked out a scientific discipline that is best suited for informing other disciplines on how people behave in the marketplace (MacInnis and Folkes 2010). Lynch and Srull (1982) challenged the field to recognize that the bulk of consumers’ mental life lies beneath the surface, calling into question the usefulness of measures and methods that only targeted consciously accessible thought. However, 30 years later, the implicit assumption that substantive behavioral outcomes (more often than not) are mediated by consciousness by and large prevails (Simonson 2005).

Our analysis indicates that consciousness is often taken as a given, and treated as if it is well understood. By giving consciousness preferential status as a candidate cause of behavior, we may frame out of the discussion low-level biological or otherwise unconscious influences (Lynch and Srull 1982). To remedy this situation, we offer a perspective on consciousness that 1) distinguishes awareness from other System 2 properties and 2) integrates research from psychology and neuroscience. We hope that consumer researchers will use this perspective as a
starting point for rigorously testing the extent to which consciousness itself (as opposed to deliberation, control, effort, or intention) affects consumer outcomes.

Recently, the field of consumer research has been invigorated by a renewed focus on methodological rigor, thanks to the efforts of methodologists (Gelman and Loken 2014; Simmons, Nelson, and Simonsohn 2011; Spiller et al. 2013). The present article aims to complement these efforts, by calling for a corresponding increase in the conceptual rigor with which we define constructs, derive hypotheses, and differentiate these from assumptions. As a field, let us not be so blinded by our own intuitive sense of conscious control that we miss opportunities to develop fuller, more complete accounts of the causes of consumer behavior.
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