CULTURE AND PERSONAL PREFERENCES: IMPLICATIONS FOR DECISION MAKING, INFORMATION PROCESSING, AND BRAND EQUITY

BY

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DISSERTATION

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ABSTRACT
This dissertation explores two ways culture shapes the meaning of personal preferences. Decades of research has built on two assumptions about the role of personal preferences in decision making: 1) preferences that come quickly to mind are useful for making decisions and 2) behaviors reflect one’s personal preferences. However, studies supporting both assumptions were conducted in cultural contexts that emphasize an independent self-construal. In these contexts, people are socialized to form preferences that express their individuality and act in a way that fulfills their personal goals. In cultural contexts where an interdependent self-construal is emphasized, fitting in and adjusting to others’ needs is prioritized. In these contexts, people need to be responsive to norms as they make decisions. Informed by cross-cultural perspectives, we theorize and test the ideas that, for interdependents, 1) personal preferences that come quickly to mind can reduce one’s readiness to act and 2) information about others’ preferences may be more persuasive than information about others’ actions. Together, this dissertation suggests ways that cultural theories and attitude theories can expand productively by considering the deeper meanings of personal preferences.
To my families. Those that I chose and those that chose me.
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CHAPTER 1: INTRODUCTION

Two people are deciding what to eat for dinner. Both people have a preference that comes quickly to mind. What would the accessibility of their preferences signal for the person eating alone versus the person making dinner plans with a group of colleagues? Who would feel better about deciding what to eat?

A young man in India sees two online advertisements for headphones. One ad claims its headphones are Most Loved, whereas the second ad claims its headphones are Best Sellers. Across the globe, an American man sees the same online advertisements. Which message would be more persuasive to each consumer?

The above scenarios relate to two classic domains in the literature on attitudes and decision making: the impact of attitude accessibility on coping with decision demands and the impact of consensus cues in persuasion. Decades of research have established that having readily available preferences facilitates decision making (Fazio, Blascovich, & Driscoll, 1992; Fazio, Powell, & Williams, 1989). An adjacent body of research has shown that information communicating social consensus can positively influence product evaluations (Bearden & Etzel, 1982; Calder & Burnkrant, 1977; Hellofs & Jacobson, 1999).

These literatures share two culturally contingent assumptions. First, their research suggests that one’s personal preferences are paramount in decision making. It follows, then, that personal preferences that come quickly to mind should be beneficial for coping with decision demands. Second, and in correspondence with the first assumption, people assume that other
people’s behaviors reflect their personal preferences. Thus, social consensus information that communicates others’ preferences (e.g., Most Loved) or behaviors (e.g., Best Seller) should be equally persuasive.

In Western cultural contexts (e.g., U.S.), where the studies supporting these two literatures were conducted, these assumptions hold. People raised in these cultures are socialized to develop preferences that are stable across contexts, express those preferences to establish uniqueness from others, and behave in ways that are consistent with personal preferences (Kim & Drolet, 2003, 2009; Kim & Sherman, 2007; Savani, Markus, & Conner, 2008). In these contexts, accessible preferences make decisions easier (Blascovich et al., 1993; Fazio et al., 1992, 1989), and people often perceive behavior as a reflection of internal attributes such as preferences, beliefs, and values (Bem, 1972; McGuire, 1968). In contrast, in non-Western cultural contexts (e.g., China and India), people are socialized to prioritize others’ views over personal preferences and to behave in ways that yield to group norms (Markus & Kitayama, 1991; Riemer, Shavitt, Koo, & Markus, 2014; Savani, Morris, & Naidu, 2012).

This dissertation proposes that culturally distinct assumptions regarding the relationship between attitudes and behavior provide a theoretical basis to investigate new questions regarding accessible attitudes and consensus cues. For instance, when and for whom could accessible preferences be less beneficial for coping with decision demands? Further, when and why would consensus cues about others’ behaviors (e.g., Best Seller) be less persuasive than consensus cues about others’ attitudes (e.g., Most Loved)?

The dissertation is organized as follows. This remainder of this chapter reviews the culture and decision making literature with a focus on its implications for accessible attitudes and consensus cues. Chapter 2 develops hypotheses for the role of accessible attitudes in decision
making and tests the hypotheses in six studies. Chapter 3 presents hypotheses for the persuasiveness of behavioral and attitudinal consensus cues and tests the hypotheses in five studies. The appendices contain pretests and additional studies to support the studies in Chapters 2 and 3. Together, this research aims to contribute to the understanding of culture’s influence on attitudes, information processing, and persuasion.

CULTURE AND DECISION MAKING

Culture can be defined as a set of meanings shared by people in a given place at a given time (Hofstede, 1980; Triandis, 2012). The constructs of individualism and collectivism capture the broadest spectrum of cultural differences across nations and within nations (Maheswaran & Shavitt, 2000; Shavitt & Barnes, 2019). People in individualistic cultures view themselves as independent from others and tend to prioritize personal goals over in-group goals (Hofstede, 1980). In contrast, people in collectivistic cultures view themselves as socially embedded with others and tend to prioritize in-group goals over personal goals. Thus, a key distinction between individualistic and collectivistic cultures is the extent to which people view themselves as distinct from or interconnected with others.

Individualism and collectivism represent cultural values shared by people at varying societal levels. For example, an entire country can be described as individualistic or collectivistic (e.g., people from the United States and Australia are predominantly individualistic whereas people from India and China are predominantly collectivistic; Hofstede, 1980; Singelis, 1994; Triandis, 1995). Specific regions within a country can be more individualistic or collectivistic (e.g., people from states in the Western U.S. are predominantly individualistic whereas people
from states in the Southern U.S. are predominantly collectivistic; Vandello & Cohen, 1999). Further, different ethnicities within a country or region can be individualistic or collectivistic (Lalwani & Shavitt, 2013; Torelli, 2006; Torelli & Shavitt, 2010). Individualism and collectivism can also distinguish between people at different levels of socio-economic status within a country, region, or ethnicity (e.g., people with higher SES are predominantly individualistic whereas people with lower SES are predominantly collectivistic; Hofstede, 1980; Stephens, Fryberg, & Markus, 2011)

Although individualistic and collectivistic cultural tendencies can characterize entire groups of individuals (i.e., cultural syndrome; Triandis, 1996), there is also wide variation at the individual level (Triandis & Gelfand, 1998). Further, it is widely acknowledged that individuals draw upon multiple selves at various times (Aaker, 1999; Mandel, 2003; Suh, 2002; Triandis, 1989). Therefore, to the extent that individualism and collectivism represent distinct views of the self (i.e., a self that is distinct or interconnected with others), one self-construal may be more salient at any given time.

When thought of in this way, individualism and collectivism are commonly regarded in terms of their differing self-definitions: independent and interdependent self-construal, respectively (Markus & Kitayama, 1991; Triandis, 1989). Self-construal is a useful construct in the study of culture because unlike the more stable predictors of cultural orientation (e.g., ethnicity), self-construal can be situationally primed (Brewer & Gardner, 1996; Oyserman & Lee, 2007, 2008; Trafimow, Triandis, & Goto, 1991). These ideas are consistent with concepts such as idiocentrism and allocentrism (Triandis, 1995), private and collective self (Greenwald & Pratkanis, 1984), and self- and other-view (Hamilton & Biehal, 2005).
The distinction between independent and interdependent self-construals affects decision making in numerous ways. For instance, independents often pursue personal goals such as exercising personal agency (Ryan & Deci, 2000) through the choices they make (Kim & Markus, 1999; Simpson, White, & Laran, 2017), activities on which they persist (Briley, Rudd, & Aaker, 2017; Iyengar & Lepper, 1999), and the brands to which they connect (Escalas & Bettman, 2005). In contrast, interdependents tend to pursue the interpersonal goal of maintaining social harmony (Duclos & Barasch, 2014; Kim & Drolet, 2003; Kim & Sherman, 2007).

**Normative-Contextual Model of Attitudes**

Independent and interdependent self-construals are also associated with distinct models of attitudes. Attitudes, defined as evaluations of a target along a positive–negative continuum, are functional for guiding behavior across cultures (Riemer et al., 2014). However, the conceptual underpinnings of attitude theorizing, as developed by scholars in the West (Allport, 1935; Katz, 1960; Smith, Bruner, & White, 1956), are based upon Western assumptions about agency and personal goal fulfillment. Hence, in contexts where an independent (vs. interdependent) self-construal is predominant, preferences follow a person-centric model (Riemer, et al., 2014) wherein attitudes are personal to the individual (Ajzen, 1988; Eagly & Chaiken, 1995). For example, attitudes in Western contexts (e.g., U.S.) are often considered to be personal and invariant across situations (Eagly, 1992). In this way, attitudes in the West are often seen as self-expressive and are used by others to predict one’s future behavior (Berger, 2013; Katz, 1960; Smith et al., 1956). One implication of these cultural assumptions is that scholars considered attitudes to be functional to the extent that they fulfilled personal goals and enhanced personal rewards (Fazio, 2000). That is, the theoretical assumptions underlying the attitude construct and the purposes it serves cohere with the goals of the independent self.
In contrast, a *normative-contextual model* of attitudes has been theorized to describe the functioning of attitudes in non-Western contexts (Riemer et al., 2014). The normative-contextual model draws upon decades of cross-cultural research suggesting that perceived norms are often more predictive of behavioral outcomes than are personal preferences (Chan & Lau, 2001; Eom, Kim, Sherman, & Ishii, 2016; Kim & Drolet, 2009). This is because in non-Western contexts, collectivistic values and interdependent self-construals prioritize fitting in and adjusting to others’ needs. Instead of relying on personal preferences, people need to be responsive to norms as they make decisions. Therefore, the theoretical assumptions underlying the normative-contextual model cohere with the goals of the interdependent self.

In the sections that follow, I build on the normative-contextual model of attitudes (Riemer et al., 2014) and its supporting evidence to propose implications for two classic domains in attitude research: The impact of attitude accessibility on coping with decision demands, and the impact of consensus cues in persuasion. I propose that, for interdependents (vs. independents), personal preferences that come quickly to mind can get in the way of decision making because they increase the perceived need to justify one's preferences to others.

Moreover, I argue that, for interdependents, others’ expectations and approval often drive decision making. Because interdependents (vs. independents) are familiar with adjusting their behaviors to fit in, and because they therefore tend to attribute the causality of others’ actions to situational factors, consensus cues describing others’ actions (e.g., “best selling brand”) may provide more information about the impact of norms rather than about what people personally like. Instead, consensus cues may be persuasive to the extent that they communicate information about others’ preferences (vs. others’ behaviors).
Culture and the Role of Norms in Decision Making

I propose that, for interdependents, normative and contextual factors matter more than personal preferences in decision making. A robust stream of research supports the idea that norms based on others’ attitudes are more functional than personal preferences in interdependent cultural contexts (Aaker & Maheswaran, 1997; Chan & Lau, 2001; Eom et al., 2016; Markus & Kitayama, 1991; Park, 2001; E. Suh, Diener, Oishi, & Triandis, 1998; Triandis, 1989; Ybarra & Trafimow, 1998). For instance, students primed with an interdependent (independent) self-construal weighted subjective norms (personal attitudes) about condom use during sex more heavily in their behavioral intentions (Ybarra & Trafimow, 1991). Further, in a culture characterized by a predominant independent self-construal (i.e., U.S.), personal preferences were stronger predictors of green behavior than norms about others’ opinions. In contrast, in a culture characterized by a predominant interdependent self-construal (i.e., China), knowing others’ opinions toward a “greener world” was a stronger predictor of actual green behavior than personal attitudes toward a “greener world” (Chan & Lau, 2001; Eom et al., 2016).

Whereas independents may be prepared to make decisions based on their personal preferences, interdependents may still seek normative or contextual validation to decide with confidence. Compared to an independent self-construal, an interdependent self-construal makes salient the needs of others and one’s interpersonal harmony with others (Markus & Kitayama, 1991). Therefore, consumers with salient interdependent (vs. independent) self-construal may rely on inputs that make decisions easy to justify to others (Briley, Morris, & Simonson, 2000; Chang & Hung, 2018; Hong & Chang, 2015; Wu, Moore, & Fitzsimons, 2019). Hong and Chang (2015) demonstrated that consumers primed with an independent self-construal were more likely to rely on their personal feelings as inputs and chose options that were superior on affective (vs.
cognitive) attributes. In contrast, those primed with an interdependent self-construal were less likely to rely on their personal feelings and chose options that were superior on cognitive attributes. For example, independents chose an apartment described to have a nice view, whereas interdependents chose an apartment described to have access to public transportation. Instead of choosing what would make themselves feel good, interdependents were more likely to choose something that was more likely to garner others’ approval. Similarly, when the self was made salient using a mirror manipulation, consumers primed with an interdependent (vs. independent) self-construal were more likely to prefer an apartment they could justify relative to one that was personally appealing (Chang & Hung, 2018, Experiment 2).

**Implications for Attitude Accessibility**

The above discussion suggests that, for interdependents (vs. independents), personal preferences that are more accessible in memory are less likely to facilitate decision making. For interdependents, ideal decisions are those that agree with normative and contextual information. A highly accessible personal preference that is not obviously consistent with norms and contexts can therefore interfere with adaptive decision making, leading to lower readiness to act.

Attitude accessibility is a common indicator of attitude strength that reflects the objective quickness with which an attitude is activated from memory (Fazio, Chen, McDonel, & Sherman, 1982; Zanna & Fazio, 1982). Attitudes can become more (vs. less) accessible due to a number of factors: having direct experience with the attitude object (vs. not; Berger, 1992; Fazio et al., 1982; Fazio, Herr, & Olney, 1984), repeatedly expressing one's attitude (vs. not; Berger, 1992; Berger & Mitchell, 1989; Descheemaeker, Spruyt, Fazio, & Hermans, 2017; Fazio et al., 1982; Holland, Verplanken, & van Knippenberg, 2003; Powell & Fazio, 1984; Roskos-Ewoldsen & Fazio, 1992; Schuette & Fazio, 1995; Smith, Fazio, & Cejka, 1996; White, Hogg, & Terry, 2002;
Young & Fazio, 2013), or activating one's attitude via an evaluative task (vs. a non-evaluative task such as categorization; Berger, 1992; Descheemaeker et al., 2017; Fazio et al., 1982; Posavac, Sanbonmatsu, & Fazio, 1997; Sia, Lord, Blessum, Thomas, & Lepper, 1999).

According to the person-centric model, attitudes that are highly accessible provide a “ready-aid” (Smith et al., 1956) to manage and cope with decisions (Fazio, Ledbetter, & Towles-Schwen, 2000; Katz, 1960; Riemer et al., 2014). Extensive research conducted in independent cultural contexts showed that more (vs. less) accessible attitudes facilitate decision making by directing attention (Roskos-Ewoldsen & Fazio, 1992); resisting external influence (Bassili & Fletcher, 1991; Holland et al., 2003; Petrocelli, Tormala, & Rucker, 2007), and reducing the stress-related effort to decide (Fazio et al., 1992, 1989; Fazio & Williams, 1986; Powell & Fazio, 1984).

For example, American participants who rehearsed their attitudes toward abstract paintings (vs. not), thus manipulating attitude accessibility, had lower diastolic blood pressure and spent less time deciding between the same paintings in a later task (Fazio et al., 1992). In another example, Dutch participants who rehearsed (vs. not) their attitudes toward political policies reported greater feelings of confidence about their preferences (Holland et al., 2003). The authors concluded that, echoing prior research (Blascovich et al., 1993; Fazio et al., 1992; Fazio & Powell, 1997), attitude rehearsal, and thus attitude accessibility, was beneficial because it decreased the effort to respond to an attitude-relevant stimulus.

This stream of research supports the notion that, in independent cultural contexts where people make decisions based on personal preferences, accessible attitudes are useful in decision making. However, in interdependent cultural contexts where people make decisions based on normative and contextual information, accessible attitudes that are not clearly consistent with
norms and contexts can be less useful for coping with decisions. In contrast to an independent self-construal, an interdependent self-construal prioritizes directing one’s attention to others and the context (Markus & Kitayama, 1991; Nisbett, Peng, Choi, & Norenzayan, 2001), incorporating external information into one’s own views (Aaker & Maheswaran, 1997; Park, 2001), and making decisions that are justifiable to others (Chang & Hung, 2018; Hong & Chang, 2015).

In interdependent contexts, learning that a highly accessible personal preference does not fit into situational norms can be particularly uncomfortable. People with a salient interdependent self-construal attach greater importance to meeting others’ expectations and achieving harmonious interpersonal relationships with them (Markus & Kitayama, 1991; Triandis, 1989). For interdependents, a highly accessible personal preference can signal the possibility that one’s preference is not compatible with situational norms and needs to be justified to others. Thus, in contrast to independents, interdependents may feel less confident and less at ease with a decision based on a highly accessible preference.

We propose that, for interdependents, more (vs. less) accessible preferences can signal that one is not ready to make a decision, making salient the need to justify one’s preferences, instead of facilitating decision making by reducing effort. Justifying one’s preferences to others is effortful. Past research suggests that people consider more information and process information more carefully when they feel pressure to justify their views to others (Chaiken, 1980; Huber & Seiser, 2001; Simonson, 1989; Tetlock & Boettger, 1994; Tetlock & Kim, 1987). For example, participants who were told that they would be held accountable for their views (vs. not), thus manipulating the need to justify, used more effortful processing to form impressions of others (Tetlock & Kim, 1987). Relatedly, participants who were told they would need to write a
letter justifying a hiring decision to an authority (vs. not), spent over twice the amount of time
making their decision and gave more reasons supporting their decision in verbal thought
protocols (Huber & Seiser, 2001).

Taken together, prior literature suggests that interdependents (vs. independents) may be
predisposed to feel the need to justify themselves to others. As a result, we predicted that they
will exert greater justification effort when holding more (vs. less) accessible preferences because
an aspect of the self is salient that may not agree with situational norms and contexts. This is in
contrast to attitude accessibility research in independent cultural contexts where having more (vs.
less) accessible attitudes facilitates decision making via reduced effort. Next, we examine the
implications of a normative contextual model of attitudes for interdependents’ responses to
consensus cues reflecting others’ attitudes versus others’ actions.

**Others’ Preferences Are More Persuasive than Actions**

We propose that, to interdependents, others’ attitudes (vs. others’ behaviors) are more
persuasive in decision making. People with a predominant interdependent (vs. independent) self-
construal are more familiar with adjusting their behavior to social constraints. To
interdependents, internal factors such as personal preferences, emotions, and desires “must
instead be constantly controlled and regulated to come to terms with the primary goal of
interdependence” (Markus & Kitayama, 1991, p. 227). The practice of controlling one's internal
states to fit in can be seen in a number of consumer outcomes. For example, interdependents’
(vs. independents) are generally more likely to resist impulsive purchases (Kacen & Lee, 2002;
Zhang & Shrum, 2009), exercise more patience in retail contexts (Chen, Ng, & Rao, 2005), and
exhibit greater self-control to redeem coupons (Lalwani & Wang, 2019).
The extant literature suggests that, compared to independents, interdependents perceive a greater distinction between their attitudes and behaviors. In independent cultures (e.g., U.S.), people are socialized to develop preferences that are stable across contexts, express those preferences to establish uniqueness from others, and behave in ways that are consistent with personal preferences (Kim & Drolet, 2003, 2009; Kim & Sherman, 2007; Savani et al., 2008). In these contexts, people often perceive behavior as a reflection of internal attributes such has preferences, beliefs, and values (Bem, 1972; McGuire, 1968). In contrast, in interdependent cultural contexts (e.g., China and India), people are socialized to prioritize others’ views over personal preferences and to behave in ways that yield to group norms (Markus & Kitayama, 1991; Riemer & Shavitt, 2011; Savani et al., 2012). Therefore, in interdependent contexts, behaviors are less likely to follow attitudes.

Findings from the causal attribution literature suggests that interdependents (vs. independents) are also more likely to also separate others’ attitudes from their overt behaviors (Choi, Nisbett, & Norenzayan, 1999; Ji, Peng, & Nisbett, 2000; Knowles, Morris, Chiu, & Hong, 2001; Masuda & Nisbett, 2001; Miller, 1984; Morris & Peng, 1994). For example, Chinese (vs. American) people were more likely to make situational attributions for others’ behaviors, whereas Americans (vs. Chinese) were more likely to make dispositional attributions (Morris & Peng, 1994). Similarly, Japanese (vs. American) people were less likely to infer that another person’s underlying attitude matched the attitudinal position of an essay that they were forced to read (Masuda & Kitayama, 2004), further suggesting that more interdependent (vs. independent) people are less susceptible to correspondence bias favoring dispositional attributions. A parallel investigation found that Indians were less likely than Americans to assume a connection between an action and the actor’s internal disposition (Savani et al., 2008). These effects seem to be
relatively automatic for interdependents (Knowles et al., 2001) and are driven by their relative sensitivity to the power of the situation (Choi & Nisbett, 1998; Gilbert & Malone, 1995).

If interdependents (vs. independents) are more likely to distinguish others’ attitudes from their behaviors, which are they more or less likely to be influenced by? We propose that, to interdependents, others’ attitudes are more influential because they are more engaging and more closely linked to internal factors than others’ behaviors. Supportive evidence comes from research distinguishing descriptive norms (i.e., what most people do) from injunctive norms (Cialdini, Kallgren, & Reno, 1991; i.e., what most people approve; Cialdini, Reno, & Kallgren, 1990; Jacobson, Mortensen, & Cialdini, 2011; Savani et al., 2012). For example, when people saw an injunctive norm that others approved of volunteering extra time in an experiment (attitudinal information) versus a descriptive norm that others chose to volunteer (behavioral information), they reported a greater focus on interpersonal aspects of the self by including others in their self-descriptions (Jacobson, Mortensen, & Cialdini, 2011), suggesting that injunctive norms engaged the interdependent self.

A related stream of research suggests that interdependents maintain their personal preferences even when their behavior conforms to others’ expectations (Riemer & Shavitt, 2011; Savani et al., 2012). In one study, people from an interdependent culture (i.e., India) were primed to think about workplace authority figures (vs. not) and saw a set of professional development course options. When asked to evaluate which classes to take, their choices differed between conditions, but their preferences did not (Savani et al., 2012, Study 3), suggesting that the situational norm may have influenced how Indians acted, but not their preferences (Cialdini, Kallgren, & Reno, 1991). By contrast, Americans’ choices were driven by personal preferences and were relatively unaffected by an authority figure’s opinions (Savani et al., 2012).
Implications for Consensus Cues

The present review suggests that, for interdependents, attitudinal and behavioral consensus cues may have distinct influences on product evaluations. A consensus cue is a statement that describes a majority of individuals’ orientation toward an object (Freling & Dacin, 2010). For example, a product may be shown with an attitudinal consensus cue such as, “Four out of five students prefer X brand of toothpaste.” Similarly, the same product could be shown with a behavioral consensus cue such as, "Four out of five students bought X brand toothpaste.”

Prior research has focused largely on attitudinal consensus cues and shown that consumers use such cues to inform their product evaluations under certain circumstances (Bearden & Etzel, 1982; Burnkrant & Cousineau, 1975; Hellofs & Jacobson, 1999). For instance, consumers more favorably evaluated a brand of coffee when it was shown with attitudinal consensus information about others’ preferences (vs. not; Burnkrant & Cousineau, 1975). The otherwise positive relationship between consensus cues and product evaluation has been qualified by numerous consumer variables including personal relevance (Chaiken, 1980; Maheswaran & Chaiken, 1991; Petty, Cacioppo, & Schumann, 1983) expectations (West & Broniarczyk, 1998), knowledge (Ratneshwar & Chaiken, 2002), and connectedness to others (Aaker & Maheswaran, 1997; Chang, 2012; David, 2016; Maheswaran & Chaiken, 1991; Wang, Zhu, & Shiv, 2012). For example, consumers who are connected to others via greater collectivism (Aaker & Maheswaran, 1997), fear (Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Griskevicius et al., 2009), less loneliness (Wang et al., 2012), or secure attachment style (David, 2016) tend to incorporate attitudinal consensus cues into their product evaluations more than consumers who are less connected to others (more individualistic, lonely, or anxiously attached). These findings suggest that for people with a salient interdependent self-
Research on dual process models of persuasion (Elaboration Likelihood Model and Heuristic—Systematic Model) shows that, for most individuals, peripheral cues such as consensus information about others’ opinions are persuasive when people are not motivated to process the information (Chaiken, 1980; Chaiken & Maheswaran, 1994; Maheswaran & Chaiken, 1991; Petty & Cacioppo, 1979, 1986; Petty et al., 1983). For example, studies have demonstrated that cues of attitudinal consensus (Maheswaran & Chaiken, 1991) or endorser attractiveness (Petty et al., 1983) only influenced product evaluations when people thought that the product would not (vs. would) be available to them.

Later research qualified this perspective and asserted that consumer goals play a fundamental role in determining how cues will be processed (Shavitt, Swan, Lowrey, & Wänke, 1994). That is, consumers might carefully process endorser attractiveness in a restaurant advertisement when they have the goal to make a good impression on others compared to when they have the goal to experience tasty foods. Shavitt and colleagues (1994) manipulated consumers’ social impression goals (vs. sensory experience goals) before showing participants a restaurant ad with attractive or unattractive endorsers. When participants thought the restaurant was not available to them (low motivation), restaurant evaluations differed as a function of endorser attractiveness for participants primed with sensory experience goals (vs. social impression goals). These findings are similar to those in traditional dual process model research (Chaiken, 1980; Petty & Cacioppo, 1986). In contrast, when participants thought the restaurant would be available on their campus (high motivation), restaurant evaluations differed as a function of endorser attractiveness for participants primed with social impression goals (vs.
sensory experience goals). These findings demonstrate that distinct consumer goals can determine the degree to which a cue is processed carefully on the route to persuasion.

Similarly, interdependent and independent self-construals elicit distinct goals for fitting in versus standing out from others that can make different types of consensus cues more or less personally relevant. Compared to independents, interdependents are more attentive to and influenced by others’ expectations and approval (Markus & Kitayama, 1991). For independents, consensus information about what others approve is less personally relevant. In contrast, for interdependents, consensus information about what others approve is more likely to be personally relevant (Aaker & Maheswaran, 1997). For example, Chinese (vs. American) consumers perceived a consensus cue (81% of consumers are satisfied with the product) to be more relevant (Aaker & Sengupta, 2000), and the consensus cue overshadowed attribute information even though the two pieces of information were incongruent (Aaker & Maheswaran, 1997). These findings suggest that consensus cues are consistent with the interpersonal goals that characterize an interdependent self-construal (e.g., gaining others’ approval) and are therefore relevant in decision making (Shavitt et al., 1994).

This review suggests that, for interdependents (vs. independents), there is a theoretical basis to expect differences in the persuasiveness of attitudinal and behavioral consensus cues. In culturally independent contexts, people seek to separate themselves from others and are more likely to assume that one’s behavior reflects underlying attitudes. Therefore, to independents, attitudinal and behavioral consensus cues should be similarly influential on product evaluations. In contrast, in culturally interdependent contexts, people seek approval from others and are less likely to assume that behaviors reflect people’s underlying attitudes. For interdependents, social
consensus information about others’ attitudes (vs. behaviors) may be more indicative of what others approve and are, therefore, more persuasive.
CHAPTER 2: CULTURAL SELF-CONSTRUAL AND ACCESSIBLE ATTITUDES IN DECISION MAKING

Do people always feel more prepared to choose when they have top-of-mind personal preferences? Extensive research suggests that having attitudes or preferences that are readily accessible in memory facilitates choice (Fazio, Powell, & Williams, 1989) and word of mouth recommendation (Berger & Schwartz, 2011) by increasing the readiness to act (Blascovich et al., 1993; Fazio et al., 1992; Fazio & Powell, 1997; Holland et al., 2003; Katz, 1960; M. B. Smith et al., 1956). For instance, when their attitudes were made more accessible, people felt greater certainty in their attitudes and were less likely to change them (Holland et al., 2003). In addition, political campaigns often invest millions to influence voters’ preferences in favor of their candidate with the expectation that this practice is usually effective (Fazio & Williams, 1986; for a supplemental study examining this question, see Appendix A). The role of attitude accessibility in coping with decision demands (Blascovich et al., 1993; Fazio et al., 1992; Fazio & Powell, 1997) and in facilitating choice (Fazio et al., 1989; Fazio & Williams, 1986) is well established and, indeed, is central to the attitude literature.

However, this important work emerged from a Western sociocultural emphasis on individual agency and on choosing based on what one personally wants. That is, in the Western, more independent cultural contexts in which attitude theories were developed and past studies were conducted (i.e., North America and Western Europe), personal preferences serve as critical decision guides, and choosing based on those preferences is considered natural and desirable (Riemer et al., 2014). In these contexts, accessible personal preferences are well positioned to facilitate choice. What role will accessible preferences play in cultural contexts that prioritize fitting in and adapting to others’ preferences?
A growing body of recent research suggests that, in more interdependent contexts, personal preferences play a different role. Compared to more independent people, more interdependent people are less likely to nurture personal preferences (Miller, Bersoff, & Harwood, 1990), are less likely to behave in accordance with their personal preferences (Chan & Lau, 2001; Eom et al., 2016; Morling, Kitayama, & Miyamoto, 2002; Savani et al., 2008, 2012; Savani, Wadhwa, Uchida, Ding, & Naidu, 2015), and are less likely to be satisfied or motivated by choosing according to their personal preferences (Iyengar & Lepper, 1999; Kitayama, Snibbe, Markus, & Suzuki, 2004). Instead, more interdependent people are socialized to yield to others’ views, sometimes at the expense of what they personally want (Kim & Markus, 1999; Markus & Kitayama, 1991). How would an interdependent context affect the way people respond to their accessible preferences?

In these contexts, having personal preferences that readily spring to mind may signal that one’s personal wants are too salient. This might not be as desirable in contexts where one is expected to be attentive to others’ needs and preferences. Attitude accessibility may signal that “I know what I like,” but this may give rise to concerns about how one’s preference fits with what others think. Thus, with highly accessible personal preferences, one may feel the need to think more about others’ views before acting in order to ensure that one is considerate enough. Highly accessible preferences may therefore reduce one’s feelings of readiness to act, as well as the likelihood of acting on one’s preferences.

This research is the first to examine the role of accessible preferences in decision making in culturally diverse contexts. To understand the distinct role of accessible personal preferences in interdependent settings, these studies thus consider a broader set of cultural and decision contexts, in which national groups are compared or self-construal is manipulated, and the
congruity of one’s preferences with others’ views is in question. Thus, this research contributes to the understanding of one of social psychology’s most fundamental concepts, attitude accessibility, among more diverse participant populations in more diverse decision-making settings. Across six studies, examining a variety of outcomes and attitude domains, we show that the role of more (vs. less) accessible preferences in the readiness to act depends on cultural self-construal. In so doing, these findings suggest ways that both cultural theories and attitude theories can expand productively by considering how different people respond to their accessible personal preferences.

SELF-CONSTRUAL

To assess whether accessible preferences will play a similar role facilitating decisions in a broader set of cultural contexts, it is important to consider how sociocultural factors influence one’s goals and self-views. People with independent and interdependent self-construals differ in their definitions of self and their degree of focus on others (Markus & Kitayama, 1991). In Western cultures, such as the United States, people tend to emphasize an independent self-construal, viewing the self as separate and distinct, and prioritizing personal goals over group goals. In contrast, in non-Western cultures, such as India, people tend to emphasize an interdependent self-construal, viewing the self as embedded within a social network of important others and prioritizing group goals over personal goals (Miller et al., 1990; Miller, Das, & Chakravarthy, 2011; Savani et al., 2008). Although the terms Western and non-Western distinguish individuals based on regional differences, our conceptual focus also includes situations that activate an independent or interdependent self-construal, respectively. It is well
established that individuals can access both an independent and interdependent self-construal in memory (Brewer & Gardner, 1996; Briley et al., 2000; Markus & Kitayama, 2003; Trafimow et al., 1991; Triandis, 1989). Moreover, prior research has documented correspondence between effects based on situational primes of self-construal and based on differences in national culture (Gardner, Gabriel, & Lee, 1999; Lee, Aaker, & Gardner, 2000; Van Baaren, Maddux, Chartrand, De Bouter, & Van Knippenberg, 2003; Zhang, Feick, & Price, 2006). Therefore, our theorizing applies to Western and non-Western sociocultural contexts as well as to cultural and situational settings where an independent or interdependent self-construal is predominant.

The differences in goal priorities that we have described affect a wide range of behavioral outcomes. For example, more independent people often pursue the goal of exercising personal agency (Ryan & Deci, 2000) through the choices they make (Kim & Markus, 1999; Savani et al., 2008) and the activities on which they persist (Iyengar & Lepper, 1999). In contrast, more interdependent people tend to pursue the interpersonal goal of maintaining social harmony and are less motivated to self-express (Iyengar & Lepper, 1999; Kim & Drolet, 2003; Kim & Sherman, 2007; Triandis, 1989).

We argue that independent and interdependent self-construals lead to different roles for accessible attitudes in decision making. On one hand, having accessible preferences increases felt readiness to act when an independent self-construal is salient. For more independent people, accessible attitudes signal that one is prepared to choose. On the other hand, having accessible attitudes decreases felt readiness to act when an interdependent self-construal is salient. For more interdependent people, accessible attitudes signal a greater need to consider others.
Independent Self-Construal and Accessible Attitudes

When an independent self-construal is salient, attitudes are useful to the extent they serve personal goals (Fazio, 2000). An independent self-construal is characterized by prioritizing personal goals and directing one’s attention toward the self versus others (Markus & Kitayama, 1991; Singelis, 1994). In independent cultural contexts (e.g., the U.S.), attitudes are considered to be personal, self-expressive, and invariant across situations (Eagly, 1992; Katz, 1960; Smith et al., 1956). Thus, an attitude’s accessibility in memory should help to reduce the “energy-consuming sometimes painful process of figuring out de novo how he shall relate himself to it [the attitude object]” (Smith et al., 1956, p. 41).

Accessibility refers to the strength of the association in memory between an attitude object and one’s evaluation of it (Fazio et al., 1982). The stronger the association, the more quickly the evaluation springs to mind in response to a query or in the presence of the object (Fazio, 1995). Attitudes can be chronically accessible in memory, as indexed by response latency to attitudinal inquiry, or situationally made more accessible through repeated preference expression or rehearsal. Accessibility is distinct from other dimensions of attitude strength such as attitude certainty because accessibility need not include a judgment about correctness or confidence in the attitude (e.g., Bassili, 1993). That is, although accessibility and other indicators of attitude strength can be related (see Petty & Krosnick, 1995; Rucker & Petty, 2004; Tormala & Rucker, 2007), an attitude can be more accessible without being stronger on other dimensions. Indeed, accessibility is a central index of attitude strength (Roese & Olson, 1994) that precedes other meta-attitudinal outcomes (Bassili, 1993; Holland et al., 2003; Petrocelli et al., 2007).

A rich and important stream of research has shown that more accessible preferences facilitate decision making because they decrease the thinking required to act (Blascovich et al.,
1993; Fazio et al., 1992, 1989; Fazio & Powell, 1997; Holland et al., 2003). In one key example, U.S. participants who rehearsed their attitudes toward abstract paintings (vs. not), thus manipulating attitude accessibility, took less time deciding between the same paintings in a later task (Fazio et al., 1992). These findings suggested that simply holding more accessible attitudes improved decision making by reducing the effort needed to make decisions. In another example, attitude accessibility, indexed by the response latency to indicate one’s attitude, mediated the relationship between attitude rehearsal and attitude confidence (Holland et al., 2003). In line with prior research, Holland et al. suggested that attitude rehearsal, which increases attitude accessibility, is beneficial to the individual because it decreases the thinking required to respond to an attitude-relevant stimulus, increasing the readiness to act.

Culturally independent samples and isolated decision making contexts are common themes in prior accessibility research. Indeed, past accessibility research may have been intentionally designed without social contexts because norms and social influence are considered exogenous to one’s true attitude in independent contexts (Ajzen & Fishbein, 1980; Converse, 1974; Fishbein & Ajzen, 1974). However, certain contexts can increase the need to consider others (e.g., Hong & Chang, 2015). For example, asking participants to choose for others (vs. themselves) led more independent people to prefer a more justifiable laptop (i.e., one that dominated on utilitarian attributes such as battery life) versus a less justifiable laptop (i.e., one that dominated on hedonic attributes such as visual appeal). In contrast, more interdependent people preferred the more justifiable laptop regardless of whether they were asked to choose for others or themselves, presumably because they are more likely to take others into consideration even in private decisions (Hong & Chang 2015, Study 4). Together, these findings help derive the prediction that, consistent with prior work (e.g., Fazio et al., 1992), in isolated contexts, more
(vs. less) accessible preferences enhance readiness for independents. However, in social contexts, more (vs. less) accessible preferences do not enhance readiness for independents. Formally, we hypothesize:

**H1A:** For more independent people, more (vs. less) accessible preferences increase felt readiness to act in isolated contexts.

**H1B:** For more independent people, more (vs. less) accessible preferences may not increase felt readiness to act in social contexts.

**Interdependent Self-Construal and Accessible Attitudes**

An interdependent self-construal is characterized by prioritizing interpersonal concerns and directing one’s attention toward others in the social environment (Markus & Kitayama, 1991). More interdependent people also form personal preferences, but preferences alone are incomplete drivers of action. One also needs to consider the normative context. In interdependent cultural contexts (e.g., India), attitudes are expressive of one’s embeddedness with others and modulated across situations (Cialdini, Wosinska, Barrett, Butner, & Gornik-Durose, 1999; Petrova, Cialdini, & Sills, 2007; Riemer et al., 2014).

For people in interdependent cultural contexts, one’s preferences are more likely to guide behavior when they are clearly congruent with others’ views (Riemer et al., 2014). Indeed, people in interdependent contexts are often discouraged from acting solely according to their personal preferences, and instead, are socialized to be also attuned to normative and contextual expectations (Markus & Kitayama, 1991; Morling et al., 2002; Savani et al., 2008, 2012). In one example, participants from India and the U.S. were primed to think about workplace authority figures (vs. not) before evaluating and choosing a set of professional development courses. For Indians, but not Americans, choices differed between these conditions, but their preferences did
not, suggesting that Indians held personal preferences but that they did not drive choice (Savani et al., 2012).

In another example, perceived social norms, compared to personal preferences, were stronger predictors of green behavior in Japan and China, whereas personal preferences, compared to perceived social norms, were stronger predictors in the United States (Chan & Lau, 2001; Eom et al., 2016). These findings also demonstrate how attitude measures can and typically do capture one’s own personal preferences independent of subjective norms (Fishbein & Ajzen, 1974), making it possible to study personal preferences using the same measures across cultural contexts. For example, there was no correlation between personal preferences for a “greener” world and perceived social norms for green behavior among Chinese, Japanese, or U.S. participants (Chan & Lau, 2001; Eom et al., 2016), suggesting that people respond to attitudinal inquires with their personal preferences, independent of subjective norms, across cultural contexts.

What are the implications for how preference accessibility will affect interdependents? Existing theorizing would predict that increasing the accessibility of interdependents’ preferences would enhance the readiness to act (Fazio, 1995; Fazio et al., 1989; Fazio & Williams, 1986). However, prior accessibility research, as well as attitude research more broadly (Riemer et al., 2014), typically focused on culturally independent samples (from the U.S. and Western Europe) operating in individual decision making contexts.

We make a different prediction. We propose that, for interdependents, the accessibility of a preference can decrease the readiness to act, particularly in contexts in which the prevailing norms are unclear or are incongruent with one’s preference. Instances of actual or potential norm-incongruity are likely to be a source of significant concern for interdependents, but not
independents, because of the anticipated disruption of group harmony (Hoshino-Browne et al., 2005; Kitayama et al., 2004; Markus & Kitayama, 1991). As a result, having a highly accessible personal preference that does not clearly fit into prevailing norms threatens one’s ability to sufficiently consider others. In these situations, we suggest, interdependents will feel less prepared to act, and will be less likely to act, when they hold more (vs. less) accessible preferences. Moreover, interdependents are likely to take others into account regardless of whether they decide in isolated or social contexts (e.g., Hong & Chang, 2015). Therefore, more (vs. less) accessible preferences should decrease felt readiness to act for interdependents in isolated or social contexts.

In contrast, a less accessible preference, by definition, presents a less salient interpersonal concern. Less accessible preferences, even if they are norm-incongruent, are less likely to get in the way of maintaining harmony, and thus, having less (vs. more) accessible preferences may give interdependents more flexibility to adapt to the social context (Cooper & Aronson, 1992). Taken together, we formally hypothesize:

**H2:** For more interdependent people, more accessible preferences decrease felt readiness to act in isolated or social contexts.

**Considering Others’ Views**

Previous research, conducted in independent cultural contexts, showed that having more accessible preferences reduces the need to think, increasing the readiness to act (e.g., Fazio et al., 1992). In contrast, we propose that when an interdependent self-construal is salient, having more (vs. less) accessible preferences signals that more thinking may be required to act. Past work suggests that the accessibility of one’s preference can increase how clear it is in one’s mind (i.e.,
feeling that I know what I like), but may not increase its appropriateness (Petrocelli et al., 2007). However, in interdependent contexts, the emphasis on fitting in and attending to others’ views may heighten the concern that a highly accessible preference is normatively inappropriate. Interdependents with readily accessible preferences may therefore think more about others to ensure their preferences fit in. As a result, they will feel less prepared to act on their preferences.

Our prediction, though counterintuitive from the perspective of the attitude literature, builds upon prior cultural psychology findings. Research suggests that, for more interdependent people, drawing attention to the self can actually activate behaviors that reflect greater thinking about others (Briley et al., 2000; Chang & Hung, 2018; Hong & Chang, 2015; Lalwani & Shavitt, 2009). For example, when asked to imagine choosing a laptop for themselves, interdependents (vs. independents) preferred alternatives that they could easily justify to others (Hong & Chang, 2015). In another example, when more interdependent people were led to think about themselves and their own self-presentation goals, they focused more on how they could present themselves as normatively appropriate to others (Lalwani & Shavitt, 2009). Other people’s views are thus a critical reference point for more interdependent people.

For more independent people, by contrast, the accessibility of one’s personal preferences should not affect the consideration of others’ views for two reasons. First, compared to more interdependent people, more independent people are more self-focused and less attentive to others (Markus & Kitayama, 1991). Second, prior work in culturally independent settings (e.g., U.S.) suggests that having highly accessible personal preferences reduces the overall thinking required to act (Blascovich et al., 1993; Fazio et al., 1989; 1992). Thus, we expect preference accessibility to have little effect on how much independents feel the need to consider others’ views.
H3: For more independent people, more accessible preferences would not affect the consideration of others’ views.

H4: For more interdependent people, more accessible preferences increase the consideration of others’ views.

H5: For more interdependent people, but not independent people, the consideration of others’ views mediates the relationship between attitude accessibility and felt readiness to act.

Downstream Consequences

The previous discussion suggests a number of downstream consequences relating to the relationship between accessible attitudes and felt readiness to act. This research focuses on two such consequences that reflect a sense of readiness to act and have been associated with accessible attitudes in prior research: choice deferral and word-of-mouth recommendations.

Choice Deferral. Choosing often causes stress. Past research has attributed choice deferral to decisional conflict or uncertainty (Bettman, Luce, & Payne, 1998; Dhar, 1996, 1997; Dhar & Nowlis, 1999; Tversky & Shafir, 1992). According to this perspective, choice deferral occurs because consumers do not have clearly defined preferences and, thus, do not feel equipped to decide between alternatives. Small differences in attractiveness among the available options can increase uncertainty. This suggests that as one’s preferences become more clearly defined, choice deferral should decrease (Dhar & Simonson, 2003). Related research demonstrated that consumers whose attitudes had been made more accessible through rehearsal (vs. not) were more likely to make choices based on those attitudes (Fazio et al., 1989; Fazio & Williams, 1986). However, our theorizing suggests that, for interdependents, having more accessible attitudes may not increase the likelihood of making choices based on those attitudes. For them, we predict that more accessible attitudes can increase choice deferral.
H6: For interdependents, more accessible preferences increases choice deferral.

*Word of Mouth Recommendations.* Word-of-mouth (WOM) communication is another instantiation of a felt readiness to act. Prior work suggests that the accessibility of a product in memory motivates WOM about that product (Berger & Schwartz, 2011). However, if interdependents with more accessible attitudes feel a lower readiness to act, as we theorize, then they should also be less likely to make a recommendation based on their preference when it is more accessible.

H7: For interdependents, having more accessible preferences decreases the likelihood of including one’s preference in a WOM recommendation.

The next sections present 6 studies designed to test the predictions outlined here.

**Overview of Studies**

Study 1 showed that, in an isolated decision making setting, more accessible preferences increased Americans’, but decreased Indians’, felt readiness to cope with a decision between two options. Study 2 showed that, in a social decision making setting, more accessible personal preferences were associated with increased thinking about others—an indicator of the consideration of others’ views—for interdependents, but not independents. For interdependents, this measure mediated the relationship between attitude accessibility and felt readiness to act. Study 3 built upon the first two studies by replicating the effect of attitude accessibility on felt readiness to act using manipulations of both key independent variables: attitude accessibility and self-construal. Study 4 provided additional support for our theorization by showing that interdependents with more accessible preferences considered others’ views by spending more
time and writing more when asked to recommend their restaurant preference to an imagined client group.

Two additional studies examined downstream consequences that reflect a felt readiness to act on one’s attitudes. Study 5 showed that more accessible attitudes increased choice deferral among interdependents, but not independents. Finally, Study 6 revealed WOM as downstream consequence and identified norm relevance as a relevant boundary condition. We showed that interdependents with more accessible preferences were more likely to give recommendations that corresponded with their preferences in a situation with low (vs. high) norm relevance. That is, when fitting in with norms was not a relevant concern, interdependents were more likely give recommendations that corresponded with their accessible preference. However, when fitting in with norms was a relevant concern, attitude accessibility did not affect the likelihood of recommending one’s preference.

**Study 1: Accessible Attitudes Increase Decision Comfort for Americans, Decrease Decision Comfort for Indians**

Study 1 tested H1A and H2. We measured attitude accessibility using participants’ response latencies to attitudinal inquiries (Fazio et al., 1989). We used nationality to operationalize interdependent (India) and independent (U.S.) self-construal. Past work suggests that, compared to Americans, Indians are more interdependent and attentive to norms (Lalwani & Shavitt, 2013; Monga & John, 2007; Savani et al., 2015). Second, we used common soft drink brands as attitude objects and used a validated measure to assess participants’ felt readiness to act: decision comfort. Decision comfort reflects a consumer’s affective sense of ease or contentment with a choice (Parker, Lehmann, & Xie, 2016). Therefore, it is conceptually similar to our notion of readiness. Finally, to correspond with past attitude accessibility research (Fazio
et al., 1992, 1989; Fazio & Williams, 1986; Holland et al., 2003), we tested H1A and H2 in an isolated decision making context. We predicted that Americans with more accessible soda preferences would indicate more decision comfort to choose between two soft drink brands (i.e., Coca-Cola and Pepsi), but Indians with more accessible soda preferences would not.

Participants and Design. Three hundred and two participants (163 in U.S., $M_{age} = 36.5$, 42% male; 139 in India, $M_{age} = 31.5$, 61% male) were recruited from Amazon Mechanical Turk (Rocklage & Fazio, 2018) and completed the study for money. The experiment was administered in English because all Indian respondents were proficient in English. The study used a measured accessibility $\times$ 2 (country: U.S. vs. India) between-subjects design.

Procedures and Measures. Participants began the study by completing a brief survey about their prior soft drink consumption. For instance, participants indicated which of the following brands they had consumed at any point in their lives (Coca-Cola Classic, Sprite, Pepsi, Mountain Dew, Fanta, 7-Up, Minute Maid, Schweppes Ginger Ale). Next, they rated their relative preferences for four soft drink pairs after three filler preferences to calibrate their response latencies. Their preference for Coca-Cola versus Pepsi was the focal attitude (i.e., 1 = definitely prefer Coke, 7 = definitely prefer Pepsi). We captured their response latency on all preference measures to calculate attitude accessibility.

Next, all participants were asked to imagine that they were buying a soft drink for their home. On the same page, participants indicated their decision comfort to choose between Coca-Cola and Pepsi using a five-item measure adapted from Parker, Lehmann, and Xie (2016) ($\alpha = .65$; e.g., “I would be comfortable choosing one over the other,” 1 = not at all, 7 = extremely). To establish correspondence with the readiness measure used in later studies, we also collected participants’ responses to three items designed to capture felt readiness to act (confident,
intelligent, and prepared; 1 = not at all, 7 = very much; see Appendix B.1). The items from both constructs load on the same factor and the results of this study do not change substantially if decision comfort is replaced with readiness.

Participants also completed some filler judgments of decision comfort and felt readiness to choose between candy bars (i.e., Snickers and Twix). These measures were used to explore whether the effects of attitude accessibility to products in one category (i.e., soft drinks) carried over to judgments in a related category (i.e., candy bars). Finally, participants completed demographic measures, read a debriefing statement, and received payment for their participation.

**Results**

Following past research (Fazio et al., 1989), we computed participants’ relative attitude accessibility using their own distribution of latencies. We calculated a z-score of the response latency to the focal preference (i.e., Coca-Cola vs. Pepsi) relative to that subject’s average and standard deviation of the latencies to the other soft drink preference pairs. This procedure helped to distinguish between individuals who a) had a more accessible Coke vs. Pepsi preference, relative to the other drink preferences, and b) those with the tendency to respond quickly to any inquiry.

Previous research has found a relation between attitude accessibility and attitude extremity (Downing, Judd, & Brauer, 1992; Fazio et al., 1982, 1989; Fazio & Williams, 1986; Powell & Fazio, 1984). However, we did not observe such a correlation in the present data ($r = .006, p = .92$). Nevertheless, we compared analyses with and without extremity as a covariate to ensure that the effects of attitude accessibility were not due to attitude extremity.

**Decision Comfort.** We predicted that, over and above any effect of attitude extremity, Americans with more accessible soda preferences would have more decision comfort in choosing
between Coca-Cola and Pepsi, but that Indians with more accessible soda preferences would not. First, we ipsatized the decision comfort index ($\alpha = .65$) within each country to minimize cultural differences in response style (Batra, Zhang, Aydinoğlu, & Feinberg, 2017; Baumgartner & Steenkamp, 2001; Lalwani, Shavitt, & Johnson, 2006). We regressed the decision comfort index on the attitude accessibility z-score, country, and their interaction. The analysis revealed a main effect of attitude accessibility ($\beta = .22$, $se = .09$, $p = .016$) that was qualified by the anticipated accessibility $\times$ country interaction ($\beta = -.49$, $se = .13$, $p < .001$; See Figure 2.1). For Americans, attitude accessibility was associated with greater decision comfort ($b = .22$, $se = .09$, $p = .016$), supporting H1A. In contrast, for Indians, attitude accessibility was associated with lower decision comfort ($b = -.27$, $se = .09$, $p = .003$), supporting H2. The effects did not change when attitude extremity was included as a covariate (interaction: $p < .001$), suggesting that extremity is not an alternative explanation of the effect.

**Figure 2.1** Decision Comfort as a Function of Measured Accessibility and Country in Study 1

![Decision Comfort as a Function of Measured Accessibility and Country in Study 1](image)

*Readiness. We predicted that Americans with more accessible soda preferences would have more readiness to choose between Coca-Cola and Pepsi, but that Indians with more*
accessible soda preferences would not. Again, we ipsatized the readiness index ($\alpha = .77$) within each country. We regressed the readiness index on the attitude accessibility z-score, country, and their interaction. The analysis revealed a marginal accessibility \times country interaction ($\beta = -.13, se = .07, p = .064$). For Americans, attitude accessibility was directionally, but not significantly, associated with greater readiness ($b = .11, se = .10, p = .276$). In contrast, for Indians, attitude accessibility was directionally, but not significantly, associated with lower readiness ($b = -.15, se = .10, p = .127$). The interaction effect on readiness did not reach statistical significance when attitude extremity was included as a covariate (interaction: $p = .122$).

**Exploration of Carryover Effects.** Prior research suggests that the effects of attitude accessibility to one product can carry over to related products (Descheemaeker et al., 2017). Significant effects of attitude accessibility in one category on felt readiness in another category would suggest a general tendency for accessible attitudes to affect the consideration of others’ views and readiness to act. We tested for this possibility by regressing participants’ decision comfort between candy bars on their z-scored soft drink accessibility, country, and their interaction. The analysis revealed an accessibility \times country interaction ($\beta = -.31, se = .13, p = .017$). No other effects were significant ($ps > .39$). For Indians, attitude accessibility was associated with lower downstream decision comfort ($b = -.23, se = .09, p = .013$). In contrast, for Americans, attitude accessibility was not associated with downstream decision comfort ($b = .08, se = .09, p = .39$). The same regression on readiness to choose between candy bars revealed no significant effects ($ps > .10$).

These results suggest that, for interdependents, having more accessible attitudes in one category can reduce decision comfort in a related product category.
Discussion

Study 1 provides initial evidence that the benefit of accessible attitudes depends on cultural self-construal. Replicating past work (Blascovich et al., 1993; Fazio et al., 1992, 1989), American participants (i.e., those with a predominantly independent self-construal) indicated greater decision comfort when their preferences were more accessible. Building on past work, we find the opposite pattern for Indians (i.e., those with a predominantly interdependent self-construal). That is, Indians indicated lower decision comfort when their preferences were more accessible.

Moreover, we observed that the implications of having accessible preferences can carry over to a related product category for interdependents. Past work suggests that the effects of attitude accessibility to one product can carry over to related products (Descheemaeker et al., 2017). However, we show that the effect may also depend on cultural self-construal. The effect of attitude accessibility on decision comfort between soft drinks carried over to decision comfort between candy bars for interdependents. This was not the case for independents. This is consistent with the idea that, for interdependents, having more accessible attitudes may raise a general concern to consider others’ views (see Appendix B.2 for a supplemental study testing the role of situational norms). To test this, we examine whether having more accessible attitudes increases interdependents’ consideration of others’ views via increased attention to others in Study 2. In later studies (Study 5 and Appendices B.3), we explore the possibility of carryover effects in related decision contexts.

**Study 2: Accessible Attitudes Decrease Felt Readiness to Act When Choosing for Others**

Study 2 tested whether having more accessible attitudes in a social decision making context reduces the sense of readiness for those with a salient interdependent self-construal (H2).
The study’s design builds upon the first study by examining the role of attitude accessibility in social contexts where people imagined choosing for themselves or others. First, we manipulated self-construal among participants in the same cultural context (i.e., the U.S.) to increase the confidence that the results are attributable to differences in interdependent versus independent self-construal. Second, and in line with prior work priming self-construal (e.g., Brewer & Gardner, 1996; Lee et al., 2000; Mandel, 2003), self-construal was manipulated by giving participants explicit instructions to think about others versus the self. Third, we sought to generalize our findings to another set of familiar and mundane attitude objects (salty snacks). For the reasons already outlined, we expected that for those whose interdependent self-construal was primed, having more accessible attitudes would decrease their felt readiness to act.

Thinking about others in a social context should require little effort for interdependents (e.g., Riemer & Shavitt, 2011). However, interdependents with more accessible attitudes may feel the need to shift their attention from themselves and pay more attention to others. To shed light on this possibility, we tested the extent to which, for interdependents, having more accessible preferences increased how much they think about others (H4). Moreover, we tested the extent to which, for interdependents, thinking about others mediated the relationship between attitude accessibility and felt readiness to act (H5).

However, the expectations for those whose independent self-construal was primed were less clear. For independents, having more accessible attitudes might signal greater felt readiness to act, as shown in prior literature (e.g., Fazio et al., 1992) and in Study 1. Yet, because Study 2 examines the function of attitude accessibility in a context in which others’ attitudes are made salient, it does not parallel the conditions of past work and, thus, the effect of accessibility may differ from prior findings. Moreover, the imagined presence of others may also increase
independents’ need to justify their preferences (Hong & Chang, 2015) and, thus, decrease felt readiness to act. Thus, we made the conservative hypothesis that, for independents, having more accessible snack preferences would not increase felt readiness to act in this social context (H1B). In addition, having more accessible snack preferences should not affect the degree to which independents think about others (H3) and, thus, would not mediate the relationship between attitude accessibility and felt readiness to act (H5).

Participants and Design. One hundred and eighty U.S. adults (\(M_{\text{age}} = 36.6, 47\% \text{ male}\)) were recruited from Amazon Mechanical Turk and participated for money. The experiment used a 2 (self-construal: independent vs. interdependent) \(\times\) attitude accessibility (measured) between-subjects design.

Procedure and Measures. Using a procedure developed and validated by prior work (Powell & Fazio, 1984), we measured attitude accessibility by asking participants to indicate whether various salty snacks (e.g., sunflower seeds) were “good” or “bad.” Each trial involved the presentation of the name of a snack with the words “Good” and “Bad” below. Participants were instructed to use the “L” and “A” keys on their keyboard to select the “Good” and “Bad” buttons, respectively. We programmed the study to record response latencies from page onset to response. Before continuing with the focal snacks, we ensured participants understood the procedure with a series of three unrelated practice trials. Then, 11 focal snacks were presented in randomized order and response times were recorded.

Next, we administered the pretested self-construal manipulation (see Appendix B.4). Participants in the interdependent (independent) condition were asked to think about snacks they would bring for the group (themselves) to enjoy at an upcoming social gathering. Afterwards, participants reported their felt readiness to decide what snacks to bring using the same scales as
in Study 1 and also rated their felt discomfort on three items (defensive, uptight, and tense; see Appendix 2.1). Finally, participants rated the extent to which they were thinking about others when deciding what snacks to bring (1 = not at all, 7 = very much).

**Results**

*Readiness.* In this and subsequent analyses, we analyzed felt readiness with felt discomfort as a covariate. However, the results do not change when discomfort is removed from the analyses. First, to test whether the effect of having accessible attitudes toward snacks differed as a function of self-construal, we regressed felt readiness to act ($\alpha = .67$) on participants’ average response latency toward all snacks ($\alpha = .60$; mean-centered and reciprocally-transformed), self-construal condition, and their interaction. The analysis revealed a main effect of self-construal ($\beta = .46$, $se = .16$, $p = .004$) that was qualified by the expected accessibility $\times$ self-construal interaction ($\beta = -6.07$, $se = 2.50$, $p = .016$; see Figure 2.2). Spotlight analysis revealed that in the interdependent condition, participants reported a greater sense of readiness when their attitudes were less (vs. more) accessible ($M_{low\,accessibility} = 5.74$, $M_{high\,accessibility} = 5.15$; $\beta = -4.80$, $se = 1.70$, $p = .005$), supporting H2. In contrast, in the independent condition, attitude accessibility had no effect on readiness ($M_{high\,accessibility} = 5.07$, $M_{low\,accessibility} = 4.91$; $t < 1$, ns), supporting H1B. The results were similar when discomfort was removed as a control variable ($\beta = 5.69$, $se = 2.19$, $p = .030$).
Thinking About Others. Our theorization suggests that for interdependents, having more accessible preferences can shift their attention from themselves and to thinking about others. To test this possibility, we regressed participants’ average response latency toward all snacks, self-construal (dummy-coded: 0 = independent, 1 = interdependent), and their interaction on the thinking about others item. The analysis revealed an attitude accessibility × self-construal interaction ($\beta = 9.32$, $se = 4.27$, $p = .031$; see Figure 2.3) and no other significant effects ($ps > .19$). Spotlight analyses at ±1SD about the mean of attitude accessibility suggest that participants primed with an interdependent self-construal reported thinking more about others when their attitude accessibility was higher (vs. lower; $M_{\text{high accessibility}} = 5.20$, $M_{\text{low accessibility}} = 4.46$; $\beta = 5.93$, $se = 2.91$, $p = .043$), supporting H4. In contrast, participants primed with an independent self-construal condition did not differ in their thoughts about others as a function of attitude accessibility ($M_{\text{high accessibility}} = 4.27$ vs. $M_{\text{low accessibility}} = 4.69$, $p = .281$), supporting H3.
Moderated-Mediation. Given that the interaction between attitude accessibility and self-construal predicted felt readiness to act and thinking about others, we tested whether thinking about others mediated the effect of attitude accessibility on readiness and whether self-construal moderated this relation. A significant pathway from attitude accessibility to felt readiness to act through thinking about others would provide support to our conceptualization. That is, in the interdependent condition, having more accessible personal preferences may have led participants to think more about the congruity of their personal preferences with others’ views. As a result, thinking about others would mediate the effect of attitude accessibility on felt readiness to act for those in the interdependent, but not the independent, condition.

We submitted the data to a moderated mediation model using Hayes (2018) PROCESS macro for Model 7 with 5,000 bootstrapped samples. Attitude accessibility was the independent variable, self-construal was the moderator, thinking about others was the mediator, felt readiness to act was the dependent variable, and discomfort was the covariate. As expected, in the...
interdependent condition, attitude accessibility indirectly reduced readiness through thinking about others ($\beta = .668$, Boot $SE = .434$, 95% CI: .06, 1.95). The indirect effect did not emerge for those in the independent condition ($\beta = -.35$, Boot $SE = .33$, 95% CI: -1.25, .13). The index of moderated-mediation was significant (index = 1.02, Boot $SE = .569$, 95% CI: .19, 2.66), supporting H5 (see Figure 2.4). These results suggest that when interdependents had more accessible personal attitudes were selecting a snack for their friends, their consideration of others’ views increased. This, in turn, reduced their felt readiness to cope with the upcoming situation.

**Figure 2.4** Moderated-Mediation in Study 2

**Discussion**

Consistent with Study 1, these results provide converging evidence that the benefit of accessible attitudes depends on cultural self-construal. Importantly, the current study suggests that when an interdependent self-construal is salient, having more accessible personal preferences is associated with less felt readiness to cope with the situation. Moreover, this study also suggests that for interdependents, having more accessible personal preferences can increase the consideration of others’ views. Moderated-mediation analysis further suggest that, in the interdependent condition, thinking about others mediates the relation of accessible personal
attitudes with felt readiness to act. In contrast, when an independent self-construal was salient, the accessibility of one’s personal attitude did not affect felt readiness to act.

The results from this study extend the previous study in several ways. First, we manipulated salient self-construal among participants within the same cultural context (i.e., the U.S.), such that the results could be more confidently attributed to differences in interdependent versus independent self-construal. Second, we examined the role of attitude accessibility in a social decision making context. The findings suggest that for independents, having more accessible preferences does not increase felt readiness to act in social contexts. This is in contrast to the positive effect of more accessible preferences on felt readiness to act in isolated contexts. Moreover, the findings suggest that for interdependents, having more accessible preferences decreases felt readiness to act in isolated (Study 1) and social contexts (Study 2). Finally, we generalized the findings in Study 1 to another category of mundane objects (i.e., common snacks).

In summary, Study 2 suggests that the accessibility of one’s personal attitude can reduce felt readiness to act when one has to be concerned with others’ preferences. In such an interdependent context, the results suggest that highly accessible personal preferences actually make others more salient, as one needs to consider the congruity of one’s preferences with those of others. This, in turn, leads interdependents to feel less ready to cope with the situation.

**Study 3: Accessible Attitudes Lower Felt Readiness to Act When Interdependents Learn That Friends Disagree**

The objectives of Study 3 were fourfold. First, we demonstrate that the effects revealed in Study 2 were not specific to choosing for others but emerge with a more standard manipulation of interdependent self-construal. For example, in Study 2, some might wonder whether choosing
snacks for others (vs. for the self) activated additional constructs beyond self-construal. Therefore, participants in Study 3 completed a more conventional self-construal manipulation. Participants read sentences containing pronouns that were either first-person singular (e.g., I, me, my; independent condition) or third-person plural (e.g., we, us, our; interdependent condition) and counted the pronouns, a standard manipulation of self-construal (Brewer & Gardner, 1996).

Second, we used attitude rehearsal to manipulate attitude accessibility and establish the causal role of attitude accessibility in affecting felt readiness to act (Fazio et al., 1992, 1982; Powell & Fazio, 1984). That is, people reported their attitudes either six times (high accessibility) or once (low accessibility) before indicating their felt readiness to act. Third, we used less familiar and more controversial attitude objects (product policies), as controversial policies were the focal attitudes used in prior research (e.g., death penalty, Powell & Fazio, 1984; Schuette & Fazio, 1995). Policies for autonomous cars and brain implants were chosen as the focal and filler attitude objects based on a pretest showing that the two technologies were seen as equally positive, desirable, and innovative (see Appendix B.5).

Fourth, we sought to test our reasoning in a context with specific situational norms and to ensure that others’ views were salient to all participants. In Study 2, thinking about others was a function of the interaction between attitude accessibility and the self-construal manipulation. In the current study, we induced norm-incongruity across all conditions by asking participants to imagine that the majority of their friends held an opposing view. Because instances of actual norm-incongruity are likely to be a source of discomfort for interdependents, we expected to conceptually replicate the results from Study 2 such that in the interdependent self-construal condition, having more accessible norm-incongruent preferences would reduce felt readiness to
act (H2). Further, we expected that for participants in the independent self-construal condition, accessibility may not affect readiness (H1B).

Method

Participants and Design. One hundred and eighty-three U.S. adults ($M_{age} = 35.9, 55\%$ male) on Amazon’s Mechanical Turk participated in the main experiment for money. This experiment used a 2 (accessibility: high vs. low) $\times$ 2 (self-construal: independent vs. interdependent) between-subjects design.

Procedure and Measures. The study consisted of two parts. In the first part, self-construal was primed using the pretested pronoun manipulation (see Appendix B.6). Next, participants were randomly assigned to attitude accessibility conditions modeled after prior work (Fazio et al., 1982; Powell & Fazio, 1984; Schuette & Fazio, 1995). Participants reported their general and specific attitudes five times toward one of two product policies, either for the focal object or the filler object. Half of the participants (high attitude accessibility) rated their opinions about whether an autonomous car should swerve to save its passengers or to save pedestrians when both were in danger (e.g., Autonomous cars that are programmed to always save the pedestrians are, $-3 = not\ a\ good\ idea,\ 3 = a\ good\ idea$). The other half of participants (low attitude accessibility) rated their opinions about whether policy should favor the doctor or patient when brain implants have side effects. Attitudes were recorded on 7-point scales (negative/positive, very undesirable/very desirable, not innovative at all/very innovative, bad/good).

All subjects then rated their views on the autonomous car policy using the following instructions:

Consider a situation in which the passengers of an autonomous car -- a vehicle that can operate itself without human input -- and pedestrians' lives are at stake. Whose lives should be saved?
After all participants indicated their binary preference for autonomous cars, they were asked to imagine having a conversation with a group of friends about autonomous cars. We programmed the study to induce norm-incongruity by asking all participants to imagine that their friends in the conversation held the opposite opinion than they did. For example, participants who indicated that they preferred autonomous cars to save pedestrians were asked to imagine that their friends preferred autonomous cars to save passengers.

All participants then completed the same felt readiness to act and felt discomfort measures used in Study 2. Finally, all participants indicated whether the study instructions asked them to imagine that their friends thought autonomous cars should save passengers or pedestrians (binary item) as a check on the norm-incongruity induction.

**Results**

*Manipulation Checks.* An accessibility × self-construal ANOVA on the transformed response latencies revealed the expected main effect of accessibility condition ($M_{high\ accessibility} = .10, M_{low\ accessibility} = .08; F(1, 179) = 4.62, p = .033$). No other effects were significant ($Fs < 1$). To check the effectiveness of the norm-incongruity induction, we conducted a chi square analysis, which revealed that the majority of participants (87%) correctly remembered that the majority of their friends opposed their preference ($\chi^2(1) = 96.78, p < .001$).

*Readiness.* We predicted that the effect of attitude accessibility on felt readiness to act would depend on self-construal. As in Study 2, we analyzed felt readiness with felt discomfort as a covariate. However, the results do not change when discomfort is removed from the analyses. The results from an attitude accessibility × self-construal ANCOVA on the felt readiness to act index ($\alpha = .76$) revealed the expected interaction ($F(1, 178) = 4.66, p = .032$; see Figure 2.5). In support of H2, follow-up contrast analyses revealed that accessibility reduced felt readiness to
act for participants primed with an interdependent self-construal ($M_{\text{high accessibility}} = 4.23$, $M_{\text{low accessibility}} = 4.80$; $F(1, 178) = 5.84, p = .017$). In contrast, in the independent condition, there was no difference in felt readiness to act between high versus low accessibility conditions ($M_{\text{high accessibility}} = 4.64$, $M_{\text{low accessibility}} = 4.50$; $F < 1, \text{ ns}$), supporting H1B. The results were similar, albeit marginally significant, when discomfort was removed as a covariate ($F(1, 179) = 3.76, p = .054$). We also examined whether participants’ binary preference for autonomous car safety protocol affected readiness by including it as a covariate. It was a nonsignificant factor ($p = .952$) and did not affect the significance of the focal interaction ($p = .033$), suggesting that felt readiness to act was influenced by the accessibility of participants’ preferences, not the preferences themselves.

**Figure 2.5** Readiness as a Function of Manipulated Attitude Accessibility and Self-Construal in Study 3

![Figure 2.5](image)

The graph is based upon ANCOVA adjusted means controlling for discomfort at the mean.

**Discussion**

Consistent with our prior studies, these results further support the notion that the effects of more accessible attitudes depend on self-construal. Study 3 strengthens the causal inference
drawn from Studies 1 and 2 by using manipulations of both key independent variables. We showed that when an interdependent self-construal was primed, manipulated attitude accessibility reduced felt readiness to act. Building on Study 2, Study 3 induced an incongruent situational norm across all conditions and revealed that this salient norm-incongruity reduced felt readiness for interdependents, but not independents.

For interdependents, we have shown that having more accessible attitudes increases interdependents’ attention to others (Study 2). In the next study, we shed additional light on how shifting an interdependent’s attention from the self to others is effortful. Further, we explore whether the increased consideration of others’ views brought on by more accessible preferences in one task can increase the tendency to use a decision making strategy that prioritizes more justifiable, utilitarian choices in a subsequent task (Hong & Chang, 2015).

**Study 4: Accessible Attitudes Increase Consideration of Others’ Views for Interdependents**

The primary objective of Study 4 was to show that having accessible attitudes can increase the consideration of others’ views among interdependents. We have argued that interdependents with more accessible preferences also feel a greater need to consider others’ views. In this study, consideration of others’ views was captured by measuring the time participants spent writing a recommendation for their preferred restaurant. This reasoning is consistent with prior research suggesting that the time spent performing a task indicated more difficulty making the decision (Fazio et al., 1992; Huber & Seiser, 2001) and more effortful processing (Tetlock & Kim, 1987). For example, participants who were told that they would be held accountable for their views (vs. not), thus manipulating the need to justify, used more effortful processing to form impressions of others (Tetlock & Kim, 1987). Similarly, participants who were told they would need to write a letter justifying a hiring decision to an authority (vs.
not), spent over twice the amount of time making their decision and gave more reasons
supporting their decision in verbal thought protocols (Huber & Seiser, 2001). We suggest that
accessibility could decrease consideration of others’ views when an independent self-construal is
salient, but that accessibility increases consideration of others’ views when an interdependent
self-construal is salient because interdependents (vs. independents) feel a greater need to shift
their attention from their accessible preference to others’ needs.

The study was designed to make participants’ preferences more salient, prime
interdependent (vs. independent) self-construal, and instruct participants to recommend their
preference to an imagined client. Thus, participants with a salient interdependent (vs.
independent) self-construal would be recommending a preference that had been made more
accessible. We tacitly measured participants’ consideration of others’ views by recording their
task latency while writing the recommendation as well as the character length of the
recommendation.

Moreover, prior work (Descheemaeker et al., 2017) suggests that the effects of having
more accessible preferences may carry over into subsequent decisions, and our studies (i.e.,
Study 1 and Appendix B.3) suggest that this may be true for interdependents, but not
independents. Therefore, we again explored whether attitude accessibility and self-construal
influenced subsequent decision making. Specifically, we examined whether interdependents with
more accessible preferences would show a greater tendency to choose options that dominated on
utilitarian attributes (e.g., performance) compared to options that dominated on hedonic
attributes (e.g., appearance) or popularity. Prior research suggests that interdependents’ (vs.
independents) relative propensity to feel the need to justify their decisions to others manifests in
decisions that are superior on cognitive or utilitarian attributes instead of affective or hedonic
attributes (Hong & Chang, 2015). We explore whether having more accessible preferences increases interdependents’ consideration of others’ views and increases the tendency to use a decision making strategy that prioritizes more justifiable, utilitarian attributes.

**Method**

*Participants and Design.* 326 adults (*M*age = 37, 103 women) recruited from MTurk participated in the study for money. The study used a 2 (attitude accessibility: high vs. low) × 2 (self-construal: interdependent vs. independent) between-subjects design. Seven participants did not follow the instructions and were removed from the analyses, leaving a usable sample of 319 participants.

*Procedure and Measures.* The study consisted of three parts. First, participants read that we were interested in their personal opinions about some restaurants. Participants were then randomly assigned to rehearse preferences about two lunch restaurants (high accessibility) or two coffee shops (low accessibility). Those in the high accessibility condition rated Chipotle Mexican Grill and Qdoba Mexican Eats on three, seven-point semantic differential scales each (bad/good, dislike/like, disapprove/approve). Then, they rated their relative preference between Chipotle and Qdoba (1 = definitely prefer Chipotle, 7 = definitely prefer Qdoba) and between Starbucks and Dunkin (1 = definitely prefer Starbucks, 7 = definitely prefer Dunkin). Participants in the low accessibility condition rated Starbucks and Dunkin on the same three semantic differential scales, rated their relative preference between the two coffee shops, and rated their relative preference between the two restaurants. We collected the response latency on the relative preference between restaurants because it was the focal preference.

Second, participants completed an ostensible verbal processing test to verify their eligibility for the writing task. The verbal processing test manipulated self-construal using a
validated prime (Brewer & Gardner, 1996). All participants were asked to read a story about a
visit to the city and were instructed to count the pronouns in the study. The stories were identical
except that the story in the independent condition used first-person singular pronouns (e.g., I, me,
my) and the story in the interdependent condition use third-person plural pronouns (e.g., us, our).
We validated this manipulation in a pretest (Appendix B.6).

Third, participants were told that the next part of the study was meant to examine
imagination and visualization techniques. On the next page, participants were asked to imagine
that they were a part of a travel management organization and that a client group emailed a
request for a lunch recommendation. The email is below.

Hi there—
Thanks again for all of your hard work with my visit! I
really appreciate it and are looking forward to exploring the
city after my meeting. One question remains in my group:
where should I go for lunch?
Thanks for your help!

Best,
Kevin

On the next page, participants were asked to write an email response to Kevin
recommending Qdoba/Chipotle. The study was programmed to display the restaurant that the
participant preferred in the relative preference task. Thus, all participants were asked to
recommend their preference. Response time and recommendation length were captured on this
page to capture participants’ consideration of others’ views. We also examined third-person
pronoun use in the recommendations as an additional measure of the degree to which participants
were thinking about others as they wrote their recommendations (Pennebaker, 2011; E. C. Wu et
al., 2019).

After writing the email, participants read about the second part of the imagination study,
meant to capture their tendency to use a justifiable decision making strategy. They read that they
would see three options of shoes, sports cars, and restaurants and that they should imagine themselves in the market for these goods. The choice sets were designed so that one option dominated on a more justifiable utilitarian attribute (e.g., performance), whereas the other options dominated on more hedonic (e.g., appearance) or normative attributes (e.g., popularity). A pretest confirmed that participants thought that choosing the utilitarian options would be more justifiable than choosing either the hedonic or the normative options in each set (see Appendix B.3).

In the main study, participants were asked to choose the one option in each set that they would be most likely to purchase. We collected their response latencies on each page to capture another tacit measure of their consideration of others’ views. To assess whether participants felt coerced during the email task, we asked participants to report their levels of reactance to the email task (i.e., “How much did you consider the decision to be interfering, intrusive, forced upon you, unwelcomed” 1 = not at all, 7 = extremely; \( \alpha = .94 \)) (Hong & Faedda, 1996). Finally, participants provided demographic information, read a debriefing statement, and received payment.

**Results**

*Manipulation Check.* Following prior work (Fazio et al., 1989), attitude accessibility was computed as \( 1/(1+x) \) where \( x \) was the response latency on the relative preference between Chipotle and Qdoba. Higher values on this transformed value indicate faster response latency. Note that because there were not several attitude objects as in Studies 1 and 2, there was no need to compute a relative attitude accessibility score. As expected, an independent samples t-test on the transformed preference latency revealed that the manipulation was successful (\( M_{\text{more accessible preferences}} = .22, M_{\text{less accessible preferences}} = .19; t(317) = 4.71, p < .001 \)). As before, attitude extremity
was computed by taking the absolute value of the relative preference value minus the scale midpoint (4). Extremity was not correlated with the raw ($r = -.037, p = .512$) or the transformed ($r = .032, p = .575$) response latencies.

**Email Task Latency.** Time spent writing the email was the indicator of participants’ consideration of others’ views. We performed the same linear transformation on participants’ task latency as their preference latency (i.e., $1/[1+x]$) and analyzed this value with an accessibility × self-construal ANOVA. The analysis revealed a significant interaction ($F(1, 315) = 7.71, p = .006$) and no other effects ($Fs < 1$). Follow-up analyses revealed patterns consistent with our theory (see Figure 2.6). Independents indicated significantly quicker latencies when they had more accessible preferences ($M_{more accessible preferences} = .023, M_{less accessible preferences} = .017$; $F(1, 315) = 4.11, p = .044$), consistent with past research (Fazio et al., 1992). In contrast, interdependents with more accessible preferences indicated marginally slower latencies ($M_{more accessible preferences} = .017, M_{less accessible preferences} = .023$; $F(1, 315) = 3.62, p = .058$), consistent with H4. These findings suggest that interdependents with more accessible preferences were more likely to consider others’ views in the email recommendation, whereas independents with more accessible preferences were less likely to consider others’ views. Attitude extremity was not a significant covariate ($p = .848$) and the effects were unchanged when extremity was included in the model, suggesting that the effects were driven by the accessibility of participants’ preferences, not the extremity.
Figure 2.6 Email Task Latency as a Function of Measured Attitude Accessibility and Manipulated Self-Construal in Study 4

Email Length. To check the robustness of the effect on email task latency, we also checked whether interdependents wrote longer recommendation emails as a function of attitude accessibility. In prior work, participants who were told they would need to write a letter justifying a hiring decision to an authority (vs. not), spent more time writing and wrote more (Huber & Seiser, 2001). Email length is, thus, another indicator of the consideration of others’ views. An ANOVA on the number of characters used in the email recommendation yielded a significant main effect of accessibility ($F(1, 315) = 4.56, p = .033$) and a marginal effect self-construal ($F(1, 315) = 3.68, p = .056$) that were qualified by a significant accessibility × self-construal interaction ($F(1, 315) = 3.95, p = .048$; see Figure 2.7). Follow-up analyses revealed that interdependents with more accessible preferences wrote longer emails ($M_{more accessible preferences} = 175.5$ characters, $M_{less accessible preferences} = 128.3$ words; $F(1, 315) = 8.17, p = .005$). In contrast, independents’ email length was unaffected by accessibility condition ($Ms = 174.7$ vs. 173; $F < 1$, ns). Attitude extremity was not a significant covariate ($p = .249$) and the effects did not change substantially when extremity was included in the model (interaction: $p = .057$).
**Figure 2.7** Email Length as a Function of Measured Attitude Accessibility and Manipulated Self-Construal in Study 4

Third-Person Pronoun Use. To further assess the degree to which participants considered others’ views when they recommended their preferred restaurant, we analyzed participants’ use of 3rd-person pronouns in their recommendations (Pennebaker, 2011; Wu et al., 2019). Two independent coders counted the number of 3rd person pronouns (e.g., they) in each recommendation. There was high agreement between coders ($r = .96, p < .001$) and any disagreements were resolved through discussion. An ANOVA revealed an accessibility by self-construal interaction ($F(1, 315) = 5.56, p = .019$) and no other significant effects ($ps > .14$). Follow-up analyses revealed that interdependents included more 3rd-person pronouns when their preferences were made more accessible ($M_{more\ accessible} = .51, M_{less\ accessible} = .27; F(1, 315) = 7.01, p = .009$). For independents, 3rd-person pronoun use was not affected by accessibility ($Ms = .22$ vs. .34; $F < 1$, ns).

Reactance. To rule out the potential influence of reactance, we conducted an accessibility × self-construal ANOVA on the reactance index ($\alpha = .94$). The analysis yielded no significant effects (all $ps > .13$). Further, the accessibility × self-construal interactions on email task latency ($p = .015$) and email length ($p = .086$) were not substantially affected when reactance was
entered as a covariate. This suggests that the effects on participants’ consideration of others’ views were not driven by feelings that making the recommendation was forced on them.

**Exploratory Analyses**

*Downstream Decision Making.* We have shown that having more accessible attitudes increases interdependents’ attention to others and the time spent writing recommendations based on their preferences. Next, we explored whether having more accessible attitudes also affected participants’ tendency to use a subsequent decision making strategy that prioritized more justifiable, utilitarian attributes. First, on the task of choosing between sets of shoes, cars, and restaurants, we coded each of the decisions as 1 if they chose the option that dominated on the utilitarian attribute and 0 if they chose one of the other options. The decision-making tendencies for the three goods were correlated ($r_{\text{shoes-cars}} = .21, r_{\text{shoes-restaurant}} = .18, r_{\text{cars-restaurant}} = .24$, all $p$s $< .01$). Therefore, we summed them (min = 0, max = 3) to reflect a justifiable decision making tendency. We analyzed the summed index with the same two-way ANOVA as described above. The analysis revealed a marginal accessibility $\times$ self-construal interaction ($F(1, 315) = 3.85, p = .051$).

Follow-up analyses suggest that having accessible preferences influenced interdependents’, but not independents’, subsequent decision making (see Figure 2.8). For participants primed with an interdependent self-construal, having more accessible preferences increased justifiable decision making ($M_{\text{more accessible preferences}} = 2.03, M_{\text{less accessible preferences}} = 1.67; F(1, 315) = 4.65, p = .032$). In contrast, participants primed with independent self-construal did not show a difference in justifiable decision making tendency across attitude accessibility conditions ($M$s = 1.85 vs 1.95; $F < 1$, ns). As before, attitude extremity was not a significant
covariate ($p = .176$) and the effects did not change substantially when extremity was included in the model (interaction: $p = .042$).

**Figure 2.8** Downstream Decision Making a Function of Measured Attitude Accessibility and Manipulated Self-Construal in Study 4

![Downstream Decision Making Latency](image)

*Downstream Decision Making Latency.* We also captured participants’ time spent making the decisions. A significant interaction on this measure would suggest that interdependents, but not independents, with more accessible preferences spent more considering others’ views for each decision. The ANOVA on the transformed ($1/(1+x)$) sum of decision making latencies yielded a marginal effect of attitude accessibility ($F(1, 315) = 2.76, p = .097$) that was qualified by a marginal attitude accessibility by self-construal interaction ($F(1, 315) = 3.33, p = .069$). Follow-up analyses revealed patterns that were also consistent with our theory (see Figure 2.9). Interdependents with more accessible preferences indicated slower decision making latencies ($M_{\text{more accessible preferences}} = .033, M_{\text{less accessible preferences}} = .046; F(1, 315) = 5.85, p = .016$). In contrast,
independents did not show a difference in decision making latency across attitude accessibility conditions ($M_s = .033$ vs .040; $F < 1$, ns). As before, attitude extremity was not a significant covariate ($p = .412$) and the effects were not substantially changed when extremity was included in the model (interaction: $p = .078$).

**Figure 2.9** Downstream Decision Making Latency a Function of Measured Attitude Accessibility and Manipulated Self-Construal in Study 4

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**Moderated Serial Mediation.** According to our theory, more accessible preferences should induce greater consideration of others’ views when an interdependent self-construal is salient. The interactive effect on email task latency could also spill over into interdependents’ consideration of others’ views in subsequent tasks (Descheemaeker et al., 2017). If this were the case, then the accessibility × self-construal interaction on email task latency should also increase decision making latency in the subsequent choice sets. Furthermore, the increase in consideration of other others’ views should manifest in more justifiable decision making tendency among interdependents. To test this conceptual model, we conducted a moderated serial mediation analysis (5,000 bootstrap samples) using PROCESS and the procedures outlined...
in Hayes (2018). In the model estimated by this analysis, attitude accessibility condition (low = 0, high = 1) was the manipulated independent variable, recommendation latency was the first mediator, decision making latency was the second mediator, justifiable decision making was the dependent variable, and self-construal (independent = 0, interdependent = 1) was the manipulated moderating variable. The analysis revealed the following results (see Figure 2.10).

**Figure 2.10** Moderated Serial Mediation Analysis in Study 4

As noted earlier, there was a significant accessibility condition by self-construal interaction on recommendation latency ($\beta = -0.011, se = 0.004, p = 0.006$). For independents, more accessible preferences led to faster recommendation latency ($\beta = 0.006, t = 2.03, p = 0.044$). For interdependents, more accessible preferences led to marginally slower recommendation latency ($\beta = -0.006, t = -1.90, p = 0.058$). Next, recommendation latency had a significant positive influence on decision making latency ($\beta = 1.01, t = 10.98, p < 0.001$). Decision making latency had a significant negative influence on justifiable decision making ($\beta = -6.39, t = -3.41, p = 0.001$). In other words, slower decision making latencies predicted the tendency to select options that dominate on easier-to-justify utilitarian attributes.

Third, and importantly, the index of moderated mediation for the serial indirect effect through recommendation and decision making latencies was significant (95% CI: LL = 0.017, UL
= .161), indicating that the interactive effect of accessibility and self-construal on justifiable decision making was serially mediated by recommendation latency and decision making latency. Namely, the accessibility $\rightarrow$ recommendation latency $\rightarrow$ decision making latency $\rightarrow$ justifiable decision making pathway was significant and positive when an interdependent self-construal was salient ($\beta = .036$, Boot $SE = .023$, LL = .006, UL = .093), but was insignificant when an independent self-construal was salient ($\beta = -.037$, Boot $SE = .024$, LL = -.093, UL = .003). The results were similar when the number of 3rd-person pronouns was included as a serial mediator before recommendation latency (index of moderated serial mediation: .0012, Boot $SE = .0036$, LL = .0000, UL = .0132). Together, these results confirm the moderated serial mediation and suggest that for interdependents, having more accessible attitudes can activate a general concern for the views of others, which can carry over into subsequent decisions.

**Discussion**

Study 4 shows that the consideration of others’ views can mediate the relationship between attitude accessibility and decision making. For interdependents, having more accessible preferences increased the time spent and characters written in a word-of-mouth recommendation of one’s preference. Exploratory analyses suggest that, for interdependents, the additional time spent in the recommendation task spilled over into subsequent decision making scenarios and increased their justifiable decision making. Namely, interdependents spent more time choosing between alternatives and eventually settled on more justifiable options that dominated on utilitarian attributes (e.g., performance) instead of options that dominated on hedonic (e.g., appearance) or normative (e.g., popularity) attributes. In contrast and consistent with past work (Fazio et al., 1992), for independents, more accessible preferences decreased the time spent and characters written in a word-of-mouth recommendation of one’s preference. Moreover, for
independents, the slower recommendation latencies did not spill over into subsequent decision making. The moderated serial mediation analysis revealed that, for interdependents, the interactive effect of self-construal and attitude accessibility influenced recommendation latency and, in turn, decision making latency and increased justifiable decision making in downstream decisions.

**Study 5: Accessible Attitudes Increase Choice Deferral for Interdependents**

Thus far, we have shown that having accessible attitudes can reduce interdependents’ felt readiness to cope with decision demands in social contexts. In addition, the results suggest that, for interdependents, more accessible attitudes increased the consideration of others’ views, and the consideration of others’ views mediated the relationship between attitude accessibility and readiness to act. Increased consideration of others’ views was reflected in their increased attention to others (Study 2) and increased time spent on a word-of-mouth recommendation of one’s preference (Study 4). Further, in Study 4, the increased consideration of others’ views on the recommendation task influenced the decision making latency on subsequent decision making tasks and increased interdependents’ tendency to choose justifiable, utilitarian options.

Our goal in Study 5 was to take these findings a step further by demonstrating that, for independents, having more accessible attitudes can lead to choice deferral. Choice deferral is the putting off of a choice until a later date. Past research has attributed choice deferral to decisional conflict or uncertainty (Bettman et al., 1998; Dhar, 1996, 1997; Dhar & Nowlis, 1999; Tversky & Shafir, 1992). Thus, we expected that, if more accessible attitudes make interdependents feel less confident and less ready to act, then interdependents with more accessible attitudes should also be more likely to defer choice. Finally, to further extend generalizability, this study primed
self-construal using another validated method (Mandel, 2003) and used a different attitude object (i.e., virtual assistant data policy).

**Method**

*Participants and Design.* One hundred and sixty-six undergraduates at an American university ($M_{age} = 20.5$, 57% male) completed the study for class participation credit. The study used a 2 (attitude accessibility: high vs. low) $\times$ 2 (self-construal: interdependent vs. independent) between-subjects design.

*Procedure and Measures.* To begin, participants were randomly assigned to pretested conditions designed to prime self-construal (see Appendix B.7). Following Mandel (2003), participants in the independent condition were asked to recall something nice that they purchased for themselves and describe how they personally benefitted from it. Participants in the interdependent condition were asked to recall something nice they purchased for a friend or family member and describe how the recipient benefitted from it. All participants then explained how they personally felt about buying the gift for themselves or for others.

Following the self-construal prime, the main study design was similar to Study 3 but used different product policies. Participants reported general and specific attitudes five times to one of two policies. Half of the participants repeatedly expressed their personal attitudes toward the focal policy: whether personally sensitive data collected from a voice assistant (e.g., Amazon Alexa) should be shared with authorities. The other half of participants repeatedly expressed their personal attitudes toward the filler policy: whether an investment portfolio should have a large proportion of cryptocurrencies (e.g., Bitcoin). Attitudes were recorded on a set of 7-point scales (negative/positive, very undesirable/very desirable, not innovative at all/very innovative, bad/good; see Appendix B.8).
All subjects then indicated who they thought should have access to the personal data collected from a voice assistant (0 = only the user, 1 = both the user and the appropriate authorities). Thus, subjects in the low attitude accessibility expressed their attitudes toward the focal voice assistant data policy once. In contrast, participants in the high accessibility condition expressed their attitudes a total of six times. The response latency on this last item served as the attitude accessibility manipulation check.

Next, participants were asked to imagine the same casual get-together scenario with a close group of friends as in Study 3. As in Study 3, we programmed the study to induce norm-incongruity by asking all participants to imagine that people in the conversation held the opposite opinion as they did. For example, if a participant felt that only the user should have access to the voice assistant data, then they read that most people in the group believed that both the user and the appropriate authorities should have access.

On the next page, participants were asked to imagine a choice scenario that was adapted from prior work on choice deferral (Dhar, 1996; Dhar & Nowlis, 1999). They read that during the conversation with their friends, someone showed them three voice assistants from a local electronics store. They were told that the store had three brands of voice assistants on sale and that the sale ended that day. The alternatives were described by a list of their characteristic features taken from various online retailers. The pretested set was constructed such that each alternative was best on one dimension out of three, but identical on the remaining attributes (see Appendix B.9).

Results

Manipulation Check. An accessibility × self-construal ANOVA on the transformed latencies revealed the expected main effect of accessibility condition ($M_{\text{high accessibility}} = .16, M_{\text{low}}$...
accessibility = .10; $F(1, 162) = 27.2, p < .001$), suggesting that the attitude accessibility manipulation was successful. No other effects were significant ($Fs < 1$).

**Choice Deferral.** We predicted an attitude accessibility $\times$ self-construal interaction on choice deferral such that the effect of attitude accessibility on choice deferral would depend on self-construal. To assess the effects of attitude accessibility and self-construal on choice deferral, we conducted a binary logistic regression, regressing choice deferral (0 = made choice, 1 = deferred choice) onto attitude accessibility condition (-1 = low, 1 = high), self-construal prime (-1 = independent, 1 = interdependent), and their interaction. As predicted, the interaction was significant ($\beta = .51, se = .23, p = .026$; see Figure 2.11). Follow-up analyses showed that for participants primed with an interdependent self-construal, attitude accessibility marginally increased choice deferral (probability low accessibility = 9.1%, probability high accessibility = 23.1%; $\beta = .55, se = .32, p = .090$). That is, interdependent participants were somewhat less likely to make a choice when their attitude accessibility was high versus low. This effect was not observed in the independent condition. Instead, for participants primed with an independent self-construal, having more accessible attitudes directionally increased the likelihood of choosing; that is, it decreased the likelihood of choice deferral, albeit not significantly (probability low accessibility = 20.5%, probability high accessibility = 9.1%; $\beta = -.47, se = .33, p = .149$). We also examined whether participants’ binary preference for voice assistant data sharing affected choice deferral by including it as a covariate. It was a nonsignificant factor ($p = .42$) and did not affect the significance of the focal interaction ($p = .032$).
Discussion

Study 5 lent additional evidence that accessible attitudes can affect decision making differently across interdependent and independent self-construal. When an interdependent self-construal was primed, attitude accessibility led to more choice deferral. That is, more accessible attitudes were somewhat less likely to be used for making. This was not the case for people with a salient independent self-construal. Building on Study 3, this study induced an incongruent situational norm across all conditions and revealed that salient norm-incongruity reduced the felt readiness to act in a decision context for interdependents, but not for independents. When an interdependent self-construal was primed, having more accessible preferences in a context where others disagreed increased choice deferral. Next, we examine another downstream consequence of our theorization. Specifically, we test the extent to which interdependents with more accessible attitudes include a preferred option in a word of mouth recommendation.
Study 6: Accessible Attitudes Reduce Word of Mouth for Interdependents

The objective of Study 6 was to identify a theoretically relevant boundary condition to the previous effects. We have suggested that interdependents with more accessible attitudes feel less ready to act because they are unsure whether their preferences consider others’ views. If this is the case, then reducing the relevance of the situational norms should alleviate their concerns and increase their readiness to act. Moderation by norm relevance would help to reconcile the current research with prior work that has shown positive effects of attitude accessibility on felt readiness to act (Fazio et al., 1989; Fazio & Williams, 1986). Specifically, we aimed to demonstrate that having more accessible attitudes in contexts where there is low (vs. high) norm relevance can increase the felt readiness to provide a word of mouth (WOM) recommendation. Consistent with prior work (Fazio et al., 1992, 1989; Fazio & Williams, 1986), we examined participants’ attitude–behavior correspondence. That is, we observed the likelihood that participants with more accessible preferences would use their preference to make a WOM recommendation.

Prior research suggests that the accessibility of a product in memory motivates WOM about that product (Berger & Schwartz, 2011). However, if interdependents with more accessible attitudes feel a lower readiness to act, as we have shown, then they should also be less likely to include a preferred option in their recommendation when their preference is more accessible. Further, this effect should only be true when there is high norm relevance. In contrast, when there is low norm relevance, interdependents should be more likely include a preferred option in their recommendation when their preference is more accessible.

Therefore, we designed this study so that people whose attitude accessibility and interdependent self-construal were primed could make, or not make, a recommendation based on
their accessible preferences. We manipulated norm relevance by asking participants to recommend to a group of vegetarian visitors either a lunch option (high norm relevance) or a dessert option (low norm relevance). When norm relevance was high, we predicted that interdependents with more accessible preferences would be less likely to include their preferred option in a WOM recommendation, which would suggest that accessibility makes interdependents less likely to act on their attitudes, consistent with the findings of Studies 1 and 5. In contrast, when norm relevance was low, we predicted that interdependents with more accessible preferences would be more likely to include their preferred option in a WOM recommendation. This would suggest that, consistent with prior research (e.g., Fazio et al., 1992), accessibility could make interdependents more likely to act on their attitudes. Thus, this study tests the robustness of our effects using actual behavior and seeks process evidence using a moderation-of-process approach (Bullock, Green, & Ha, 2010; Spencer, Zanna, & Fong, 2005).

Method

Participants and Design. One hundred and seventy undergraduates (M_age = 20.6, 68 males) completed the study for class participation credit. The study used a (accessible attitudes: lunch vs. dessert options) × 2 (norm relevance: high [lunch recommendation] vs. low [dessert recommendation]) between-subjects design. As our focus was on the role of norm relevance, we activated an interdependent self-construal for all participants.

Procedure and Measures. Participants were told that we were conducting market research for local restaurants as a cover story. Next, participants were assigned to conditions designed to make their personal preferences for either on-campus lunch or dessert options more accessible. Those in the lunch condition rated two local restaurants on three 7-point semantic differential scales (bad/good, disapprove/approve, dislike/like; see Appendix B.10) and then indicated their
preference for one over the other (1 = definitely restaurant A, 7 = definitely restaurant B). A pretest confirmed that participants were familiar with each restaurant and thought there were many vegetarian options at both, suggesting that either would be an appropriate and likely recommendation to a vegetarian (see Appendix B.11). In contrast, those in the dessert condition rated two local dessert (ice cream) locations three times and then indicated their relative preference between them on the same scales.

Next, an interdependent self-construal was induced for all participants using the 3rd person plural pronoun task from prior studies (Brewer & Gardner, 1996). Then, we asked participants to imagine that they were a part of a student consulting organization on campus and that one of their client groups were coming to campus for a meeting. As a part of their visit, the client group emailed the participant requesting a food recommendation. The email request manipulated norm relevance. Participants in the high norm relevance condition read that the client group was vegetarian and requested a lunch recommendation. We expected that this would make attitudes toward lunch restaurants relevant to the situational norm because lunch offerings may or may not fit in with a vegetarian diet. In contrast, those in the low norm relevance condition read that the client group was vegetarian and requested a dessert recommendation. We expected that attitudes toward dessert restaurants would not pose a threat to fitting into the situational norm because desserts are usually vegetarian (see Appendix B.12 for a summary of the conditions and predictions in this study).

Participants wrote their email reply on the next screen. The instructions permitted them to either make a recommendation or refer the client to another member of their team. Afterwards, participants rated how salient were the norms in the situation (“There were strong norms within the client group,” 1 = strongly disagree, 7 = strongly agree). Next, participants rated whether the
norms were of high relevance to their decision making (“The client group’s dietary concerns were relevant when writing your email reply,” 1 = strongly disagree, 7 = strongly agree). Finally, we took several demographic measures including participants’ personal dietary concerns.

Results

Manipulation Check. First, to ensure that norms were equally salient across conditions, we conducted an accessibility × norm relevance ANOVA on the norm salience item. The analysis yielded no significant effects ($F$s < 1, ns), suggesting that norms were equally salient across conditions. Furthermore, the grand mean of norm salience was above the midpoint ($M = 4.66, t(167) = 7.61, p < .001$).

Next, we confirmed that, although norms were equally salient across conditions, norms were more relevant in the lunch recommendation condition. An accessibility × norm concerns ANOVA on the norm relevance item revealed the expected main effect of norm condition ($M_{\text{high concern}} = 5.7, M_{\text{low concern}} = 4.9; F(1, 164) = 12.52, p = .001$).

Preference–Recommendation Correspondence. We expected that more accessible preferences would be more likely to yield a word of mouth recommendation when norm relevance was low (vs. high). We dummy-coded participants’ email responses to represent whether it included one of the target restaurants (1 = included one of the target restaurants, 0 = did not include). Target restaurants varied by norm condition. In the low norm relevance condition, we were interested in whether participants mentioned two focal dessert places. In the high norm relevance condition, we were interested in whether participants mentioned two focal lunch places. Thus, participants who had rehearsed lunch (dessert) preferences and spontaneously mentioned either of the two dessert shops (lunch restaurants) represented the
baseline frequency for word of mouth. A binary logistic regression revealed main effects of the accessibility ($\beta = -1.5$, Wald $\chi^2(1) = 9.1, p = .003$) and norm relevance ($\beta = -2.1$, Wald $\chi^2(1) = 13.4, p < .001$) conditions that, as expected, were qualified by a significant accessibility $\times$ norm relevance interaction on whether participants spontaneously recommended a focal restaurant ($\beta = 2.42$, Wald $\chi^2(1) = 10.07, p = .002$; see Figure 2.12).

**Figure 2.12** Recommendation as a Function of Attitude Accessibility and Norm Relevance in Study 6

![Graph showing the probability of recommending a target restaurant for dessert and lunch recommendations in low and high norm relevance conditions.]

Note: Recommendation as a function of attitude accessibility and norm relevance in Study 6. Dessert locations were the target restaurants in the low norm relevance condition. Lunch locations were the target restaurants in the high norm relevance condition.

Follow-up analyses further supported our theorizing. When the clients requested a dessert recommendation (i.e., low norm relevance), having more accessible dessert preferences increased the use of their preference to make the recommendation. Participants were more likely to recommend one of the focal places when their preferences had been made more accessible ($P_{\text{more accessible}} = 54\%$ vs. $P_{\text{less accessible}} = 21\%, p = .003$). In contrast, when the clients requested a lunch recommendation (i.e., high norm relevance), having more accessible lunch preferences
decreased the use of their preference to make the recommendation. That is, there was no significant difference in the likelihood of recommending a focal lunch place when their preferences had been made more accessible ($P_{\text{more accessible}} = 28\%$ vs. $P_{\text{less accessible}} = 13\%, p = .111$). It is important to note that, when participants recommended one of the focal restaurants in either condition, their recommendation corresponded with their preference in the earlier task. Put another way, participants with more accessible personal preferences were more likely to use their preference to recommend one of the focal restaurants when norm relevance was low ($P_{\text{dessert}} = 54\%$) rather than high ($P_{\text{lunch}} = 28\%, p = .011$). Participants with less accessible preferences were equally likely to use their preference recommend one of the focal restaurants ($P_{\text{dessert}} = 21\%$ vs. $P_{\text{lunch}} = 13\%, p = .356$).

**Discussion**

Study 6 provided further support that accessible attitudes can reduce interdependents’ felt readiness to act using actual word of mouth recommendation behavior. People were more likely to recommend a restaurant based on an accessible preference when their audience’s dietary concerns were less relevant in their decision making (i.e., low norm relevance). People were less likely to do so when the audience’s dietary concerns were relevant in their decision making (i.e., high norm relevance). These results also provided moderation-of-process evidence that the need to consider others’ views influenced the readiness to act on accessible personal preferences. This study built on Studies 3 and 5 by manipulating the relevance of the situational norm to reveal that more accessible personal preferences corresponded with word-of-mouth behavior when the situational norm had low relevance. When the situational norm had high relevance, more accessible personal preferences were less likely to correspond with a word of mouth recommendation behavior.
General Discussion

The reported studies converge on the idea that accessible attitudes serve different roles in decision making for people with different cultural self-construals. For participants whose interdependent self-construals were chronically salient or situationally activated, the more accessible their preferences were, the less they felt ready to act (Studies 1, 2, and 3), the less they recommended their preference (Study 6), and the more they deferred choice (Study 5). For interdependents, relative to independents, accessible attitudes appeared to increase the consideration of others’ views via increasing their attention to others (Study 2) and spending more time on a recommendation to others (Study 4). For interdependents, this increased consideration of others’ views mediated the relationship between attitude accessibility and readiness to act. Moreover, this process was moderated when the situation had low norm relevance (Study 6). The same effects were not observed for those with a salient independent self-construal.

Our research makes contributions in several areas. First, we are the first to address the function of attitude accessibility in cross-cultural contexts. In independent cultural contexts, accessible attitudes are functional because they reduce the effort to decide (Blascovich et al., 1993; Fazio et al., 1992, 1989; Fazio & Powell, 1997; Fazio & Williams, 1986; Katz, 1960; Smith et al., 1956). Our research suggests that, in interdependent cultural contexts, accessible preferences may not increase the readiness to act when accessibility also increases the consideration of others’ views. In situations where it is less necessary to consider others’ views, such as when attitudes were less likely to interfere with situational norms, accessible attitudes increased the readiness to act (Study 5).
A second contribution of our research pertains to the costs of accessible attitudes. Research has suggested that having accessible attitudes can impair one’s ability to notice that the attitude object has changed (Fazio et al., 2000). Fazio and his colleagues concluded that the functional value of accessible attitudes depends “on whether the attitude object remains stable over time” (p. 209). Thus, accessible attitudes can leave the attitude holder fairly closed-minded and inflexible (Cooper & Aronson, 1992; DeBono, Green, Shair, & Benson, 1995; Schuette & Fazio, 1995). Consistent with this, we suggest that accessible attitudes may also make interdependents feel inflexible in social settings where the attitude may conflict with situational norms. In these contexts, we found that accessible attitudes can reduce felt readiness to cope with decision demands (Study 6).

More generally, the reported findings are consistent with recent research emphasizing the need expand the focus of attitude theory from a “primary focus on the individual to the individual-responding-to-a-specific environment” (Riemer et al., 2014, p. 640). We advance that theorizing by demonstrating that attitude accessibility can function differently than previously understood in contexts where interdependent self-construals are salient. For example, we showed that accessible attitudes do not always function to drive attitude-consistent behavior (Study 6). Indeed, sometimes accessible attitudes can reduce the likelihood of such actions and, instead, highlight the need to be accountable to others. Thus, our findings also expand the perspective adopted in past attitude accessibility research which emphasized the role of attitudes in serving personal goals (e.g., object-appraisal; Blascovich et al., 1993; Fazio, 2000; Fazio et al., 1992).

Conclusion

The present research highlights a novel cost of attitude accessibility. We demonstrate that accessible preferences can get in the way of fitting in with others when they are not clearly
aligned with situational norms. As a result, people with a salient interdependent self-construal may exert greater effort to consider others’ views and, as a result, feel less ready to act. Thus, this research provides a unique theoretical contribution to the attitudes and cross-cultural literatures by identifying distinct roles of accessible attitudes in decision making across levels of cultural self-construal.

Several studies in Appendix B provide additional support of our theorization. For example, the study in Appendix B.13 showed that for Americans, but not Indians, the accessibility of autonomous car preferences was associated with greater readiness to discuss autonomous cars. The study in Appendix B.16 showed that for Asians and Latinos, but not Caucasians, the simple act of evaluating (vs. unscrambling) objects can decrease self-focus and increase group-focus. The studies in appendices B.2 and B.14 demonstrated that for more interdependent people, attitude accessibility was associated with greater readiness to act when the salient norm was irrelevant (vs. relevant; B.2) and when others’ preferences were known (vs. unknown; B.14). The studies in appendices B.15 and B.17 further demonstrated the moderating effect of norm relevance using willingness to pay (B.15) and preference latencies in multiple trials (B.17) and as dependent variables.
CHAPTER 3: CULTURAL SELF-CONSTRUAL AND ATTITUDINAL VS. BEHAVIORAL CONSENSUS CUES

Batiste, a global cosmetic brand, has claimed in separate advertisements that, “96% of women agree” and that Batiste is the “best-selling dry shampoo.” Does the subtle difference between communicating others’ attitudes or behaviors have the same impact on product evaluation? Despite widespread use and research on consensus cues (Bearden & Etzel, 1982; Burnkrant & Cousineau, 1975; Hellofs & Jacobson, 1999; Maheswaran & Chaiken, 1991; West & Broniarczyk, 1998), scant research has considered the effects of different consensus cue types. We distinguish attitudinal (81% of consumers prefer) from behavioral consensus (81% of consumers purchase) and propose that cultural differences in the informational value of others’ attitudes versus others’ behaviors produce different responses to attitudinal and behavioral consensus cues.

The assumption that attitudinal and behavioral consensus cues have uniform effects on product evaluation has theoretical validity in Western cultural contexts, where an independent self-construal is typically salient. In these contexts, people often perceive behavior as a reflection of internal attributes such as preferences, beliefs, and values (Bem, 1972), suggesting that behaviors follow attitudes. Indeed, for independent people, information about others’ behaviors could also signal others’ revealed preferences and therefore be a more diagnostic guide to one’s own evaluation (White & Simpson, 2013).

In contrast, a number of cross-cultural differences in the use and expression of attitudes suggests that, for people with a salient interdependent self-construal, others’ behaviors are less likely to follow attitudes. Compared to independents, interdependents have more experience attending to conformity in the normative environment (Bond & Smith, 1996; Kim & Markus,
1999; Miller et al., 2011) and inferring that others’ choices are driven by factors other than their preferences (Masuda & Kitayama, 2004; Morris & Peng, 1994; Savani et al., 2008, 2012). In addition, interdependents (vs. independents) tend to resist self-expression in their personal choices (Kim & Sherman, 2007) and word-of-mouth behaviors (Fong & Burton, 2008; Lai, He, Chou, & Zhou, 2013), suggesting that their personal opinions are more closely held. For interdependents, therefore, normative information about attitudinal (vs. behavioral) consensus may have more informational value because it is more confidently associated with what others approve compared to what others do (Jacobson et al., 2011). As a result, interdependents, but not independents, may evaluate products more favorably when they are shown with attitudinal (vs. behavioral) consensus cues.

This research contributes to the consensus information and persuasion literature as well as the cross-cultural literature. We are the first to test the role of consensus cue type on product evaluations. We show that the assumption that all consensus information is processed in the same way may need to be culturally qualified. Across five studies, we show a culturally-contingent relationship between consensus cue type and product evaluation. Further, we demonstrate that, for interdependents, more effortful processing of additional information after viewing attitudinal (vs. behavioral) consensus underlies product evaluations. These findings advance theory and practice by illustrating the importance of a cultural perspective in predicting the information processing and effectiveness of different consensus cues.
Consensus cues often improve product evaluation. Many firms opt to communicate that an item is the “most loved” or a “best seller” because these cues can indicate pervasive consumer interest and validate product quality (Griskevicius, et al. 2009; Wu and Lee 2016). Past research outlined the boundaries of the positive effect of consensus cues on product evaluation by focusing on consumer factors such as the personal relevance of the product (Petty, Cacioppo, and Schumann 1983), consumer expectations (West and Broniarczyk 1998), product category knowledge (Ratneshwar and Chaiken 2002), and connectedness to others (Aaker and Maheswaran 1997; Griskevicius et al. 2009; Wang et al. 2012; Wu and Lee 2016). However, prior research has mostly focused on consensus cues that communicate information about others’ preferences (e.g., 80% of consumers liked their purchase; Wang, Zhu, and Shiv 2012) because there was little theoretical reason to expect differences as a function of type of consensus cue. In contrast, we suggest that consumers’ cultural self-construal can predict distinct responses to attitudinal versus behavioral consensus cues.

**Self-Construal and Consensus Cues**

We suggest that self-construal moderates the effect of attitudinal (vs. behavioral) consensus cues on product evaluation because, compared to interdependents, independents are more likely to infer that others’ behaviors reflect their attitudes. In independent cultures (e.g., U.S.), people are socialized to develop preferences that are stable across contexts, express preferences to establish uniqueness from others, and behave in ways that are consistent with personal preferences (Kim & Drolet, 2003, 2009; Kim & Sherman, 2007; Savani et al., 2008). In contrast, in interdependent cultures (e.g., China and India), people prioritize group goals over
personal preferences and behave in ways that yield to group norms (Markus & Kitayama, 1991; Morris & Peng, 1994; Savani et al., 2012). Therefore, in interdependent contexts, one’s behaviors may not reflect one’s internal preferences. Indeed, compared to more independent people, more interdependent people are more likely to attribute overt behaviors to situational factors instead of dispositional factors (Choi, Nisbett, & Norenzayan, 1999; Ji, Peng, & Nisbett, 2000; Knowles et al., 2001; Miller, 1984).

We first address the implications of this theorizing for responses to behavioral consensus cues as a function of cultural factors, before turning to comparisons of the effectiveness of attitudinal versus behavioral cues in each cultural context. Taken together, the literature reviewed above leads to the hypothesis that compared to independents, interdependents should infer less information about others’ preferences from a behavioral consensus cue.

**H1:** For interdependents (vs. independents), behavioral consensus information leads to weaker inferences about others’ underlying preferences

The Persuasiveness of Others’ Preferences versus Behaviors

If, to more interdependent (vs. independent) people, others’ behaviors are less likely to reflect preferences, then the next question is whether interdependents infer more or less informational value from attitudinal (vs. behavioral) consensus cues. Several pieces of evidence suggest that for more interdependent consumers, information about others’ preferences (vs. behaviors) is more persuasive. For example, seminal research showed how, compared to the U.S., Korean advertisements emphasized attending to others’ views (Han and Shavitt 1994; Kim and Markus 1999), suggesting that more interdependent people are more persuaded by others’
opinions. Similarly, consumers from Hong Kong (i.e., more interdependent consumers) evaluated products more favorably when the products were shown with high attitudinal consensus (e.g., 81% of consumers were extremely satisfied; Aaker and Maheswaran 1997). Finally, Park (2001) found that more interdependent people indicated that it was important to consider others’ opinions when forming their own opinions, whereas more independent people did not share this belief.

Another stream of research suggests that, for interdependents, information about others’ preferences (vs. behaviors) is more persuasive because they perceive others’ behaviors to be influenced by external factors. For instance, the causal attribution literature has shown that, compared to people from Western cultures (e.g., the U.S.), people from East Asian cultures (e.g., Japan) are more likely to attribute the cause of another’s actions to situational factors (Choi et al., 1999; Ji et al., 2000; Masuda & Kitayama, 2004; Miller, 1984; Morris & Peng, 1994). Relatedly, numerous findings suggest that more interdependent people are more likely to adjust their choices as opposed to their preferences across situations. For example, when people from an interdependent culture (i.e., India) were primed to think about workplace authority figures (vs. not) and shown a set of professional development course options, their choices differed between conditions, but their preferences did not (Savani et al., 2012, Study 3), suggesting that the situational norm may have influenced how Indians acted, without changing their preferences (Cialdini, Kallgren, & Reno, 1991). Similarly, people primed with an interdependent self-construal adjusted their joint consumption choices to others’ preferences, but did not adjust personal preferences others’ preferences (Wu, Moore, and Fitzsimons 2019). Taken together, these findings are consistent with the notion that, for more interdependent consumers,
information about others’ preferences may be more persuasive than information about others’
behaviors.

Consistent with this reasoning, evidence suggests that, in general, consumers rate
products better when they associate consensus with internal factors (e.g., consumers’ desires)
compared to when they associate consensus with external factors (e.g., availability; Freling &
Dacin, 2010). To the extent that interdependents are more likely to associate attitudinal (vs.
behavioral) consensus cues with internal factors, attitudinal (vs. behavioral) consensus cues
should lead to more favorable product evaluations. Existing evidence provides indirect support
for our hypothesis. For example, in a gift giving context, when a product was shown with a
behavioral consensus cue (i.e., best-seller), consumers who perceived high (vs. low) self–other
overlap (i.e., interdependent vs. independent self-construal) evaluated the gift less favorably (Wu
& Lee, 2016, Study 3). In addition, when fear, an emotion that prompts group-cohesive
processes (Griskevicius et al., 2006), was made salient, consumers indicated higher product
evaluations for products shown with attitudinal consensus cues (e.g., “The museum that millions
are talking about”) compared to behavioral consensus cues (e.g., “Visited by over a Million
People”; Griskevicius et al., 2009).

For independents, in contrast, the effect of attitudinal and behavioral consensus cues on
product evaluation is less clear. One stream of literature suggests that there should be no
difference in product evaluation as a function of attitudinal versus behavioral consensus cues.
This is because, in general, social information, such as information on social consensus, is less
likely to be personally relevant to independents (vs. interdependents) because they are
predominantly self-focused (Markus & Kitayama, 1991). Consistent with this, research has
shown that people from independent cultural contexts (e.g., U.S.) are less likely to process
consensus cues when motivation is high (vs. low; Maheswaran & Chaiken, 1991). Therefore, all else equal, independents’ (vs. interdependents’) product evaluations may be less sensitive to consensus cue type.

As previously mentioned, another stream of literature suggests that people in culturally independent (vs. interdependent) contexts are more likely to assume that behaviors follow attitudes (Bem, 1972), suggesting that behavioral consensus might be more reliable indicators of internal factors such as users’ preferences and product value (see Appendices C.4 and C.6 for supplementary studies supporting this point). Indeed, some evidence suggests that independents may be more persuaded by behavioral (vs. attitudinal) consensus because they perceive others’ actions as more indicative of others’ ‘true’ preferences and thus as more diagnostic (White & Simpson, 2013). The authors found that for people primed with an independent self-construal, descriptive (vs. injunctive) norms improved attitudes and intentions toward unfamiliar sustainable behaviors (e.g., composting). This suggests that it is unclear whether consensus cues will influence independent consumers’ product evaluations at all. However, if anything, behavioral (vs. attitudinal) consensus may be more persuasive. Taken together, we hypothesize that:

H2: For interdependents, but not independents, products shown with attitudinal (vs. behavioral) consensus cues receive higher product evaluations

Self-Construal, Consensus Cues, and Information Processing

The dual process models of persuasion, the Elaboration-Likelihood Model (ELM) and the Heuristic Systematic Model (HSM), suggest that consensus cues can influence product
evaluation in three ways (Chaiken, 1980; Petty & Cacioppo, 1979, 1986). Consensus cues can serve as arguments, providing information pertaining to the central merits of the product. They can serve as peripheral cues, allowing attitude formation without diligent consideration of the merits of the product. Finally, consensus cues can influence the extent to which the individual is motivated to evaluate the central merits of the product (Chaiken & Maheswaran, 1994; Lord, Lee, & Sauer, 1995; Mackenzie, Lutz, & Belch, 1986; Petty, Kasmer, Haugtvedt, & Cacioppo, 1987). Therefore, consensus information can serve as an argument, peripheral cue, or driver of elaboration likelihood.

In independent cultural contexts, social consensus information tends to serve as a peripheral cue because information about others is external to the self. This information is therefore less personally relevant and has less informational value. For example, in an experiment where consumers learned about a new product launch in a nearby (vs. distant) region, thereby manipulating high (vs. low) personal relevance, consensus cues only influenced American consumers’ evaluations of the product in the low personal relevance condition because the cues provided a shortcut that did not require processing the information carefully (Maheswaran & Chaiken, 1991).

In contrast, in interdependent cultural contexts, consensus cues may influence the motivation to evaluate central arguments because information about others is incorporated in the self and is thus more personally relevant (Markus & Kitayama, 1991; Riemer et al., 2014; Shavitt et al., 1994; Triandis, 1989). Indeed, for Hong Kong consumers, consensus cues influenced their product evaluations regardless of whether the new product was launched in a nearby (vs. distant) region (Aaker & Maheswaran, 1997).
Similarly, to more interdependent people, norms conveying others’ attitudes may attract more attention than norms conveying others’ behaviors. Supportive evidence comes from research distinguishing descriptive norms (i.e., what most people do) from injunctive norms (i.e., what most people approve; Cialdini, Reno, & Kallgren, 1990; Cialdini, Kallgren, & Reno, 1991; Jacobson et al., 2011). For example, compared to people who saw that others chose to volunteer (descriptive norm), people who saw that others approved of volunteering (injunctive norm) were more likely to include others in their self-descriptions (Jacobson et al., 2011, Study 2), suggesting that injunctive norms engaged the interdependent self. The authors argued that injunctive but not descriptive norms elicit greater interpersonal focus because they are more likely to appeal to one’s concern about social approval.

Taken together, we propose that for more interdependent people, attitudinal (vs. behavioral) consensus cues have more informational value (see Appendices C.1 and C.2 for supplemental studies demonstrating this). Therefore, interdependents should more diligently process product information shown with attitudinal (vs. behavioral) consensus cues. When messages are personally relevant, consumers are motivated to effortfully process additional information to form an overall judgment (Petty & Cacioppo, 1979; 1986). Therefore, for interdependents, the informational value of attitudinal (vs. behavioral) consensus cues may motivate the evaluation of more central merits of the product (i.e., product attributes). In contrast, independents should be similarly motivated to evaluate product attributes, regardless of cue type, because attitudinal and behavioral consensus cues are both personally irrelevant. Ultimately, for interdependents, but not independents, the informational value of a consensus cue, as indexed by the tendency to process additional information, should mediate the effect of consensus cue type on evaluation. Formally:
H3: For interdependents, but not independents, products shown with attitudinal (vs. behavioral) consensus cues increase the tendency to process additional information

H4: For interdependents, but not independents, the tendency to process additional information mediates the relationship between consensus cue type and product evaluation

Study 1: European Americans (vs. Asians) Spontaneously Inferred Consumers’ Attitudes from a Behavioral Consensus Cue

Our hypotheses draw from the reasoning that people with chronically salient independent (vs. interdependent) self-construal (e.g., Americans) are more likely to infer underlying attitudes from observed behavior (Masuda & Kitayama, 2004; Morris & Peng, 1994). In contrast, interdependents might expect behavioral consensus to reflect strong normative or contextual factors rather than shared preferences. Accordingly, H1 predicts that, for independents (vs. interdependents), a behavioral consensus cue prompts stronger inferences about others’ underlying preferences. Thus, Study 1 tests H1 by examining participants’ open-ended explanations of consensus in response to a common behavioral consensus cue: a best seller.

A “best seller” is a behavioral consensus cue because it indicates that a large group of consumers performed the same behavior (purchase) toward a product. Many firms opt to communicate that an item is a “best seller” because they can indicate pervasive consumer interest and provide validation for product quality (Griskevicius et al., 2009; Wu & Lee, 2016). We suggest that this view is culturally qualified. Thus, this study was designed to show that
consumers with distinct cultural self-construals make different inferences about a product shown with this common behavioral consensus cue. Following past research (Aaker & Williams, 1998; Escalas & Bettman, 2005; Lalwani & Shavitt, 2013; Lalwani & Wang, 2019; Torelli, 2006), we used participants with European American and Asian ethnicities to operationalize self-construal. We predicted that European Americans (vs. Asians and Asian Americans) would be more likely to spontaneously infer others’ attitudes when reflecting on the “Best Seller” consensus cue.

**Method**

One hundred and thirty-nine undergraduates participated in this survey for extra credit as part of a larger experimental session. Participants who were not European American, Asian, or Asian American (N = 48) were excluded, leaving 91 participants (55 females, M_{age} = 20). Each participant was asked to imagine shopping online and seeing a pair of headphones labeled “Best Seller.” Then, they were asked to write down all of the thoughts, feelings, and beliefs about the headphones that came to mind.

**Results and Discussion**

Two research assistants coded the responses for spontaneous mention of other consumers’ preferences for the headphones. Responses that included phrases such as “people were satisfied,” “most people like,” or “everyone thought it was good” were coded as 1. Responses that did not include such a phrase (e.g., “the price is fair”) were coded as 0. Agreement between the two coders was high (r = .82, p < .001) and disagreements were resolved via a third coder. Consistent with our expectations, the proportion of preference inferences differed as a function of culture (see Figure 3.1). Among European American participants, 25.5% (13/51) spontaneously mentioned that the headphones were labeled as “Best Seller” because a large group of people have a favorable attitude toward them. For example, one participant wrote,
“I feel like if a product is labeled ‘Best Seller,’ a bunch of people must like it.” In contrast, Asian students were less likely to infer others’ liking after seeing the behavioral consensus cue (7.5%, 3/40; t(89) = 2.3, p = .025).

Figure 3.1 Consumers’ Inferences of Others’ Preferences as a Function of Ethnicity

These results provide support for the reasoning that more independent (vs. interdependent) people are more likely to spontaneously infer others’ underlying preferences from a common behavioral consensus cue (H1). The next study examined whether, for interdependents, attitudinal (vs. behavioral) consensus cues lead to more favorable evaluations.

Study 2: Indians are Willing to Pay More for Products with Attitudinal (vs. Behavioral) Consensus Cues

Study 2 was designed to provide an initial demonstration of the culturally distinct influences of attitudinal and behavioral consensus cues on product evaluations in a controlled experiment. We used cues describing consumers’ brand love (e.g., 85% of consumers loved X) as attitudinal consensus cues in this study. We used cues describing consumers’ purchases as
behavioral consensus cues (e.g., 85% of consumers bought X). This operationalization corresponds well with past research on consensus cues (e.g., 81% of consumers were extremely satisfied, Aaker & Maheswaran, 1997; Maheswaran & Chaiken, 1991) and contemporary marketing practice (Batra, Ahuvia, & Bagozzi, 2012; Matyszczyk, 2017; Rodas & Torelli, 2015).

To control for consumers’ preexisting brand familiarity, we used a fictional tablet brand as the stimulus. Nationality was used to operationalize self-construal (India vs. U.S.; e.g., Lalwani & Shavitt, 2013) and willingness to pay was used to operationalize product evaluation. We predicted that, because interdependents are unlikely to infer others’ internal preferences from a behavioral consensus cue, Indian consumers (interdependents) would be willing to pay less for a product described with behavioral (vs. attitudinal) consensus cues. In contrast, for American consumers (independents), there should be little difference in willingness to pay for a product described with attitudinal versus behavioral consensus cues.

Method

Participants and Design. One hundred and one American and 99 Indian adult participants were recruited from Amazon’s Mechanical Turk for payment ($M_{age} = 35$, 71% male). One participant did not complete the study and was removed from analyses, leaving a usable sample of 199 participants. The study used a 2 (country: U.S. vs. India) $\times$ 2 (consensus type: attitudinal vs. behavioral) between-subjects design.

Procedures and Measures. Participants read a brief description of a new tablet brand that doubled as a laptop. The description included a statement from an independent market research firm about the popularity of the item. We used this information to manipulate consensus type. Participants in the attitudinal (behavioral) consensus condition read that during the Laplet’s first
few months in the US/India market, 85% of consumers who didn’t own a tablet and learned about Laplet, loved (bought) the brand.

Next, participants were asked to indicate their willingness to pay for the Laplet by dragging a numbered slider anchored from $0 on the left end to USD $1,000 (INR 50,000 for Indian participants) on the right end. We set the price ranges by referencing the prices found on consumer websites that sell tablets in each country (Amazon.com, Amazon.in).

**Results**

We predicted that Indians would be willing to pay more for a product described with attitudinal (vs. behavioral) consensus cues, but that Americans’ willingness to pay would not be affected by consensus cue type. We tested this hypothesis using a country × consensus cue type ANOVA on willingness to pay (WTP). Following prior work (Batra et al., 2017), WTP was standardized within country (ipsatized) to control for differences in the distributions of different currencies. The analysis revealed the expected interaction ($F(1, 196) = 4.27, p = .040$). Follow-up analyses supported our predictions. We report raw WTP amounts to simplify the interpretation. Indians indicated higher WTP for the product associated with attitudinal (vs. behavioral) consensus ($M_{attitudinal} = 22,554.80, M_{behavioral} = 17,608.02, F(1, 196) = 8.41, p = .004$), supporting H2. In contrast, for Americans, WTP was similar across consensus cue type ($M_{attitudinal} = 313.40, M_{behavioral} = 328.39, F < 1, ns$).
Study 2 demonstrated the culturally distinct influences of attitudinal and behavioral consensus cues on evaluation. We showed that consumers from a traditionally interdependent cultural context (i.e., Indians) were willing to pay more for products shown with attitudinal (vs. behavioral) consensus cues (see Appendix C.5 for a study with similar findings). In contrast, for consumers from a traditionally independent cultural context (i.e., Americans), there was no difference in willingness to pay as a function of consensus cue type. These findings extend work by others (Aaker & Maheswaran, 1997; Griskevicius et al., 2009; Maheswaran & Chaiken 1991; Wu & Lee, 2016) by showing for the first time that, in an interdependent cultural context, attitudinal (vs. behavioral) consensus cues have different implications for product evaluations.
Study 3: Interdependents Spend More Time Processing Attributes for Products with Attitudinal (vs. Behavioral) Consensus Cues, Processing Time Mediates Evaluations

Study 3 makes three improvements to Studies 1 and 2. First, we examine the role of the perceived informativeness of the consensus cue in the relationship between the consensus cue type and product evaluation. Our theorizing predicts that, for interdependents, attitudinal consensus cues are more personally relevant than behavioral ones because behaviors often reflect norms, not personal preferences (Savani et al., 2012). Further, for interdependents, attitudinal (vs. behavioral) consensus cues are more likely to appeal to the concern for social approval (Jacobson et al., 2011). Thus, as a result of the higher perceived informativeness of attitudinal (vs. behavioral) consensus cues, interdependent consumers, when they see an attitudinal consensus cue, may be motivated to process more effortfully the central merits of the product (i.e., product attributes) to form an overall judgment (Petty & Cacioppo, 1979; 1986). Therefore, we predict that, for interdependent consumers, a product shown with attitudinal (vs. behavioral) consensus cues will elicit a greater tendency to process attribute information (H3), and this tendency will mediate the relationship between consensus cue type and product evaluation (H4). In contrast, we predict that, for independents, consensus cue type should not affect the tendency to process attribute information or mediate evaluations because consensus cues are less personally relevant in general.

Second, Study 3 improves upon the first two studies by measuring self-construal at the individual level as opposed to operationalizing it at the country level (Singelis, 1994), enhancing the internal validity of the design. Third, we included a control condition to observe how self-construal and consensus cue type influence product evaluations compared to no presentation of a consensus cue.
**Pretest**

We conducted a pretest to assess the inferences that consumers make about others’ attitudes and behaviors in response to different consensus cues. Twenty-eight undergraduates from the same population as those in the main study were asked to read six scenarios. Each scenario prompted participants to, “Imagine seeing a product shown with the label, ‘___.’ For example, ‘X is a _____ product.’” Each of the six scenarios contained a different label. In the four focal scenarios, participants read that the product was “Top Rated,” “Most Loved,” “Best Seller” or “#1.” In the two filler scenarios, participants read that the product was “Trending” or a “New Arrival.” After each description, participants rated whether the label meant that many people chose the product (1 = not at all, 7 = very much so) and whether the label meant that many people preferred the product (1 = not at all, 7 = very much so). As expected, paired samples t-tests revealed that “Most Loved” and “Best Seller” elicited different inferences about other consumers’ attitudes and behaviors (see Table 3.1). We used these labels to manipulate attitudinal and behavioral consensus cue types in the main study.

**Table 3.1 Inferences from Different Cues**

<table>
<thead>
<tr>
<th></th>
<th>Others Chose</th>
<th>Others Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Rated</td>
<td>5.18&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.89&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>New Arrival</td>
<td>2.89&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.86&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>#1</td>
<td>5.86&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.79&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Loved</td>
<td>4.93&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.18&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Trending</td>
<td>5.50&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.18&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Best seller</td>
<td>6.36&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.57&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note: Different subscripts represent differences across columns at the $p < .05$ level
Method

Participants and Design. One hundred and ninety-two undergraduate students at a large Midwestern university participated in the experiment for participation credit. The experiment used a 3 (consensus cue: attitudinal vs. behavioral vs. no consensus control) × 2 (measured self-construal: independent vs. interdependent) between-subjects design.

Procedure and Measures. Participants were told that a large-scale electronics manufacturer needed consumer opinions about a product launching in their area. Then, all participants saw a new product, the ENZO headphones. Participants in the attitudinal (behavioral) consensus condition saw the headphones with the label, “Buyer’s Choice,” (“Best Seller”) and ostensible test-market results that read, “An independent marketing research agency found that 81% of 300 college-aged consumers shopping for headphones online loved (purchased) the ENZOs.” Participants in the no-consensus control condition saw the headphones without a label or test-market results.

Next, all participants were free to review product information about the ENZO as they wished. The page listed several attributes including, “up to 8 hours playback,” “sweat proof,” and “tangle resistant cable.” Note, the attributes were identical across conditions. Following past work (Coleman, Williams, & Morales, 2018; Torelli, 2006; Torelli & Kaikati, 2009; Yang, Cutright, Chartrand, & Fitzsimons, 2014), we collected participants’ time spent on this page to capture the tendency to process additional information. Because we only manipulated consensus cue type across condition, any difference in time spent processing additional information suggests different elaborative processing as a function of consensus cue type.

After viewing the ENZO’s attributes, we asked participants how much they were willing to pay (WTP) for the product featured. We used an interval scale from prior research to reduce
the amount of response variance and to guard against outliers (Rucker & Galinsky, 2008).

Participants were asked to report their WTP on a 12-point scale, where 1 = 10% of the retail
price of the item, 2 = 20% of the retail price of the item and increasing intervals of 10% per scale
point up to 12 = 120% of the retail price. Product attitudes were measured on four 7-point items
anchored by very unfavorable/very favorable, bad/good, unappealing/appealing, and
undesirable/desirable, with higher numbers indicating more positive evaluation (α = .91;
Campbell & Goodstein, 2001). Willingness to pay and attitudes were standardized and averaged
to create an overall index of product evaluation (r = .51, p < .001). For simplicity, the results
below use this overall index; the results were similar when the analyses were conducted on
willingness to pay and attitudes separately (see Appendix C.3).

As a manipulation check, we asked participants in the consensus conditions to complete
the sentence, “81% of 300 college-aged students shopping for headphones online ______ the
ENZOs.” Finally, we measured self-construal using a validated scale (Singelis, 1994) and created
a single index by subtracting the independent subscale (α = .76) from the interdependent
subscale (α = .84), following past work (Riemer & Shavitt, 2011). Higher (lower) scores on this
index reflect a predominantly interdependent (independent) self-construal.

**Results**

**Manipulation Check.** We coded participants’ open-ended responses to the manipulation
test item as 1 if they were attitudinal words (e.g., “loved” or “favored”), 2 if they were
behavioral words (e.g., “purchased” or “bought”), and 0 if they did not reflect attitudinal or
behavioral words (e.g., “for” or “in”). Remember that only participants in the attitudinal and
behavioral consensus conditions saw this manipulation check. A chi square test revealed that a
greater proportion of participants completed the sentence with an attitudinal word in the
attitudinal consensus condition (77.5%) compared to the behavioral consensus condition (22.5%), and a greater proportion of participants completed the sentence with a behavioral word in the behavioral consensus condition (63.8%) compared to the attitudinal consensus condition (36.2%, $\chi^2(2) = 17.55, p < .001$). Hence, we concluded that the manipulation was successful.

**Product Evaluation.** We analyzed product evaluations with multiple regression. Given that cue type has 3 levels (no consensus cue, attitudinal, and behavioral), we created two dummy variables, with attitudinal consensus serving as the comparison condition. Thus, the independent variables in the regression equation were no consensus (coded: 0/1), behavioral consensus (coded: 0/1), self-construal (mean-centered), the no consensus $\times$ self-construal interaction, and the behavioral consensus $\times$ self-construal interaction. The analysis revealed significant effects of self-construal ($\beta = .46, t = 3.38, p = .001$), a significant no consensus cue (vs. attitudinal consensus) $\times$ self-construal interaction ($\beta = -.54, t = -2.61, p = .010$), and, importantly, a significant behavioral consensus (vs. attitudinal consensus) $\times$ self-construal interaction ($\beta = -.55, t = -3.00, p = .003$). See Figure 3.3.

**Figure 3.3** Product Evaluation as a Function of Measured Self-Construal and Consensus Cue Type
Participants with a predominantly interdependent self-construal (+1SD) gave higher product evaluations when the headphones were shown with an attitudinal consensus cue ($M = .41$) than when the headphones were shown with a behavioral consensus cue ($M = -.18$, $\beta = -.59$, $t = -2.82$, $p = .005$), consistent with H2. In contrast, participants with a predominantly independent self-construal (-1SD) gave product evaluations that were not affected by consensus cue type ($M_{\text{attitudinal}} = -.31$, $M_{\text{behavioral}} = -.04$; $\beta = .27$, $t = 1.29$, $p = .20$). The Johnson–Neyman (Spiller, Fitzsimons, Lynch, & McClelland, 2013) procedure revealed that the effect of behavioral (vs. attitudinal) consensus cues on product evaluation was negative and significant when the self-construal index was at or above .28 (slightly more interdependent than independent; approximately 33% of the sample was above this threshold). The effect was positive and significant when the self-construal index was at or below -1.31 (more independent than interdependent; approximately 6% of the sample was below this threshold).

Analyses of the no consensus cue (vs. attitudinal consensus cue) × self-construal interaction revealed that interdependents gave more favorable product evaluations when the headphones were shown with an attitudinal consensus cue ($M = .41$) than when they were shown with no cue ($M = -.17$, $\beta = -.58$, $t = -2.66$, $p = .008$). In contrast, independents’ product evaluations were not affected by the presence of an attitudinal consensus cue (vs. no cue; $M_{\text{attitudinal}} = -.04$, $M_{\text{control}} = -.30$; $\beta = .26$, $t = 1.17$, $p = .243$). The Johnson–Neyman procedure revealed that the effect of no cue (vs. attitudinal cue) on product evaluation was negative and significant when the self-construal index was at or above .29 (slightly more interdependent than independent; approximately 33% of the sample was above this threshold). The effect was
positive and significant when the self-construal index was at or below -1.72 (more independent than interdependent, approximately 2% of the sample was below this threshold).

**Tendency to Process Additional Information.** We predicted that, for more interdependent people, attitudinal (vs. behavioral) consensus cues increase the tendency to process additional information. For more independent people, by contrast, the tendency to process additional information would not vary as a function of consensus cue type. We tested these predictions with the same multiple regression detailed above to predict the time spent processing attribute information (see Figure 3.4). The analysis revealed a marginal effect of the no consensus dummy variable ($\beta = -1.86$, $t = -1.83$, $p = .069$) and, importantly, the expected behavioral consensus $\times$ self-construal interaction ($\beta = -3.28$, $t = -2.65$, $p = .009$). Spotlight analyses revealed that more interdependent people (+1SD) spent more time processing the attribute information when the headphones were shown with attitudinal (vs. behavioral) consensus cues ($M_{\text{attitudinal}} = 11.16$ seconds, $M_{\text{behavioral}} = 6.93$ seconds; $\beta = -4.23$, $t = -2.98$, $p = .003$), supporting H3. In contrast, independents’ (-1SD) processing time was unaffected by consensus cue type ($M_{\text{attitudinal}} = 9.27$ seconds, $M_{\text{behavioral}} = 10.18$ seconds; $t < 1$, ns), further supporting H3. The Johnson-Neyman procedure revealed that the effect of consensus cue type on processing time was significant when the self-construal index reached .12 or higher (slightly more interdependent than independent; approximately 41% of the sample was above this threshold).
**Figure 3.4** Time Spent Processing Product Attribute Information as a Function of Measured Self-Construal and Consensus Cue Type

![Bar chart showing time spent processing product attributes](image)

**Moderated Mediation.** We predicted that the tendency to process attribute information would mediate the relationship between consensus cue type and product evaluation for interdependents, but not independents (H4). We tested this hypothesis using Hayes (2018) PROCESS macro Model 7 with 5,000 bootstrapped samples. Consensus cue type was the independent variable (dummy-coded: 0 = attitudinal, 1 = behavioral), mean-centered self-construal was the moderator, time spent processing product attributes was the mediator, and the product evaluation index was the dependent variable. As expected, the analyses revealed that consensus type and self-construal interacted to predict time spent processing attribute information ($\beta = -3.28$, $t = -2.71$, $p = .008$). Participants with a predominantly interdependent self-construal spent more time processing additional information when the product was shown with an attitudinal consensus cue ($M = 11.84$) compared to a behavioral consensus cue ($M = 7.49$; $\beta = -4.35$, $t = -3.06$, $p = .003$).
Importantly, the time spent processing product attributes was positively and significantly associated with product evaluation ($\beta = .03, t = 2.65, p = .009$). Conditional indirect effect tests revealed that the time spent processing product attributes mediated the relationship between consensus type and perceived product value for interdependents ($\beta = -.15, \text{Boot SE} = .08, 95\% \text{ CI: } -.34, -.01$), but not independents ($\beta = .04, \text{Boot SE} = .05, 95\% \text{ CI: } -.06, .16$). The index of moderated mediation was significant ($\beta = -.11, \text{Boot SE} = .07, 95\% \text{ CI: } -.26, -.01$). These results are consistent with the hypotheses that the time spent processing product attributes mediates the effect of consensus cue type on product evaluation for interdependents, but not independents (H4, see Figure 3.5).

**Figure 3.5** Moderated Mediation Model in Study 3

![Moderated Mediation Model](image)

**Discussion**

Building on prior studies, Study 3 showed that interdependents evaluated products more favorably when the product was shown with attitudinal (vs. behavioral) consensus cues. Moreover, the results from Study 3 are consistent with the notion that, to interdependents, attitudinal (vs. behavioral) consensus cues have more informational value because they are more personally relevant. For interdependents, the increased time spent processing product attributes led to more favorable product evaluations, suggesting that the attitudinal (vs. behavioral) consensus information was more valuable. As expected, this process was not observed for
independents, presumably because neither attitudinal nor behavioral consensus cues are personally relevant to them.

In addition, including the control condition revealed two important findings in light of extant research (Aaker & Maheswaran, 1997; Maheswaran & Chaiken, 1991). First, past research showed that Hong Kong consumers gave more favorable product evaluations when they saw positive (vs. negative) attitudinal consensus cues (Aaker & Maheswaran, 1997). In our study, interdependents more favorably evaluated the product when it was shown with an attitudinal (vs. no) consensus cue. These findings suggest that the persuasive effects of attitudinal consensus hold when compared to negative consensus or no consensus information.

Second, in our study, independents’ product evaluations did not depend on the presence of an attitudinal (vs. no) consensus cue. This is consistent with Maheswaran and Chaiken (1991) who found that American consumers’ product evaluations did not depend on positive (vs. negative) attitudinal consensus cues when personal relevance was high (i.e., the product would be launched in their area). This suggests that, for more independent participants in our study, the consensus information was not personally relevant and may thus have been disregarded in favor of the attribute information (which was constant across conditions). Therefore, for independents, product evaluations did not differ as a function of consensus cue presence or type.

Finally, and extending prior work, interdependents spent less time processing attribute information when the product was shown with a behavioral consensus cue compared to no cue, suggesting that, in this study, behavioral consensus cues were less informative than having no social consensus information. Taken together, these findings support the theorizing that interdependents distinguish between attitudinal (vs. behavioral) consensus cues and the
differences between them have distinct effects for their information processing and product evaluations.

**Study 4: Attitudinal Consensus Cue Predicts Interdependents’ Willingness to Enter a Gift Card Lottery, Behavioral Consensus Cue Predicts Independents’ Willingness**

Study 4 tested the findings from Studies 1-3 in a field experiment. We measured cultural self-construal and manipulated consensus cue type by showing that Starbucks products were either the “top rated” or the “best-selling.” In addition, we tracked whether people were willing to sacrifice their remuneration to enter a lottery for a Starbucks gift card. We predicted that interdependent people would be more willing to enter the gift card lottery when they were shown attitudinal (vs. behavioral) consensus cues. In contrast, independent people’s willingness to enter the gift card lottery should not differ as a function of consensus cue type, but if anything, they may be more willing to enter when they were shown behavioral (vs. attitudinal) consensus cues (White & Simpson, 2013).

**Method**

*Participants and Design.* One hundred and ninety-four participants took part in the study at the student union of a large university, near its Starbucks café. Participants were paid $5. Responses from 14 participants were incomplete and thus we removed their data, leaving 180 participants ($M_{age} = 20.10$, 61.1% female). The experiment used a $2$ (consensus cue: attitudinal vs. behavioral) $\times 2$ (measured self-construal: independent vs. interdependent) between-subjects design.

*Procedure and Measures.* Two research assistants and the author recruited participants in the student union. The study was a part of two surveys. The first survey, conducted by another researcher, collected participants’ self-construals (Triandis & Gelfand, 1998). In the focal
survey, participants first completed a brief questionnaire about their beverage preferences. For example, participants indicated whether they have bought coffee from the following cafes in the past year: Starbucks, Dunkin Donuts, Café Paradiso, Espresso Royale, and Einstein Bros. Next, they were told that a well-known beverage company was interested in consumer opinions about its products before reading a short description of Starbucks beverages. We manipulated consensus cue type on the same page as the description of Starbucks beverages by showing an image of Starbucks cups with the slogan “Best Seller” or “Top Rated” at the top. These slogans were validated in the pretest for Study 3. In addition, after the beverage description, participants read that, “An independent marketing research agency looking for best-selling beverages (beverages that people love) found that Starbucks is one of the most purchased (most loved) brands by college-aged consumers.”

Next, participants read that as an added token of appreciation for completing the survey, they could win one of four $25 Starbucks gift cards by entering a lottery. They further read that each lottery entry costs $1 and indicated how many entries they wanted to purchase. This was the main dependent variable.

To capture the tendency to process additional information, we asked participants how interested they would be to read additional information about Starbucks. They rated their level of interest (1 = not at all, 5 = very interested) in seven topics (e.g., New beverages on the menu). Next, they rated on two items how familiar (1 = not at all familiar to 5 = very familiar) and knowledgeable (1 = not at all knowledgeable to 5 = very knowledgeable) they were about Starbucks beverages before taking the survey. Finally, as a manipulation check, participants indicated how many college-aged consumers out of 100 they would say buy (love) Starbucks beverages.
Results

Manipulation Check. In a linear regression, the perceived consensus item was regressed on consensus cue type (-1 = attitudinal, 1 = behavioral), mean-centered self-construal index (interdependent minus independent), and their interaction. The analysis yielded no significant effects (all ts < 1), suggesting that participants thought the consensus information was equally credible. In addition, a one-sample t-test revealed that the grand mean of perceived consensus was significantly higher than the midpoint between 0 and 100 (test value = 50; t(179) = 12.5, p < .001), suggesting that participants thought the consensus was equally high.

Willingness to Enter Lottery. In a logistic regression, willingness to enter the lottery was regressed on consensus cue type (-1 = attitudinal, 1 = behavioral), mean-centered self-construal index (interdependent minus independent), and their interaction (Wald = 4.28, β(1) = -.47, p = .039). Floodlight analysis revealed one significant and one marginally significant region. Those who were relatively more interdependent (i.e., those with a self-construal score of 2.55 or higher) were somewhat more likely to enter the lottery in the attitudinal (25%) than behavioral consensus cue condition (1%; βN = -1.12, Z = -1.83, p = .067). In contrast, those who were relatively more independent (i.e., those with a self-construal score of -2.03 or lower) were more likely to enter the lottery when in the behavioral (29%) than attitudinal consensus cue condition (7%; βN = 1.01, Z = 1.96, p = .05). The results did not significantly differ when consumer knowledge of Starbucks beverages (2 items, r = .71, p < .001) was included as a covariate (consensus cue type × self-construal interaction: Wald = 4.35, β(1) = -.47, p = .037).
Figure 3.6 Consensus Cue Field Study Results

Note: Shaded region indicates Johnson-Neyman region of significance ($p < .05$)

*Lottery Amount.* Following previous research, the data were log-transformed because they were positively skewed and contained a number of zeros (Simpson et al., 2017). There was a marginal interaction between self-construal and consensus cue type on lottery amount ($b = -.06$, $se = .31$, $p = .067$). Floodlight analysis on log-transformed lottery amount revealed one significance region. More independent people (i.e., those with a self-construal score at -.70 or below) were willing to pay more to enter the gift card lottery in the behavioral consensus cue condition ($M = .58$) than the attitudinal consensus cue condition ($M = .21$, $b_\text{IN} = .07$, $p = .05$).
**Interest in Additional Information.** We predicted that, for more interdependent people, attitudinal (vs. behavioral) consensus cues increase the tendency to process additional information. In contrast, for more independent people, the tendency to process additional information would not vary as a function of consensus cue type. We tested these predictions with the same regression detailed above to predict participants’ interest in additional information. The items capturing interest in additional information hung together reliably ($\alpha = .82$) and were averaged to form an index. Analysis of the beverage interest index revealed no significant effects (interaction coefficient = .01, $t(176) = 1.39, p = .167$).

**Discussion**

Using a naturalistic field experiment, Study 4 replicated the consensus cue by self-construal interaction observed in earlier studies. People with a more interdependent self-construal were more persuaded to enter a risky lottery to win a gift card when products were advertised with attitudinal consensus cues. We also observed significant effects of consensus cue type among more independent consumers such that they were more likely to enter the lottery when shown products with behavioral (vs. attitudinal) consensus cues (White & Simpson, 2013; see Appendix C.6 for a study with similar findings). In the next study, we test the implications of our theory for brand equity.

**Study 5: Behavioral Popularity Negatively Predicts Brand Asset Value (BAV) in Interdependent Countries, Positively Predicts BAV in Independent Countries**

We have predicted that, for more interdependent people, attitudinal (vs. behavioral) consensus cues are more persuasive. In contrast, for more independent people, behavioral (vs. attitudinal) consensus cues can be more persuasive. Studies 2-4 found support for these predictions in experimental and naturalistic field settings.
How might culture moderate the effects of actual levels of attitudinal and behavioral consensus on the brand equity of known brands? Brand equity represents the outcomes that accrue to a branded product compared to the outcomes that would accrue if the same product was unbranded (Ailawadi, Lehmann, & Neslin, 2003). Brand equity is rooted in the minds of consumers and is therefore influenced by attitudinal consensus (e.g., shared preferences; D. A. Aaker, 1996; Keller, 1993; Keller & Lehmann, 2003) and behavioral consensus (e.g., market share; Datta, Ailawadi, & van Heerde, 2017; C. S. Park & Srinivasan, 1994; Sriram, Balachander, & Kalwani, 2007). In some cases, such as in a database where actual brand preferences and brand usage are collected (Batra et al., 2017), attitudinal and behavioral consensus information is simultaneously available. Our theory suggests that in more interdependent cultures, high attitudinal (vs. behavioral) consensus may be a stronger predictor of brand equity because attitudinal (vs. behavioral) consensus is more likely to be attributed to the internal qualities of the brand (Dacin & Freling, 2010; Morris & Peng, 1994). In contrast, in more independent cultures, high behavioral (vs. attitudinal) consensus may be a stronger predictor of brand equity because behavioral (vs. attitudinal) consensus is more likely to be associated with others’ true preferences (Bem, 1972; White & Simpson, 2013).

However, the use of an actual brand equity database requires consideration of the full range of consensus that may exist across multiple brands. So far, the consensus cues in our experiments have provided only favorable and high-consensus information (e.g., “top rated” or “most loved”). But sometimes the information about overall consumer preferences may not be so favorable (e.g., 15% of consumers preferred X). In such a case, we expect the valence of actual attitudinal consensus to be a boundary condition to our previously observed effects. Brands that few people prefer are less likely to create positive outcomes compared to the same product that is
unbranded. For example, if few people preferred Xtra detergent then, by definition, Xtra would not have measurable brand equity beyond that of an unbranded detergent. The same is not necessarily true for the level of behavioral consensus. For instance, few brand buyers could signal that the brand commands a price premium that only a select audience can afford.

Therefore, we expect that, when attitudinal consensus is above an acceptable threshold, behavioral consensus might have different relations with brand equity across cultures. For interdependents, behavioral consensus may not predict brand equity when attitudinal consensus is above an acceptable threshold. For interdependents, attitudinal consensus is more likely to be attributed to the brand’s internal factors and therefore be a stronger predictor of brand equity. For independents, behavioral consensus might predict brand equity when attitudinal consensus is above an acceptable threshold because behavioral consensus is more likely to be associated with others’ true preferences.

In contrast, when many people buy a brand but very few people prefer it, brand equity is likely to suffer regardless of culture. Consumer loyalty to these brands is spurious because consumers cannot differentiate among alternatives and tend to purchase based on situational cues such as availability or deals (Dick & Basu, 1994). Given that brand differentiation and price premium are positive drivers of brand equity (Keller, 2003), we expect that, regardless of culture, when attitudinal consensus is below a certain threshold, more (vs. less) behavioral consensus is associated with lower brand equity.

In Study 5, these predictions were tested using a large and unique Brand Asset Valuator (BAV) dataset from 2014-2015 that spans over 8,000 brands, 28 industry sectors, and eight countries. These data are collected by Young & Rubicam and used to assess brand equity via consumers’ perceptions of various brands. Of the numerous commercial consumer-based
measures of brand equity, Young & Rubicam’s Brand Asset Valuator (BAV) is the largest and best known (Keller, 2008). Accordingly, researchers have begun testing theory-based hypotheses using BAV datasets (Batra et al., 2017; Bronnenberg, Dhar, & Dube, 2017; Lehmann, Keller, & Farley, 2008; Mizik & Jacobson, 2008; Stahl, Heitmann, Lehmann, & Neslin, 2012). Although the BAV instrument is administered at the individual level, the data we had access to were summarized at the brand level. Next, we outline how we prepared the key independent and dependent variables.

**Brand Asset Valuator Data Preparation**

*Self-Construal.* Data for 8 countries were selected and made available to us because they represented cultures with different levels of individualism and economic development. The 8 countries were Argentina, Canada, Denmark, Germany, India, Mexico, South Korea and the United Kingdom. We used Hofstede’s (Hofstede, 1990; hofstede-insights.com) individualism score to operationalize self-construal. Canada (IND = 80, nbrands = 1,069), Denmark (IND = 74, nbrands = 801), Germany (IND = 67, nbrands = 1,155), and the U.K. (IND = 89, nbrands = 1,357) were the independent countries and were recoded as 1. Argentina (IND = 46, nbrands = 1,161), India (IND = 48, nbrands = 1,418), Mexico (IND = 30, nbrands = 1,470), and South Korea (IND = 18, nbrands = 1,357) represented the interdependent countries and were recoded as -1.

*Consensus Information.* The focal data for our hypotheses are aggregated preference and usage ratings for each brand. For example, survey respondents saw four check boxes for “the one I’d prefer to buy/use,” “one of several I’d buy/use,” “only buy/use if no convenient alternative,” and “would never buy/use.” Attitudinal consensus was summarized by adding the percentages of respondents who checked “the one I’d prefer to buy/use” or “one of several I’d buy/use” because they represent respondents’ greater liking for one alternative over others. For instance, if 51.1%
of Koreans selected the option that the Energizer battery brand was “the one I’d prefer to buy/use” and 21.2% of Koreans selected the option that the Energizer brand was “one of several I’d buy/use”, then the Energizer brand in Korea had a value of 72.3, indicating positive attitudinal consensus. Although the available attitudinal consensus information contains behavioral language (e.g., prefer to buy), it still seems relatively more attitudinal than the available behavioral consensus information because it captures respondents’ greater liking for one alternative over others.

The data preparation was similar for behavioral consensus information. Survey respondents saw each brand listed with four check boxes for “buy or use regularly/often,” “buy or use occasionally,” “have bought/used but don’t anymore,” and “never bought or used.” Behavioral consensus was summarized with the total percentage of respondents who checked “buy or use regularly/often” because this represents respondents’ recalled purchase behavior regarding each brand. For instance, if 15.3% of Mexicans selected the option that the Duracell battery brand was the one that they “buy or use regularly/often,” then the Duracell brand in Mexico had a value of 15.3, indicating low behavioral consensus. The data were not made available to us at the individual level, so the discrete responses could not be analyzed.

BAV. Brand Asset Value (BAV) was the dependent variable. BAV is an index developed by Y&R that combines consumers’ ratings of their brand awareness, knowledge/familiarity, regard, relevance, and perceived brand image attributes such as innovativeness and quality into an overall indicator of brand equity. To correct the proportions for cultural differences in response style and scale usage, we performed within-country ipsatization on the predictors and the dependent variable. This procedure also makes the data suitable for regression analyses (Batra et al., 2017; Baumgartner & Steenkamp, 2001; Fischer, 2004, p. 277).
Results

We tested the hypothesis that in interdependent (vs. independent) cultural contexts, behavioral consensus has different relations with brand equity when attitudinal consensus is above an acceptable threshold of attitudinal consensus. Ipsatized BAV was the dependent variable in the analysis. BAV was regressed on the attitudinal consensus predictor (e.g., the % of people who preferred the brand), the behavioral consensus predictor (e.g., the % of people who used the brand), self-construal (contrast coded: 1 = independent countries, -1 interdependent countries), all possible two- and three-way interactions, and industry sector as a covariate.

The regression estimates were obtained with OLS regression analysis. We further analyzed the data using industry sector as a fixed effect. A Hausman test rejected the null hypothesis, suggesting that a fixed effects model is preferable ($\chi^2(7) = 50.72, p < .001$). The results of the Hausman test suggest that it is important to fix the effect of culture on brand use and preference. Nevertheless, the results of the fixed effects model were substantively similar to the OLS model. We summarize the results from both models in Table 3.2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>OLS</th>
<th>Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intercept</td>
<td>-.06* (.04)</td>
<td></td>
</tr>
<tr>
<td>2. Behavioral consensus</td>
<td>.20** (.03)</td>
<td>.20** (.03)</td>
</tr>
<tr>
<td>3. Attitudinal consensus</td>
<td>.43** (.02)</td>
<td>.43** (.02)</td>
</tr>
<tr>
<td>4. Self-construal</td>
<td>.13** (.02)</td>
<td>.13** (.02)</td>
</tr>
<tr>
<td>5. Behavioral consensus × Self-construal</td>
<td>-.10** (.04)</td>
<td>-.10** (.04)</td>
</tr>
<tr>
<td>6. Attitudinal consensus × Self-construal</td>
<td>.34** (.03)</td>
<td>.34** (.03)</td>
</tr>
<tr>
<td>7. Behavioral consensus × Attitudinal consensus</td>
<td>.18** (.01)</td>
<td>.19** (.01)</td>
</tr>
<tr>
<td>8. Behavioral consensus × Attitudinal consensus × Self-construal</td>
<td>-.14** (.01)</td>
<td>-.14** (.01)</td>
</tr>
<tr>
<td>9. Sector</td>
<td>-.00 (.00)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*p < .05, **p < .001
Note: Standard errors in parentheses. N = 8,769 brands. OLS $R^2 = .55$ with 8,735 d.f., Fixed Effects $R^2 = .52$ with 8,735 d.f.

The significant three-way interaction coefficient in both models (#8 in Table 3.2) suggests that the valence of attitudinal consensus moderated the relationship between behavioral
consensus BAV in independent and interdependent cultures (see Figure 3.7). In independent countries, when there was positive attitudinal consensus (+1SD above the mean), behavioral consensus was associated with higher BAV ($\beta = .20$, $se = .02$, $p < .001$), consistent with our expectations. In contrast, for interdependent countries, when there was positive attitudinal consensus, behavioral consensus was associated with lower BAV ($\beta = -.22$, $se = .03$, $p < .001$).

Further, when there was negative attitudinal consensus (-1SD below the mean), higher behavioral consensus was associated with lower BAV regardless of culture ($\beta_{\text{interdependent countries}}: - .45$, $se = .04$, $p < .001$; $\beta_{\text{independent countries}}: - .40$, $se = .03$, $p < .001$). The Johnson–Neyman procedure revealed that the interaction between behavioral consensus and culture on brand equity was significant when attitudinal consensus was at or above -1.73 standard deviations below the mean percentage of people who preferred the brand in each country (approximately 98.76% of the sample of brands was above this threshold). In other words, above a minimal threshold of attitudinal consensus, the effect of behavioral consensus depended on culture.

**Figure 3.7** Brand Asset Value as a Function of Culture, Behavioral Consensus, and Attitudinal Consensus
Discussion

Analyses of data from a multinational commercial dataset including over 8,000 brands in 8 countries support the hypothesis that, in interdependent (vs. independent) cultural contexts, behavioral consensus has distinct relations with brand equity. These data identified negative attitudinal consensus as a logical boundary condition such that, for all cultures, when many people bought a brand but very few people preferred it, brand equity suffered. When attitudinal consensus was above an acceptable threshold in independent cultural contexts (e.g., Canada), behavioral consensus was associated with higher predicted brand equity. This means that the brands with the highest brand equity are those that a lot of people prefer and buy. This pattern is consistent with notion that, for independents, behavioral consensus is more likely to be associated with others’ true preferences and influence brand evaluation (Bem, 1972; White & Simpson, 2013).

We expected that, for interdependent cultures, behavioral consensus would not be a strong predictor when attitudinal consensus was above an acceptable threshold. However, we found that, in interdependent countries such as India and South Korea, behavioral consensus was associated with lower predicted brand equity. This means that the brands with the highest brand equity are those that many people prefer but few people buy. It is possible that, for interdependents, behavioral consensus lowers perceptions of brand status. If behavioral consensus lowers interdependents’ status perceptions, then brands that many people prefer but few people buy may appeal to interdependents’ concern for external and social attributes (Kim & Drolet, 2009).

Thus, Study 5 builds on the first four studies in two important ways. First, we further demonstrate the ecological validity of our theorizing for brand equity outcomes for real brands
that span numerous sectors and cultural contexts. Second, by examining attitudinal and behavioral consensus information simultaneously, Study 5 shows that the interactive influence of attitudinal and behavioral consensus information on brand equity depends on culture. Taken together, the five studies suggest that there are culturally distinct effects of consensus information type on product evaluations.

**General Discussion**

Consensus cues are widely used by marketers to influence product evaluations. The current research provides initial evidence that all consensus cues are not equally persuasive, and that a common consensus cue type (i.e., behavioral consensus cues) can convey less about consumers’ preferences in some cultures. Study 1 found that European American (vs. Asian and Asian American) consumers were more likely to spontaneously infer others’ liking for an unbranded pair of headphones shown with a behavioral consensus cue (i.e., Best Seller). Studies 2 and 3 compared the influence of attitudinal or behavioral consensus cues on product evaluation. Consumers from India, but not the United States, were willing to pay more for a tablet shown with attitudinal (vs. behavioral) consensus cues (Study 2). Interdependents, but not independents, spent more time processing attribute information after seeing attitudinal (vs. behavioral) consensus cues and processing time drove product evaluations (Study 3). Using a naturalistic field experiment, Study 4 found that interdependents (independents) were more willing to enter a gift card lottery when they saw attitudinal (behavioral) consensus cues. Using a large and unique database, Study 5 found that for over 98% of brands in interdependent countries (e.g., India), behavioral consensus—the % of people who bought or used a brand regularly—was associated with lower brand equity. In contrast, for over 98% of brands in independent countries (e.g., Canada), behavioral consensus was associated with higher brand equity.
This research can contribute to several streams of literature. For example, prior research showed that attitudinal consensus cues can have direct effects on product evaluations (Bearden & Etzel, 1982; Burnkrant & Cousineau, 1975), and that several consumer variables influence the effectiveness of consensus cues (Aaker & Maheswaran, 1997; Chaiken, 1980; David, 2016; Maheswaran & Chaiken, 1991; Wang, Xu, & Shiv, 2012). Yet, the extant persuasion literature does not make predictions on why or for whom attitudinal and behavioral consensus cues can be more personally relevant. Although prior research acknowledges that consensus cues can be processed centrally or systematically (Chaiken, 1980; Petty & Cacioppo, 1986), and conceptually distinguishes preference from choice (Simonson, 1990), we are the first to conceptually distinguish attitudinal and behavioral consensus cues on the basis of their informational value to the message recipient.

More broadly, this research suggests that behavior may not always be the ultimate signal that one has been persuaded. Seminal information processing theory suggests that behavioral consensus cues should provide more informational value for product evaluations (McGuire, 1968). The theory, developed in an independent cultural context (i.e., U.S.), assumes that behavior (e.g., buying, voting) is the ultimate measure of an effective persuasion attempt. In our research, we provide initial evidence that this assumption may need to be culturally qualified. In an interdependent cultural context, where behaviors often conform to social norms and external pressures, behaviors may provide less meaningful information about whether the individual’s attitudes have changed (e.g., Savani et al., 2012).

Our research also contributes to the cross-cultural literature by further distinguishing the relationship between attitudes and behaviors in interdependent cultural contexts. Recent theorizing proposes that, contrary to decades of research suggesting that attitudes are unique to
the individual, preferences don’t have to be personal (Riemer et al., 2014). In interdependent contexts, preferences are more likely to be shaped by norms and contextual constraints. Our research advances this notion and suggests that, although preferences may not be personally meaningful, information about others’ preferences may be more meaningful than information about others’ behaviors. Moreover, our findings for cultural interdependence are consistent with findings for related variables that cultivate interpersonal harmony (e.g., fear appeals; Griskevicius et al., 2009; Stephens et al., 2011; L. Wu & Lee, 2016).

In practical terms, this research can have significant implications for managers, given the prevalence of consensus cues in the marketplace. Marketers decide whether and how to communicate a product’s popularity. Thus, they can benefit from an understanding of how and when to use a particular consensus cue, given the consumer’s cultural context. For instance, managers of popular brands in India may be better off by communicating other consumers’ preferences instead of consumers’ purchase behaviors. Our analyses of the multinational Brand Asset Valuator dataset add more nuance to this notion. Although attitudinal consensus can be persuasive to interdependent consumers, brands with attitudinal and behavioral consensus can be perceived as low status (Kim & Drolet, 2009) and therefore have brands with lower brand equity.

In closing, this research theorizes and demonstrates cultural differences between attitudinal and behavioral consensus cues. We argue that, for interdependents, because people are not expected to behave according to their attitudes, attitudinal (vs. behavioral) consensus cues are more informative. Thus, compared to people in independent cultural contexts, our findings show that people in interdependent cultural contexts evaluate products and brands more favorably when they are shown with attitudinal (vs. behavioral) consensus cues.
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APPENDIX A: CAMPAIGN SPENDING INCREASED VOTER TURNOUT IN INDEPENDENT, BUT NOT INTERDEPENDENT, DISTRICTS IN THE 2016 CONGRESSIONAL ELECTION

Political campaigns invest to make candidates salient in the minds of consumers. Campaign expenditures increase awareness so that voters remember the candidate at the polls. Indeed, campaign expenditures buy nonincumbent candidates’ the necessary name recognition that incumbents already enjoy (Jacobson, 1978). Moreover, campaign spending has been considered the most important congressional contextual variable that affects turnout (Gilliam, 1985). Every $1,000 of campaign expenditures increases voter turnout by 1-2% (Conway, 1981; Dawson & Zinser, 1976). Thus, similar to attitudes research in social psychology, political science research suggests that campaign spending increases the accessibility of attitudes toward political candidates and helps voters cope via increased turnout.

Drawing on recent attitude theory suggesting a normative-contextual model of attitudes (Riemer et al., 2014), we propose that campaign spending affects turnout as a function of the voters’ independent and interdependent self-construals. The model suggests that for interdependents, attitudes are grounded in and shaped by social norms instead of driven by personal preferences. One implication of the model is that, for interdependents, increasing the accessibility of an attitude may only ease decision making if the attitude aligns with contextualized norms. In contrast, increasing the accessibility of independents’ attitude should ease decision making because the accessibility makes the attitude more personal and diagnostic.

Therefore, we propose that having accessible political preferences would only increase readiness to cast a vote (indexed by voter turnout) in more independent districts. Past research also suggests that competitive races increase turnout (Conway, 1981; Cox & Munger, 1989).
Competition is often specified by the margin of victory in past races and can therefore communicate a clear voting norm. In one study of midterm congressional elections, a high competition in the previous race (i.e., low norm clarity) increased voter interest and turnout in the current election (Milbrath, 1965). In light of this stream of research, we expected campaign spending to increase turnout in competitive (vs. non-competitive) independent districts because (a) increasing the accessibility of one’s political preferences in independent districts might make preferences more personal and diagnostic and (b) people in independent districts may be motivated to vote in contexts of low norm clarity because they perceive personal agency in their vote. In contrast, we expected campaign spending to decrease turnout in competitive (vs. non-competitive) interdependent districts because increasing the accessibility of one’s political preferences in interdependent districts might make preferences more personal, but not clearly aligned with the relevant norm because of the low norm clarity in competitive elections.

**Method**

First, we acquired the voter turnout results in each U.S. congressional district for the 2017 election (www.clerk.house.gov). Turnout was calculated as the proportion of total votes to the voting age population. This resulted in a dataset of 433 out of the 436 possible congressional districts.

Second, we collected spending data for each district (www.fec.gov). We aggregated the total disbursements from all candidates running in the 2016 election. Then, following past work (Gilliam, 1985), we divided total spending by the district’s voting age population to create a proportion of campaign expenditures per eligible voter. The spending per eligible voter was the independent variable.
Third, we calculated an interdependence score for each district using a validated approach (Vandello & Cohen, 1999). The method uses indicators from the U.S. Census that theoretically correspond the concepts of independent and interdependent self-construals. For example, districts with more people who carpool to work are relatively more interdependent than districts where more people drive to work alone. In contrast, districts with higher (vs. lower) percentages of people living alone are relatively more independent (for more detail on the methodological approach and potential shortcomings, see the Supplemental Material available online). There were three collectivism indicators and three individualism indicators. We reverse-scored the independent self-construal indicators and averaged them with the interdependent self-construal indicators, creating a single score where higher (lower) numbers indicated more interdependent (independent) districts ($\alpha = .78$).

Fourth, we used the margin of victory in the previous congressional election to determine the norm clarity in the district (Gilliam, 1985). High margin of victory thus represented high norm clarity. We subtracted the margin of victory from one so that positive coefficients described a positive relationship between competitiveness and turnout, as observed in prior research (Milbrath, 1985). Finally, we used ordinary least squares regression to examine the interactive relationship between campaign spending, collectivism, and competitiveness on voter turnout, controlling for the percentage of spending attributable to the incumbent, the percentage of people with a bachelor’s degree, and the district’s partisan leaning (Cook Partisan Voting Index [PVI]).

**Results**

A three-way interaction indicated that norm clarity moderated the relationship between spending, district self-construal, and voter turnout, $\beta = -.11$, $t(422) = -2.34$, $p = .019$. Because the
moderator (norm clarity) was continuous, we looked for the turning points for where exactly, in absolute terms of the moderator, the interactive effect of spending and self-construal turns from positive to negative (Spiller et al., 2013). The figure below illustrates the effect of spending on turnout for independent and interdependent districts in races with high and low norm clarity.

**Figure A.1 Turnout as a Function of Campaign Spending, Culture, and Race Competitiveness**

For districts with high norm clarity, those with approximately 70% margin of victory or more in the last race (e.g., values at or below \( Z = -1.435 \)), the interaction between spending and interdependent self-construal was positive \((p < .05)\). As spending increased, turnout decreased in independent \((Z = 1)\) districts \((p = .015)\), but not interdependent \((Z = -1)\) districts \((p = .634)\). On the other hand, for districts with low norm clarity, those with approximately 5% margin of victory or less in the last race (e.g., values at or above \( Z = 1.25 \)), the interaction between spending and interdependent self-construal was negative and marginally significant \((p < .07)\). As spending increased, turnout tended to increase in independent districts \((p = .115)\), but not
interdependent districts \((p = .556)\). Conceptually, these findings suggest that, in independent districts, more accessible preferences increased readiness to act when contexts of low voter norm clarity, more accessible preferences decreased (directionally increased) readiness in contexts of high (low) norm clarity. For interdependent districts, accessibility was not significantly related with the readiness to act in contexts of high or low norm clarity.

**Table A.1 Regression Results from 2016 Congression Election Data**

<table>
<thead>
<tr>
<th>Three-way interaction model</th>
<th>(b)</th>
<th>(SE)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-.008</td>
<td>.032</td>
<td>.807</td>
</tr>
<tr>
<td>PVI</td>
<td>-.257</td>
<td>.038</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Incumbent %</td>
<td>-.134</td>
<td>.036</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Bachelor’s %</td>
<td>.2927</td>
<td>3.05</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Spending</td>
<td>-.028</td>
<td>.048</td>
<td>.556</td>
</tr>
<tr>
<td>Collectivism</td>
<td>-.56</td>
<td>.032</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Spending (\times) Collectivism</td>
<td>.04</td>
<td>.052</td>
<td>.444</td>
</tr>
<tr>
<td>Spending (\times) Competition</td>
<td>.055</td>
<td>.047</td>
<td>.237</td>
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<tr>
<td>Collectivism (\times) Competition</td>
<td>-.01</td>
<td>.03</td>
<td>.739</td>
</tr>
<tr>
<td>Spending (\times) Collectivism (\times) Competition</td>
<td>-.11</td>
<td>.047</td>
<td>.019</td>
</tr>
<tr>
<td>Adjusted (R^2)</td>
<td></td>
<td></td>
<td>.614</td>
</tr>
</tbody>
</table>

**Discussion**

The results from this study help generalize the implications of our previous experiments to real world voting behavior. The main studies demonstrated that cultural self-construal moderated the relationship between attitude accessibility and the readiness to act. In the current study, a significant interaction between accessibility, self-construal, and norm clarity suggest that norm clarity further moderates the relationship between accessibility, self-construal, and readiness to act. Specifically, we showed that more accessible political attitudes (as indexed by
district campaign spending per eligible voter) directionally improved voter turnout for independent (vs. interdependent) congressional districts. This result was observed in districts with low norm clarity. In contrast, when there was high norm clarity (i.e., the race was less competitive), campaign spending had the opposite effect; increased expenditures decreased turnout for independent (vs. interdependent) districts. Importantly, we observed these relationships controlling for several factors, extending prior political science research by revealing a more nuanced relationship between campaign spending and turnout (Conway, 1981).
APPENDIX B: MEASURES, STIMULI, PRETESTS, AND SUPPLEMENTAL STUDIES

FOR CHAPTER 2

Appendix B.1

Readiness and Discomfort Measures in Studies 1-3

This scale consists of a number of words that describe different feelings and emotions.

Indicate to what extent you would feel each emotion as the conversation continued about autonomous cars.

Use the following scale to record your answers.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligent</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defensive</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Prepared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uptight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tense</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Only the readiness items (confident, intelligent, prepared) were included in Study 1*
Appendix B.2

**Accessible Preferences Increased Readiness for Interdependents When an Irrelevant (vs. Relevant) Norm was Salient**

There were two primary goals of this study. First, we aimed to replicate the basic finding from past literature that accessible preferences increase readiness. Second, we aimed to moderate this effect for interdependents when a relevant norm was made salient. Attitude accessibility was measured. Self-construal and norm salience were manipulated. We predicted that for independents, more accessible preferences would be associated with greater readiness regardless of which norm was salient. In contrast, we predicted that for interdependents, more accessible preferences would be associated with greater readiness when an irrelevant norm, but not when a relevant norm was salient.

**Method**

*Pretest.* We pretested two articles to manipulate norm salience. Seventy-nine undergraduates were assigned to read an article about soft drinks or salty snacks. The article in the relevant norm condition was titled, “Fewer consume sugary drinks, but decline is even across US, study says.” The article in the irrelevant norm condition was titled, “Fewer consume salty snacks, but decline is even across US, study says.” After reading the article, participants rated how much the article made soda drinking norms salient on three items (“The article made me think about whether drinking soda/pop is,” inappropriate/appropriate, the wrong/right thing to do, a bad/good thing to do). As expected, participants in the relevant (vs. irrelevant) norm condition indicated that the article made drinking norms salient ($M_{relevant\ norm} = 3.05$, $M_{irrelevant\ norm} = 3.94$, $t(77) = 2.13$, $p = .037$). Follow-up one-sample t-tests within each condition confirmed that participants’ perceived norm salience in the irrelevant norm condition did not differ from the
midpoint (t < 1, ns). In contrast, perceived norm salience was significant below the midpoint in the relevant norm condition (t(42) = -3.38, p = .002).

**Main Study Method**

Two hundred and thirty-seven undergraduates completed the study for research participation course credit. The study used a measured accessibility × 2 (self-construal: independent vs. interdependent) × 2 (salient norm: relevant vs. irrelevant) between-subjects design.

Participants first completed a brief survey about their prior soft drink consumption. Next, they rated their relative preferences for six soft drink pairs after three filler preferences to calibrate their response latencies. Their preference for Coca-Cola versus Pepsi was the focal attitude (i.e., 1 = *definitely prefer Coke*, 7 = *definitely prefer Pepsi*). We captured their response latency on all preference measures to indicate attitude accessibility.

Next, we randomly assigned participants to self-construal prime conditions. All participants were asked to read a short story and count the number of pronouns (Brewer & Gardner, 1996). Participants in the independent condition counted the number of first-person singular pronouns (e.g., I, me, my). Those in the interdependent condition counted the number of third-person plural pronouns (e.g., we, us, our).

Following the self-construal prime, we manipulated norm salience with news articles. Participants in the relevant norm condition read an article about how fewer people were drinking sugary beverages. Those in the irrelevant norm condition read a similar article about how fewer people were eating salty snacks.

Finally, all participants were asked to imagine that they were buying a soft drink for their home. On the same page, participants indicated their readiness to choose between Coca-Cola and
Pepsi. They also rated the importance of six factors intended to measure responsiveness concerns (e.g., being flexible, 1 = not at all important, 7 = very important).

Results

Instead of indexing attitude accessibility with each participant’s linear transformed latency to a single item, we computed participants’ relative attitude accessibility using their own distribution of latencies. Following past research (Fazio et al., 1989), we calculated a z-score of the response latency to the focal preference (i.e., Coca-Cola vs. Pepsi) relative to that subject’s average and standard deviation of the latencies to soft drink preferences.

Previous research has found a relation between attitude accessibility and attitude extremity (Fazio et al., 1989; Fazio & Williams, 1986; Powell & Fazio, 1984). We observed a similar correlation in the present data ($r = .162, p = .013$). Given prior empirical support for an accessibility–extremity correlation and the absence of such a correlation in the current data, we conducted analyses with extremity as a covariate to ensure that the effects of attitude accessibility were not due to attitude extremity.

Soft Drink Readiness. We predicted that for independents, more accessible preferences would be associated with greater readiness to act regardless of which norm was salient. In contrast, we predicted that for interdependents, more accessible preferences would be associated with greater readiness when an irrelevant norm, but not when a relevant norm was salient. A regression model predicting soft drink readiness ($\alpha = .81$) with the accessibility z-score, self-construal, norm salience, and all possible interactions revealed a three-way interaction ($\beta = -.31$, $se = .10, p = .015$). We conducted follow-up analyses to test our specific predictions.

The analyses in the interdependent condition matched our expectations. More accessible preferences were associated with greater readiness in the irrelevant norm condition ($\beta = .59, se =$
.27, \( p = .02 \)), but not in the relevant norm condition (\( p = .57 \)). However, the analyses in the independent condition did not match our expectations. More accessible preferences did not significantly affect readiness to act in either norm conditions (\( ps > .13 \)).

**Discussion**

The results of this study provide partial support for our theorization. The overall 3-way interaction and significant effects in the interdependent condition suggest that the relationship between attitude accessibility and felt readiness to act were culturally determined.
Appendix B.3

Accessible Preferences Influenced Decision Making Tendencies for Interdependents (vs. Independents)

Overview

The main goal of the following series of studies was to show that having more accessible preferences can influence interdependents’ downstream decision making. The logic is that if having accessible preferences elicits some need to consider others’ views among interdependents, then they might show increased effort in a task that calls upon their accessible preference and tend to follow decision making strategies in subsequent contexts that reflects consideration of others’ views.

We considered two possible decision strategies that reflect consideration of others’ views: norm-seeking and utility-seeking strategies. On one hand, interdependents with more accessible preferences might show norm-seeking decision making strategy. That is, their decisions might follow a tendency to select options that dominate on popularity. If having accessible attitudes is unsettling to interdependents because they do not know if their preference fits in with others, then information that communicates others’ preferences should guide interdependents’ decision making tendencies more when attitude accessibility is high (vs. low). This is consistent with prior work which has shown (e.g., Aaker & Maheswaran, 1997) and theorized (Riemer et al., 2014) that others’ preferences are integral to collectivists’ preferences. Therefore, one prediction is that having more accessible preferences increases interdependents’ need to consider others’ views and activates a tendency to use a decision making strategy that prioritizes normative information.
On the other hand, interdependents with more accessible preferences might show a utility-seeking decision making strategy. That is, their decisions might follow a tendency to select options that dominate on utility. Past work has shown that interdependents’ (vs. independents) relative propensity to feel the need to justify their decisions to others manifests in decisions that are superior on cognitive or utilitarian attributes instead of affective or hedonic attributes (Hong & Chang, 2015). Therefore, a second prediction is that having more accessible preferences increases interdependents’ need to consider others’ views and activates a tendency to use a decision making strategy that prioritizes more utilitarian attributes.

Three studies are reported here. Each uses the same procedure with minor tweaks in each subsequent replication. Across studies, the data suggest that more accessible attitudes increase effort among interdependents, but do not increase effort among independents. Moreover, the studies show that having more accessible attitudes does increase the use of decision making strategies that reflect consideration of others’ views, but the specific tendency is different between studies. Studies A and B show a tendency for interdependents with more accessible attitudes to adopt a norm-seeking decision making strategy. Study C suggests a tendency for interdependents with more accessible attitudes to adopt a utility-seeking decision making strategy. We will describe the method in detail for Study A and clarify the important changes in the replication attempts.

Method

Pretest. We conducted a pretest to construct choice scenarios that differed in their justifiability. 80 participants saw the tables presented in the figure below and were asked which consumer would have to justify their choice more: a consumer who chose option A, B, or C. In each table, one option dominated on the utilitarian attribute, one option dominated on the
hedonic attribute, and one option dominated on the popularity attribute. Thus, participants made three discrete choices of which consumer would feel the most pressure to justify their choice.

We calculated each participant’s tendency to select the utilitarian option, tendency to select the hedonic option, and tendency to select the popular option; the scores for each tendency could range from 0-3. The results of 3 paired-samples t-tests revealed that participants thought consumers who chose the popular option \((M = 1.34)\) would need to justify their choice more than consumers who chose the utilitarian option \((M = .71; t(79) = 3.11, p = .003)\) and more than consumers who chose the hedonic option \((M = .94; t(79) = 1.97, p = .053)\). The difference between consumers who chose the utilitarian versus the hedonic option was not significant \((t(79) = 1.48, p = .143)\).

However, we also conducted a paired-samples t-test between the participants who chose the utilitarian option and the participants who chose either the hedonic or the popular option. Participants thought that consumers who chose the either the hedonic or the popular option \((M = 2.29)\) would have to justify their decision more than consumers who chose the utilitarian option \((M = .71; t(79) = 8.06, p < .001)\).

**Figure B.1** Choice Options in Appendix B.3

<table>
<thead>
<tr>
<th></th>
<th>Sports Car A</th>
<th>Sports Car B</th>
<th>Sports Car C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
</tr>
<tr>
<td><strong>Popularity</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Shoe A</th>
<th>Shoe B</th>
<th>Shoe C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
</tr>
<tr>
<td><strong>Popularity</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Restaurant A</th>
<th>Restaurant B</th>
<th>Restaurant C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Quality</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Atmosphere</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
</tr>
<tr>
<td><strong>Popularity</strong></td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★</td>
</tr>
</tbody>
</table>
Study A Method

Participants and Design. 203 adults ($M_{age} = 37, 103$ women) recruited from MTurk participated in the study for money. The study used a $2$ (attitude accessibility: high vs. low) $\times 2$ (self-construal: interdependent vs. independent) between-subjects design. 27 participants did not follow the instructions and were removed from the analyses, leaving a usable sample of 176 participants.

Procedure and Measures. The study consisted of three parts. First, participants read that the experimenters were interested in their personal opinions about some restaurants. Participants were then randomly assigned to rehearse preferences about two lunch restaurants (high accessibility) or two coffee shops (low accessibility). Those in the high accessibility condition rated Chipotle Mexican Grill and Qdoba Mexican Eats on three, seven-point semantic differential scales each (bad/good, dislike/like, disapprove/approve). Then, they rated their relative preference between Chipotle and Qdoba ($1 = \text{definitely prefer Chipotle}, 7 = \text{definitely prefer Qdoba}$) and between Starbucks and Dunkin ($1 = \text{definitely prefer Starbucks}, 7 = \text{definitely prefer Dunkin}$). Participants in the low accessibility condition rated Starbucks and Dunkin on the same semantic differential scales, rated their relative preference between the two coffee shops, and rated their relative preference between the two restaurants. We collected the response latency on the relative preference between restaurants because it was the focal preference.

Second, participants read that the experimenters wanted them to complete a verbal processing test to verify their eligibility for the writing task. The verbal processing test manipulated self-construal using a validated prime (Brewer & Gardner, 1996). All participants were asked to read a story about a visit to the city and were instructed to count the pronouns in the study. The stories were identical except that the story in the independent condition used first-
person singular pronouns (e.g., I, me, my) and the story in the interdependent condition use third-
person plural pronouns (e.g., us, our).

Third, participants were told that the next part of the study was meant to examine
imagination and visualization techniques. On the next page, participants were asked to imagine
that they were a part of a travel management organization and that a client group emailed a
request for a lunch recommendation. The email is below.

Hi there-
Thanks again for all of your hard work with our
visit! We really appreciate it and are looking
forward to exploring the city after our meeting. One
question remains in our group: where should we go for
lunch?
Thanks for your help!

Best,
Kevin

On the next page, participants were asked to write an email response to Kevin
recommending Qdoba/Chipotle. The study was programmed to display the restaurant that the
participant preferred in the relative preference task. Thus, all participants were asked to
recommend their preference.

After writing the email, participants answered completed several self-report measures.
First, participants rated their readiness (i.e., “As you were writing the email recommendation, did
you feel: confident, prepared, intelligent” 1 = not at all, 7 = extremely). Next, participants rated
their responsiveness (i.e., “At this moment, I feel like I am flexible to others’ needs,” “At this
moment, I feel like I am accommodating to others’ wishes,” “At this moment, I feel like I am
able to adjust,” 1 = not at all, 7 = extremely). Participants also rated whether they felt efficient,
knowledgeable, and aware of their personal tastes on the same scales. Finally, participants
reported their levels of reactance (i.e., “How much did you consider the decision to be
interfering, intrusive, forced upon you, unwelcomed” and “How much were you compelled to resist the task, ignore the task, dismiss the task,” 1 = not at all, 7 = extremely)

Following the self-report measures, participants read about the second part of the imagination study. They read that they would see three options of common consumer goods and that they should imagine themselves in the market for these items. Then, participants saw the pretested decision tables and were asked to decide the one they would be mostly likely to purchase in each set. Recall that one option dominated on utility, one option dominated on hedonism, and one option dominated on popularity. After making their three decisions, participants provided demographic information, were debriefed, and paid.

Results

Following prior work (Fazio et al.), attitude accessibility was computed as $1/(1+x)$ where $x$ was the response latency on the relative preference between Chipotle and Qdoba. Higher values on this transformed value indicate faster response latency. As expected, an independent samples $t$-test on the transformed preference latency revealed that the manipulation was successful ($M_{more~accessible~preferences} = .23, M_{less~accessible~preferences} = .18; t(175) = 3.58, p < .001$).

Attitude extremity was computed by taking the absolute value of the relative preference value minus the scale midpoint (4). These two values were not correlated ($r = .038, p = .589$). However, the raw latency and attitude extremity were correlated ($r = -.417, p < .001$), as in prior research (Fazio et al., 1986). Therefore, analyses are reported with and without attitude extremity as a covariate.

Reasons. Reasons are a common indicator of the effort reflected in a need to justify (CITES). Therefore, two independent research assistants analyzed the content of the emails and counted the number of reasons participants used to justify their recommendation. Interrater
reliability was high ($r = .924, p < .001$) and disputes were resolved through a third judge. Consistent with expectations, an accessibility by self-construal two-way ANOVA on the total number of reasons revealed a marginal interaction ($F(1, 173) = 3.18, p = .077$).

Follow up analyses provided directional support for our predictions. Consistent with prior findings, those with a salient independent self-construal exerted less effort as proxied by directionally fewer reasons when their preferences were more accessible ($M_{\text{more accessible preferences}} = 1.58$, $M_{\text{less accessible preferences}} = 1.96$; $p = .264$). In contrast, those with a salient interdependent self-construal exerted more effort as proxied by directionally more reasons when their preferences were more accessible ($M_{\text{more accessible preferences}} = 1.82$, $M_{\text{less accessible preferences}} = 1.32$; $p = .165$). The results were similar when attitude extremity was included as a covariate. Extremity was not a significant covariate ($p = .438$) and the interaction remained marginal ($p = .086$).

**Figure B.2** Number of Reasons as a Function of Attitude Accessibility and Self-Construal in Appendix B.3

![Bar Chart](image)

*Email Task Latency.* Time spent writing the email is another potential indicator of participants’ exerted effort (Fazio et al., 1992, Study 4). We performed the same linear transformation on participants task latency as their preference latency (i.e., $1/(1+x)$) and analyzed
this value with the same two-way ANOVA. The analysis revealed an insignificant interaction 
\(F(1, 173) = 2.53, p = .114\), but the follow-up analyses suggest a supportive pattern.

Independents had significantly quicker latencies on the email task when they had more 
accessible preferences \((M_{\text{more accessible preferences}} = .029, M_{\text{less accessible preferences}} = .017; F(1, 173) = 5.12, p = .025)\). In contrast, interdependents had similar latencies on the email task regardless of 
attitude accessibility \((M_s = .021 \text{ vs. } .021; F < 1, \text{ ns})\). Attitude extremity was not a significant 
covariate \((p = .176)\) and the interaction was largely unchanged when included in the model \((p = .134)\).

**Decision Making Tendency.** Next, we analyzed whether participants showed an 
observable tendency in their subsequent decision making. First, we coded each of the 
participants’ decisions as 1 if they chose the most popular option and 0 if they chose one of the 
other options. The decision making tendencies for the three products were correlated \((r_{\text{shoes-cars}} = .40, 
\ r_{\text{shoes-restaurant}} = .35, r_{\text{cars-restaurant}} = .29, \text{ all } ps < .001)\). Therefore, we summed them \((\text{min} = 0, \text{ max} = 3)\) 
to reflect a norm-seeking tendency. We analyzed norm-seeking tendency with the same two-way 
ANOVA as above. The analysis revealed a marginal effect of accessibility \((F(1, 173) = 3.23, p = 
.074)\) that was qualified by a marginal accessibility \(\times\) self-construal interaction \((F(1, 173) = 3.56, 
\ p = .061)\).

Follow-up analyses suggest that having accessible preferences influenced
interdependents’, but not independents’, subsequent decision making. For participants primed
with interdependent self-construal, having more accessible preferences increased a norm-seeking
decision making tendency \((M_{\text{more accessible preferences}} = 1.11, M_{\text{less accessible preferences}} = .52; F(1, 173) = 
6.48, p = .012)\). In contrast, participants primed with independent self-construal did not show a
difference in decision making tendency across attitude accessibility conditions \((M_s = .71 \text{ vs .69}; 
\ldots)\).
F < 1, ns). These results were unchanged when attitude extremity was included as a covariate; the covariate was not significant (p = .951).

**Figure B.3** Normative Choice Tendency as a Function of Attitude Accessibility and Self-Construal in Appendix B.3

![Figure B.3](image)

**Explicit Measures.** There were no significant effects on readiness (α = .87; all ps > .45), responsiveness (α = .77; all ps > .30), or efficiency (α = .83; all ps > .30). However, there was a significant accessibility by self-construal interaction on reactance (α = .93; F(1, 173) = 5.3, p = .023). Independents with more accessible preferences reported marginally greater reactance to the email task (M_{more accessible preferences} = 2.79, M_{less accessible preferences} = 2.18; F(1, 173) = 3.52, p = .062). In contrast, interdependents with more accessible preferences reported directionally less reactance to the email task (M_{more accessible preferences} = 2.52, M_{less accessible preferences} = 3.00; F(1, 173) = 1.94, p = .166).

**Discussion**

The findings from this study suggest that having more attitudes increases the effort spent on an attitude-relevant task when interdependent self-construal is salient. The data patterns on participants’ listed reasons and task latency advance prior work which found that having more accessible preferences decreased task latency in a choice task (Fazio et al., 1992). Moreover, the
reported findings point to a potential downstream consequence of having accessible preferences. That is, interdependents with more accessible preferences tended show a norm-seeking decision making tendency in subsequent, yet unrelated, choice contexts. We sought to replicate these findings in the next two studies.

**Study B Method (Malfunction)**

Participants, Design, and Procedure

Study B was intended to directly replicate Study A with two improvements. First, we removed the explicit measures except for reactance, which was moved to after the decision making task. Second, we captured task latencies in the decision making scenarios to assess effort in the downstream decision making (e.g., Fazio et al., 1992, Study 4). However, there was a programming malfunction that failed to present pertinent information about the participants’ role in the travel management organization. Therefore, when participants saw the prompt to recommend their preferred lunch restaurant to Kevin, they knew neither who Kevin was nor their relationship to him. Despite this, 147 out of the 312 total participants completed the email ask as if they understood what we were asking of them. The analyses below are on these 147 participants.

**Results**

We performed the same linear transformation on the relative preference response latency $1/(1+x)$. As expected, an independent samples t-test on the transformed preference latency revealed that the manipulation was successful ($M_{more \ accessible \ preferences} = .22, M_{less \ accessible \ preferences} = .18; t(146) = 2.87, p = .005$). Extremity was calculated in the same way as prior studies ($|x - 4|$). It was not correlated with raw or transformed latency ($ps > .43$).
Email task latency. After performing the linear transformation (1/[1+x]) on participants’ task latency, an accessibility by self-construal ANOVA revealed no significant effects (all ps > .26).

Decision making tendency. The decision making tendencies for the three products were again correlated (r_shoes-cars = .22, r_shoes-restaurant = .17, r_cars-restaurant = .23, all ps < .05). First, we summed the choices of options that dominated on popularity to assess whether participants’ norm-seeking decision making tendency was affected by our manipulation. An accessibility by self-construal ANOVA on the norm-seeking decision making index revealed no significant effects (all ps > .19).

Next, we recoded the decisions to reflect the number of choice options that dominated on utility. This permitted the assessment of whether participants utility-seeking decision making tendency was affected by our manipulation. Note that a utility-seeking tendency is the inverse of the tendency to seek social or normative attributes. An identical ANOVA on the norm-seeking decision making index revealed an accessibility × self-construal interaction (F(1, 144) = 4.09, p = .045). Follow-up analyses revealed that when interdependent self-construal was salient, more accessible preferences decreased participants’ utility-seeking decision making (M_more accessible preferences = 1.66, M_less accessible preferences = 2.23; F(1, 144) = 6.63, p = .011). In contrast, when independent self-construal was salient, utility-seeking decision making was not affected by attitude accessibility (Ms = 1.85 vs. 1.75; F < 1, ns).

Decision making latency. The ANOVA on the transformed (1/[1+x]) sum of decision making latencies yielded no significant effects (all ps > .23).

Reactance. The ANOVA on the reactance measure (α = .946) yielded no significant effects (all ps > .14).
Discussion

One should take caution when drawing conclusions from this study. There was a significant malfunction across all participants, limiting the usable sample to less than half of those collected. Despite this, we still observed a decision making tendency that is somewhat consistent with Study A. Interdependents with more accessible preferences showed a greater tendency to choose normative or socially-dominant options (or avoid utilitarian options) in subsequent decisions. As in Study A, independents’ downstream decision making was unaffected by attitude accessibility.

Study C Method

This study was conducted to replicate the effects from the study in the main text (Study X) with cleaner decision making options. One could argue that presenting participants with three choice options that differed on three different attributes introduced unnecessary noise into the results. Moreover, it is unclear whether the popular options were taking choice shares from the utilitarian option or the hedonic option.

Pretest. We conducted a pretest to recalibrate the choice options. We used two options instead of three and configured them so that one dominated on the utilitarian attribute (e.g., performance) and one dominated on the hedonic attribute (e.g., appearance).

50 participants saw the three choice scenarios and were asked if choosing either option was a justifiable decision (1 = not justifiable at all, 4 = somewhat justifiable, 7 = very justifiable). They were also asked if they would feel the need to explain themselves if they choice either option (1 = definitely no, 4 = maybe, 7 = definitely yes [reverse-coded]). The two items were collected for each option in the three choice sets. Given the high internal reliabilities, we averaged two items for the three utilitarian options (six items total; $\alpha = .774$) and the two
items for the three hedonic options (six total; $\alpha = .769$) to create justification indices for the utilitarian and hedonic options (Bellezza et al., 2016). As expected, a paired t-test revealed that participants felt the utilitarian choices ($M = 5.42$) were easier to justify than their hedonic counterparts ($M = 4.87$; $t(49) = 4.45, p < .001$).

**Figure B.4** Choice Options in Appendix B.3

<table>
<thead>
<tr>
<th></th>
<th>Shoe A</th>
<th>Shoe B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfort</td>
<td>★★★★</td>
<td>★★★★</td>
</tr>
<tr>
<td>Design</td>
<td>★★★★</td>
<td>★★★★</td>
</tr>
<tr>
<td>Price</td>
<td>$$</td>
<td>$$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Sports Car A</th>
<th>Sports Car B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>★★★★</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Appearance</td>
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<td>★★★★★</td>
</tr>
<tr>
<td>Price</td>
<td>$$$</td>
<td>$$$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Restaurant A</th>
<th>Restaurant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Quality</td>
<td>★★★★★</td>
<td>★★★★</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>★★★★</td>
<td>★★★★</td>
</tr>
<tr>
<td>Price</td>
<td>$$</td>
<td>$$</td>
</tr>
</tbody>
</table>

**Main Study Method**

*Participants, Design, and Procedure.* 304 adults from MTurk participated in the study for money. The study used the same design as the other studies in this appendix. The procedure was also identical to Study 4 in the main text and Study B in this series of appendix studies, except we replaced the choice sets with those in the above pretest. Participants rehearsed lunch or coffee preferences, read a story with 3rd person or 1st person pronouns, and made three choices in unrelated product domains.
Results

We performed the same linear transformation on the relative preference response latency (1/[1+x]). As expected, an independent samples t-test on the transformed preference latency revealed that the manipulation was successful ($M_{\text{more accessible preferences}} = .22$, $M_{\text{less accessible preferences}} = .18$; $t(302) = 4.68$, $p < .001$). Extremity was calculated in the same way as prior studies ($|x - 4|$). It was correlated with raw latency ($r = -.46$, $p < .001$), but not the transformed latency ($r = -.06$, $p = .329$).

Email Task Latency. After performing the linear transformation (1/[1+x]) on participants’ task latency, an accessibility by self-construal ANOVA revealed no significant effects (all $ps > .28$). When extremity was included in the model, it was an insignificant covariate ($F < 1$, ns), and the effects were unchanged.

Decision Making Tendency. The decision making tendencies for the three products were again correlated ($r_{\text{shoes-cars}} = .24$, $r_{\text{shoes-restaurant}} = .16$, $r_{\text{cars-restaurant}} = .12$, all $ps < .05$). Thus, we summed the choices of options that dominated on utility to assess whether participants’ utility-seeking decision making tendency was affected by our manipulation. Note that in this study, a utility-seeking tendency is the inverse of a hedonic-seeking tendency. The accessibility $\times$ self-construal ANOVA on utility-seeking decision making revealed insignificant effects (all $ps > .14$). Follow-up analyses on the interaction ($F(1, 300) = 2.17$, $p = .142$) revealed that interdependents with more accessible preferences showed a directionally greater utility-seeking ($M_{\text{more accessible preferences}} = 2.31$, $M_{\text{less accessible preferences}} = 2.12$; $F(1, 300) = 1.91$, $p = .168$). In contrast, independents with more accessible preferences showed less of difference across accessibility conditions ($Ms = 2.30$ vs. 2.39; $F < 1$, ns). When extremity was included in the model, it was an insignificant covariate ($F < 1$, ns), and the effects were unchanged.
Decision Making Latency. The ANOVA on the transformed (1/[1+x]) sum of decision making latencies yielded no significant effects (all $p$s > .11). Follow-up analyses on the interaction ($F(1, 300) = 2.51, p = .114$) revealed that interdependents with more accessible preferences showed slower latencies when making decisions ($M_{\text{more accessible preferences}} = .044, M_{\text{less accessible preferences}} = .054; F(1, 300) = 4.24, p = .040$). In contrast, independents with more accessible preferences showed no difference across accessibility conditions ($Ms = .049$ vs .048; $F < 1$, ns). When extremity was included in the model, it was an insignificant covariate ($F < 1$, ns), and the effects were unchanged.

Reactance. The ANOVA on the reactance measure ($\alpha = .953$) yielded no significant effects (all $p$s > .31).

Discussion

Taken together, the three studies in this appendix converge on the notion that more accessible preferences induce greater effort to consider others’ views when an interdependent self-construal is salient. Behavioral evidence suggests that interdependents with more accessible preferences used more reasons to justify their preference (Study A) and spent more time crafting the recommendation of their preference (Studies A and C). The additional effort expended on an attitude-relevant task spilled over into attitude-irrelevant tasks and led to prolonged decision making for interdependents (Study C). These findings help support our argument that accessible preferences induce greater consideration of others’ views among interdependents (as indexed by greater expended effort).

Moreover, these data suggest that the additional need to consider others’ views brought on by accessible personal preferences can affect interdependents’ downstream decision making. Across all studies, interdependents with more accessible preferences showed biased decision
making. In Studies A and B, interdependents chose more options that dominated on popularity.

In Study C, interdependents chose more options that dominated on utility. Prior research suggests that both choice tendencies (i.e., norm-seeking and utility-seeking) can reflect interdependents’ need to consider others’ views (e.g., Hong & Chang, 2015; Riemer et al., 2014).
Appendix B.4

**Self-Construal Pretest and Conditions for Study 2**

To validate the self-construal manipulation, we conducted a pretest with 60 participants from the same population as those in the main study. Participants in the independent condition were asked to imagine a gathering with close friends and to think about what snacks they would bring for themselves to enjoy. In contrast, participants in the interdependent condition imagined what snacks they would bring for the group to enjoy. Then, participants indicated the extent to which they were thinking about snacks that they usually like, snacks that were appropriate for them, snacks that their friends usually like, and snacks that would be appropriate for their friends. To assess whether the manipulation also made participants feel uncomfortable, we measured whether they felt judged or self-conscious (1 = *not at all*, 7 = *very much so*).

A 2 (self-construal: independent vs. interdependent) × 2 (thoughts: self vs. friends) mixed ANOVA was used to analyze the effectiveness of the manipulation. As expected, the analysis revealed a self-construal × thoughts interaction ($F(1, 58) = 7.218, p = .009$). Follow-up contrasts confirmed that those in the interdependent (vs. independent) condition thought more about others’ preferences ($M_{independent} = 4.81$, $M_{interdependent} = 5.66$; $F(1, 58) = 7.326, p = .009$), whereas those in the independent (vs. interdependent) condition thought more about their personal preferences ($M_{independent} = 5.72$, $M_{interdependent} = 5.66$; $F < 1$, ns), although not significantly so.

Consistent with prior work (e.g., Gardner et al., 1999), the manipulation was successful for effectively making the interdependent self-construal more accessible between conditions. A separate independent t-test revealed that, as expected, the manipulation did not create differences in feeling self-conscious or judged ($r = .611, p < .01$; $M_{independent} = 2.02$, $M_{interdependent} = 2.18$; $t < 1$, ns), suggesting that the effect of the manipulation was specific to self-construal.
Independent self-construal condition

Please imagine that you have planned to get together with a group of your close friends this weekend. It's a casual get-together where you all do what you normally do when you hang out.

Think about the snacks you would bring for yourself to enjoy.

Interdependent self-construal condition

Please imagine that you have planned to get together with a group of your close friends this weekend. It's a casual get-together where you all do what you normally do when you hang out.

Think about the snacks you would bring for the group to enjoy.
A pretest with 181 Americans and Indians confirmed that the two topics were perceived similarly. Responses were recorded on three seven-point semantic differential scales (negative/positive, very undesirable/very desirable, not innovative at all/very innovative, bad/good) and were anchored from -3 to 3 ($M_{\text{autonomous cars}} = 1.75, M_{\text{brain implants}} = 2.01; t(179) = 1.636, p = .104$).

An autonomous car (also known as a driverless car, auto, self-driving car, robotic car) is a vehicle that is capable of sensing its environment and navigating without human input.

How positive are autonomous cars?

<table>
<thead>
<tr>
<th>Very negative</th>
<th>Very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>3</td>
</tr>
<tr>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>-1</td>
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<td>0</td>
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How desirable are autonomous cars?

<table>
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<tr>
<th>Very undesirable</th>
<th>Very desirable</th>
</tr>
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<tbody>
<tr>
<td>-3</td>
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<td>-2</td>
<td>2</td>
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<tr>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
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</tbody>
</table>

How innovative are autonomous cars?

<table>
<thead>
<tr>
<th>Not innovative at all</th>
<th>Very innovative</th>
</tr>
</thead>
<tbody>
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<td>3</td>
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<tr>
<td>-2</td>
<td>2</td>
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<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>
Consider a situation in which the passengers of an autonomous car and pedestrians' lives are at stake. The car must either swerve to A) save the lives of the passengers or B) save the lives of the pedestrians.

Autonomous cars that are programmed to always save the pedestrians are:

<table>
<thead>
<tr>
<th>Not a good idea</th>
<th>A good idea</th>
</tr>
</thead>
<tbody>
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<td>2</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Autonomous cars that are programmed to always save the passengers are:

<table>
<thead>
<tr>
<th>Not a good idea</th>
<th>A good idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
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</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B.6

Self-Construal Pretest and Conditions in Study 3 and 4

To validate the independent and interdependent primes used in this study, 62 participants from the same population as the main study participated in a pretest. Self-construals were made salient by asking participants to read a paragraph about a weekend in the city that varied in its usage of 1st person singular pronouns (independent) versus 3rd person plural (interdependent) pronouns (Brewer & Gardner, 1996). A successful manipulation would yield a significant interaction such that participants who viewed the interdependent (vs. independent) prime report an increased relative focus on others compared to the self. This priming technique has been validated in numerous studies (Lee et al., 2000; van Prooijen & van den Bos, 2009).

Nevertheless, we checked the prime’s effectiveness by asking participants to indicate the extent to which the story made them think of themselves (“To what extent did the scenario make you think about yourself?” 1 = not at all, 7 = very much so) and their family and friends (“To what extent did the scenario make you think about your family and friends?” 1= not at all, 7 = very much so). The results from a 2 (self-construal: independent vs. interdependent; between-subjects factor) × 2 (thought type: self vs. other; within-subjects factor) mixed ANOVA revealed the expected interaction ($F(1, 60) = 10.9$, $p = .002$). Participants primed with an independent self-construal thought more about themselves than interdependents ($M_{\text{independent}} = 5.80$, $M_{\text{interdependent}} = 4.53$; $F(1, 60) = 10.78$, $p = .002$). In contrast, interdependents thought about others directionally more than independents, although not significantly so ($M_{\text{interdependent}} = 4.50$, $M_{\text{independent}} = 3.83$; $F(1, 60) = 1.984$, $p = .164$).
Appendix B.7

Self-Construal Pretest and Conditions in Study 5

The manipulation was validated in a pretest with 134 participants. After exposure to either the independent or interdependent prime, pretest subjects completed 10 statements beginning with “I am ___” (Ten-Statement Task; Kuhn & McPartland, 1954; Mandel, 2003). Prior work has used this task to measure interdependent versus independent self-cognitions (Brewer & Gardner, 1996; Gardner et al., 1999; Trafimow et al., 1991). Two independent judges coded these self-cognitions as idiocentric (personal qualities, attitudes, beliefs, or behaviors that do not relate to others, such as “I am tall”), group (membership in demographic groups or categories with a common fate, such as “I am Catholic”), or allocentric (relationships or sensitivity to others, such as “I am helpful to others”). For the manipulation to be effective, there should be evidence of an interaction, such that respondents in the independent (vs. interdependent) condition have a higher number of idiocentric thoughts and fewer allocentric thoughts (Trafimow et al., 1991).

A repeated measures ANOVA supported this prediction (idiocentric thoughts: N_{independent} = 6.75, N_{interdependent} = 5.75; allocentric thoughts: N_{independent} = 1.03, N_{interdependent} = 1.67; F(1, 132) = 45.15, p = .010). Follow-up analyses revealed that participants primed with an independent self-construal wrote more idiocentric thoughts (M = 6.75) than those primed with an interdependent self-construal (M = 5.75; F(1, 132) = 4.66, p = .033). In contrast, participants primed with an interdependent self-construal wrote more allocentric thoughts (M = 1.67) than those primed with an independent self-construal (M = 1.03; F(1, 132) = 5.54, p = .020).
Independent self-construal condition

Next, please recall something nice that you recently purchased for yourself.

In the space below, please write how YOU BENEFITED from buying this product.

__________________

In the space below, please describe YOU FEELT about buying the gift for yourself.

__________________

Interdependent self-construal condition

Next, please recall something nice that you recently purchased for your family member or friend.

In the space below, please write how THE RECIPIENT BENEFITED from this product.

__________________

In the space below, please describe YOU FEELT about giving the gift to your family member or friend.

__________________
Focal Attitude Object in Study 5

A voice assistant is a digital assistant that uses voice recognition, natural language processing, and speech synthesis to provide aid to users through phones and voice recognition applications. Voice assistants are used in service phone lines, smartphones, and other places to assist users with a wide variety of tasks.

How positive are voice assistants?

<table>
<thead>
<tr>
<th>Very negative</th>
<th>Very positive</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>-2</td>
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<td>-1</td>
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<tr>
<td>0</td>
<td>2</td>
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</tbody>
</table>

How desirable are voice assistants?

<table>
<thead>
<tr>
<th>Very undesirable</th>
<th>Very desirable</th>
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<td>-2</td>
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<td>-1</td>
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<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

How innovative are voice assistants?

<table>
<thead>
<tr>
<th>Not innovative at all</th>
<th>Very innovative</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>3</td>
</tr>
<tr>
<td>-2</td>
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<tr>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Imagine a scenario when personal data collected from voice assistant could be used to save the lives of the user or others. In this case, such data should only be available to the user.

Autonomous cars that are programmed to always save the pedestrians are:

<table>
<thead>
<tr>
<th>Not a good idea</th>
<th>A good idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>3</td>
</tr>
<tr>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

176
Instead, personal data collected from voice assistants that could save the lives of the user or others should also be available to the appropriate authorities.

<table>
<thead>
<tr>
<th>Not a good idea</th>
<th>A good idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3  -2  -1</td>
<td>0  1  2</td>
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</tbody>
</table>
Appendix B.9

**Voice Assistant Pretest and Stimuli in Study 5**

A pretest (n = 99) confirmed that the three alternatives were perceived to be equally attractive ("How would you rate this voice assistant?" 1 = not attractive at all, 9 = very attractive; $F(2, 96) < 1$, ns).

Next, imagine that during the conversation someone showed you three voice assistants from a local electronics store. The store has three brands of voice assistants on sale that ends today. They are shown below:

<table>
<thead>
<tr>
<th>Voice Assistant Features</th>
<th>Brand P</th>
<th>Brand Q</th>
<th>Brand R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice Recognition Accuracy Rating (max = 100)</td>
<td>90</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>Device Compatibility Rating (max = 100)</td>
<td>80</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>WIFI Connectivity Rating (max = 100)</td>
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<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Weight</td>
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<td>9 oz.</td>
<td>9 oz.</td>
</tr>
<tr>
<td>Warranty (mos.)</td>
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<td>12</td>
<td>12</td>
</tr>
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</table>

<table>
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<tr>
<th>Price</th>
<th>Special Price: $59 Last Day of Sale</th>
<th>Special Price: $59 Last Day of Sale</th>
<th>Special Price: $59 Last Day of Sale</th>
</tr>
</thead>
</table>

In this situation, I would probably:

- Not buy any of these brands and search for other speakers.
- Buy Brand P
- Buy Brand Q
- Buy Brand R

Choice stimuli in Study 5.
### Appendix B.10

**Focal Attitude Objects in Study 6**

#### Lunch options

**The Bread Company**

<table>
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<tr>
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</table>

<table>
<thead>
<tr>
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<th>Like</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
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<table>
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<tbody>
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</tr>
</tbody>
</table>

**Sakanaya**

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<tbody>
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</table>

<table>
<thead>
<tr>
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<th>Like</th>
</tr>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<table>
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<tr>
<th>Bad</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
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</table>

#### The Bread Company vs. Sakanaya

<table>
<thead>
<tr>
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<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

the Bread Company Sakanaya

#### Dessert options

**Cocomero**

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<th>Approve</th>
</tr>
</thead>
<tbody>
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<thead>
<tr>
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<th>Like</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
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</table>

<table>
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<tr>
<th>Bad</th>
<th>Good</th>
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</thead>
<tbody>
<tr>
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179
### Cold Stone

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<th>5</th>
<th>6</th>
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<td>2</td>
<td>3</td>
<td>4</td>
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### Cocomero vs. Cold Stone

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<th>3</th>
<th>4</th>
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<td>Cold Stone</td>
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Appendix B.11

**Restaurant and Self-Construal Pretests for Study 6**

36 undergraduates participated in the pretest. Participants first completed the interdependent pronoun task (Brewer & Gardner, 1996). Then, they rated their familiarity with each restaurant (1 = unfamiliar, 7 = very familiar). They also rated whether the thought there were many vegetarian options at each restaurant (1 = strongly disagree, 7 = strongly agree). Finally, they completed Triandis and Gelfand’s (1998) measure of individualism and collectivism as an interdependent self-construal induction check.

Participants were equally familiar with Sakanaya ($M = 4.92$) and Bread Company ($M = 4.11$, $t(35) = 1.4$, $p = .170$). They also thought Sakanaya ($M = 5.31$) and Bread Company ($M = 5.03$) had similar amounts of vegetarian options ($p = .343$). An analysis of the culture measure revealed that the induction made interdependent self-construal salient ($M_{\text{collectivism}} = 5.58$, $M_{\text{individualism}} = 5.15$, $p = .005$).
Conditions and Predictions in Study 6

Prediction:

- Rehearsed dessert preferences
  - Made a lunch recommendation (High norm concern)
    - Low WOM
  - Made a dessert recommendation (Low norm concern)
    - High WOM

- Rehearsed lunch preferences
  - Made a lunch recommendation (High norm concern)
    - Low WOM
  - Made a dessert recommendation (Low norm concern)
    - Low WOM

Conditions in Study 6 and predictions for word of mouth (WOM) recommendations.
Appendix B.13

**Accessible Attitudes Increase Readiness for Americans, Not Indians**

This study was designed to demonstrate that the functional value of an accessible personal attitude depends on one’s cultural self-construal. We manipulated accessibility with a repeated attitude expression paradigm based on previous research (Fazio et al., 1992, 1982; Powell & Fazio, 1984). We used nationality to operationalize interdependent (India) and independent (U.S.) self-construal. Past work suggests that, compared to Americans, Indians are more interdependent and attentive to norms (Lalwani & Shavitt, 2013; Monga & John, 2007; Savani et al., 2015). Thus, we expected attitude accessibility to predict readiness for U.S. participants, but not Indian participants.

One novel aspect of the current research is that we examine the functional value of attitude accessibility in social contexts. After manipulating attitude accessibility, we induced a social context by asking all participants to imagine an upcoming group conversation about a topic. In this context, in which others were made salient without inducing specific social norms, we expected that accessible attitudes would offer benefits to those who were more likely to spontaneously reference their personal preferences because such preferences are highly relevant to the goals of the independent self. Therefore, in line with past research in Western cultural contexts that has found that attitude accessibility can improve coping outcomes (Fazio et al., 1992; Fazio & Powell, 1997), we expected that highly accessible personal attitudes would enhance emotional readiness for U.S. participants. In contrast, and extending past work, we did not expect attitude accessibility to be associated with a sense of readiness for Indians because referencing personal preferences is less relevant to the goals of the interdependent self.
Method

Participants and Design. Two hundred and forty-two participants (122 in U.S., \(M_{age} = 35.9\), 49% male; 120 in India, \(M_{age} = 32.3\), 67% male) were recruited from Amazon Mechanical Turk and completed the study for money. The experiment was administered in English because all Indian respondents were proficient in English. The study used a 2 (attitude accessibility: high vs. low) \times 2 (country: US vs. India) between-subjects design.

Procedure and Measures. Participants began the study by completing a brief survey about an emerging technological innovation. This survey was used to manipulate attitude accessibility. The manipulation was modeled after prior work that randomly assigned participants to express preferences once versus multiple times (Fazio et al., 1982; Powell & Fazio, 1984; Schuette & Fazio, 1995). Also in line with past work that used public policies as focal attitude objects (e.g., death penalty, Powell & Fazio, 1984; Schuette & Fazio, 1995), we used product policies as attitude objects. Autonomous car policy (focal) and brain implant policy (filler) were selected as the attitude objects stimuli after a pretest (see Appendix B.5).

In order to manipulate attitude accessibility, participants reported five general and specific attitudes toward one of two product policies, either for the focal object or the filler object. Half of the participants (high attitude accessibility) rated their opinions about whether an autonomous car should swerve to save its passengers or to save pedestrians when both were in danger (e.g., Autonomous cars that are programmed to always save the pedestrians are, \(-3 = \text{not a good idea}\), \(3 = \text{a good idea}\)). The other half of participants (low attitude accessibility) rated their opinions about whether policy should favor the doctor or patient when brain implants have side effects. Attitudes were recorded on 7-point scales (negative/positive, very undesirable/very desirable, not innovative at all/very innovative, bad/good).
All subjects then rated their views on the autonomous car policy using the following instructions: Consider a situation in which the passengers of an autonomous car -- a vehicle that can operate itself without human input -- and pedestrians’ lives are at stake. Whose lives should be saved? Participants rated their opinions on a binary scale (0 = the passengers, 1 = the pedestrians). Thus, subjects in the low attitude accessibility condition expressed their attitudes toward the autonomous car policy this single time. In contrast, participants in the high accessibility condition expressed their attitudes a total of five times. To validate the effectiveness of the manipulation, the response latency on this single item served as the attitude accessibility manipulation check.

Participants were then asked to imagine a normal gathering with friends where the conversation shifted to how autonomous cars should respond in a situation in which pedestrians and passengers are both at risk. Participants indicated how they would anticipate feeling as the conversation continued, rating their feelings on six items using 7-point scales (“confident,” “intelligent,” “prepared,” “defensive,” “uptight,” and “tense”; 1 = not at all, 7 = extremely). This served as the measure of readiness to act. A principal components analysis (varimax rotation) revealed that the first three items loaded onto one, readiness component (eigenvalue = 2.87; loadings ranged from .89 to .92; \( \alpha = .90 \)), and the latter three loaded onto another, discomfort component (eigenvalue = 1.77; loadings ranged from .76 to .86; \( \alpha = .75 \)).

Finally, participants completed Singelis’ (1994) measure of chronic self-construal to confirm that Indians were more interdependent than Americans. Following prior work (Lee et al., 2000; Riemer & Shavitt, 2011; Wu, Cutright, & Fitzsimons, 2011), we created a self-construal index by subtracting each participant’s mean value on the independent subscale (\( \alpha = .795 \)) from
their mean on the interdependent subscale ($\alpha = .865$). Higher (lower) values represented more dominant interdependent (independent) self-construal.

**Results**

*Manipulation Checks.* As in past research (I. E. Berger, 1992; Fazio et al., 1982; Powell & Fazio, 1984), the raw response latencies were positively skewed. Thus, as recommended (Fazio, 1990), we performed reciprocal transformation ($1/(1+x)$) on the latencies from the attitude accessibility manipulation check. Higher (lower) transformed values represented faster (slower) responses, indicative of greater (lesser) attitude accessibility. We then conducted an attitude accessibility condition $\times$ country ANOVA on the transformed latencies. The analysis revealed the expected main effect of condition ($F(1, 238) = 9.72, p = .002$) such that participants had faster attitudinal responding in the high ($M = .091$) versus low accessibility condition ($M = .068$), supporting the effectiveness of the attitude accessibility manipulation. An effect of country also emerged ($F(1, 238) = 9.06, p = .003$) such that Americans overall had faster response times ($M = .090$) than Indians ($M = .068$). Importantly, the interaction of attitude accessibility condition and country was not significant ($F < 1, \text{ ns}$).

An attitude accessibility condition $\times$ country ANOVA on the self-construal index confirmed that Indians were more interdependent than Americans ($M_{\text{India}} = .19, M_{\text{US}} = -.62; F(1, 238) = 42.13, p < .001$). There were no significant effects of accessibility condition on self-construal either as a main effect or as an interaction ($Fs < 1, \text{ ns}$).

*Readiness.* We predicted that when personal attitudes were made accessible (vs. not), Americans would report a greater sense of readiness, but that accessibility would not enhance readiness for Indians. An ANCOVA of readiness controlling for discomfort revealed a main effect of country ($F(1, 237) = 64.17, p < .001$) and marginal effect of accessibility condition ($p =
.080) that were qualified by a marginally significant interaction \(F(1, 237) = 3.29, p = .071\).

Follow-up contrast analyses supported the predictions. For Americans, high attitude accessibility was associated with greater readiness \((M = 4.29)\) than was low attitude accessibility \((M = 3.68; F(1, 237) = 6.45, p = .012)\). In contrast, for Indians there was no significant difference in readiness between high and low accessibility conditions \((M = 5.46 \text{ and } 5.46; F(1, 237) < 1, \text{ ns})\).

The results were not significantly affected when we removed discomfort as a covariate (interaction: \(p = .074\)). We also examined whether participants’ binary preference for autonomous car safety protocol affected readiness by including it as a covariate. It was a nonsignificant factor \((p = .849)\) and did not affect the significance of the focal interaction \((p = .073)\).

**Figure B.5** Felt Readiness to Act as a Function of Manipulated Attitude Accessibility and Country

The graph is based upon standardized ANCOVA adjusted means controlling for discomfort at the mean. Bars represent S.E. about the mean.
Discussion

Prior research has demonstrated that attitude accessibility increases the attitude holder’s ability to cope with uncertainty (Fazio et al., 1989; Holland et al., 2003; Katz, 1960). The results from the current study build upon these findings by demonstrating that the benefit of accessible attitudes may depend upon whether the attitude holder is from a cultural context in which there is a predominant independent (vs. interdependent) self-construal. U.S. participants represent an independent culture in which people are socialized to deploy their personal preferences in the service of achieving what they want, and in the process to be less attentive to others’ opinions and to norms. In such a context, having ready access to one’s personal preferences is functional for pursuing the goals of the independent self. Thus, for these participants, having more accessible personal attitudes increased readiness. This is consistent with prior research that has shown that having more accessible personal attitudes reduced blood pressure (Fazio et al., 1992). In contrast, Indian participants represent an interdependent culture in which adapting to others’ preferences and to norms is the focal goal, and who are therefore socialized to be more sensitive to others and to social expectations. For these individuals, personal preferences are less functional (Riemer, et al., 2014). As expected, therefore, increased attitude accessibility did not enhance readiness for Indian participants. These results suggest that the degree to which the attitude holder has been socialized to attend to others and to norms may influence the relationship between personal attitude accessibility and positive coping outcomes.

One could argue that the effects emerged as a function of participants’ unfamiliarity with the attitude object (e.g., autonomous cars) or the moral implications of choosing which group autonomous cars should be programmed to save. In such a domain, asking participants to repeatedly express their attitudes may have forced participants to construct attitudes on the spot
instead of retrieving a previously formed attitude from memory. Despite the use of similar morally relevant attitude objects (e.g., capital punishment; Houston & Fazio, 1989) and the use of repeated attitude expression in prior attitude accessibility research, we address these potential issues in other studies by measuring chronic attitude accessibility to familiar attitude objects such as soft drinks (Study 1) and salty snacks (Study 2) which prior attitudes are more likely to exist and there are few moral connotations. In summary, Appendix B.13 provides initial evidence that culture moderates the functional value of attitude accessibility.
**Appendix B.14**

**Accessible Attitudes Reduce Readiness Under Low (vs. High) Norm Clarity**

*Pretest 1.* The objective in this pretest was to select attitude domains that differed in normative clarity and perceived similarity. We asked 82 adults to rate 1) how well they knew their friends’ opinions (1 = not well at all, 5 = extremely well) and 2) how similar their attitudes were to their friends’ opinions (1 = not similar at all, 5 = extremely similar) on 7 attitude topics. Every participant responded to all 7 topics.

Participants indicated that they had the greatest clarity of their friends’ opinion toward marijuana legalization ($M = 2.6$) and felt that their attitudes were similar to their friends’ opinions ($M = 3.2$). There were five attitude domains that participants indicated similar normative clarity toward (e.g., impeach trump, $Ms \sim 2.2$). However, participants thought their attitudes were the most similar to their friends’ opinions toward gay marriage ($M = 3.8$). The domain with the lowest normative clarity ($M = 1.8$) and perceived similarity ($M = 1.5$) was the trade embargo with Cuba.

In the main study, we can confidently manipulate high normative clarity along with attitude similarity by using marijuana legalization (high) and the Cuba trade embargo (low). The design of the main study would be attitude accessibility (measured) $\times$ self-construal (measured) $\times$ normative clarity (high vs. low). The prediction is that greater (vs. weaker) attitude accessibility among independents would lead to high readiness in both norm clarity conditions. In contrast, greater (vs. weaker) attitude accessibility among interdependents would lead to higher readiness when norm clarity was high.
We have argued for the importance of others in predicting when attitude accessibility can become a liability. Yet, our theory hinges on the idea that others affect readiness when people are unclear about whether others’ attitudes would oppose their own. When people are clear about the normative attitudes and infer that others’ attitudes would align with their opinion, attitude accessibility should no longer reduce readiness. Normative clarity is defined as the degree to which one can infer a standard of judgment adequate to interpret a given topic (Cialdini & Trost, 1998). We expect that under conditions of low (vs. high) normative clarity, participants should be less likely to expect that their accessible attitude will be similar to close others. As a result, the expected dissimilarity will mediate the decrease in readiness. Next, we describe a pretest to calibrate the attitude domains that manipulate normative clarity.

**Main Study Method**

The main study used a 2 (accessibility: high vs. low) × 2 (normative clarity: high vs. low) between-subjects design. 202 American adults from Amazon MTurk were paid to complete the study.

Participants were told that the experimenters were interested in their opinions on a variety of social issues in two surveys. In the first survey, participants saw different social issues (e.g., gay marriage) followed by a 9-point bipolar scale labeled at each endpoint (e.g.,

### Table B.1. Pretest Means for Perceived Clarity and Perceived Similarity with Friends

<table>
<thead>
<tr>
<th></th>
<th>Clarity</th>
<th>Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legalize marijuana</td>
<td>2.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Impeach Trump</td>
<td>2.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Trade embargo with Cuba</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Gay marriage</td>
<td>2.2</td>
<td>3.8</td>
</tr>
<tr>
<td>More intense selection for police</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Replace fossil fuel with sustainable fuel</td>
<td>2.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Child abortion</td>
<td>2.2</td>
<td>2.7</td>
</tr>
</tbody>
</table>
disapprove/approve, disadvantageous/advantageous, harmful/beneficial; Fazio & Powell, 1984). Each time a given issue was listed, different scale labels were used. Attitude accessibility was manipulated by repeating one of the nine issues four times. Thus, participants in the high attitude accessibility condition saw one social issue four times and 8 social issues once. Participants in the low attitude accessibility condition saw 12 social issues once each. Normative clarity was manipulated by making the focal social issue marijuana legalization (high norm clarity) or the Cuba trade embargo (low norm clarity; see pretest).

The second survey served as the manipulation check. Participants were told to simply indicate whether a different set of issues were “good” or “bad.” Each trial involved the presentation of an issue followed by “Good” and “Bad” buttons. Participants were instructed to use the “A” and “L” keys on their keyboard to select the “Good” and “Bad” buttons, respectively. The instructions also asked participants to avoid distractions and answer quickly and accurately. We programmed the study to record response latencies from page onset to response. Before continuing with the focal topics, we ensured participants understood the procedure with a series of 3 unrelated practice trials. There were eight focal topics that included marijuana legalization and the Cuba trade embargo. Topics were presented in randomized order.

Next, participants imagined a gathering with close friends where the conversation shifted to the topic of marijuana legalization (high normative clarity) or the U.S.'s trade embargo with Cuba (low normative clarity). They indicated their feelings of readiness ($\alpha = .88$) and discomfort ($\alpha = .84$) on the same scales as in prior experiments. To capture expected attitude similarity, we also asked participants, “Compared to the group of friends you imagined, how similar would your attitudes to be toward marijuana legalization (the Cuba trade embargo; depending on condition)” (1 = not similar at all, 7 = very similar). Finally, participants
completed a 24-item measure of self-construal (Singelis, 1994). Following prior work (e.g., Riemer & Shavitt, 2011), we computed an index of self-construal by subtracting the 12-item independent subscale ($\alpha = .76$) from the interdependent subscale ($\alpha = .77$). Thus, higher (lower) numbers indicated predominant interdependent (independent) self-construal.

It should be noted that an accessibility \(\times\) normative clarity interaction on self-construal emerged \((F(1, 198) = 4.45, p = .036)\). Under low normative clarity, more accessible attitudes were associated with more independent self-construal \((M_{\text{more accessible}} = -.21, M_{\text{less accessible}} = .29, p = .031)\). In contrast, under high normative clarity, attitude accessibility did not affect self-construal \((M_{\text{more accessible}} = -.01, M_{\text{less accessible}} = -.19, p = .424)\).

**Results**

*Manipulation Check.* We were interested in participants’ response latencies to the marijuana legalization (Cuba trade embargo) item in the high (low) norm clarity condition. We subjected the two focal response latencies to the same reciprocal transformation as in the prior study and earlier work. We regressed the focal latencies on to attitude accessibility condition (dummy-coded), normative clarity condition (dummy-coded), the mean-centered self-construal index, and all interactions. The analysis revealed the expected main effect of attitude accessibility \((\beta = .08, p < .001)\) and a main effect of normative clarity condition \((\beta = .10, p < .001)\). No other effects were significant \((ps > .10)\), indicating an successful manipulation of attitude accessibility.

*Readiness.* We used the same regression model to predict feelings of readiness in the anticipated discussion. The analysis revealed a main effect of attitude accessibility \((\beta = -.93, p < .001)\), an accessibility \(\times\) normative clarity interaction \((\beta = 1.33, p < .001)\), and, as expected, a marginal 3-way interaction \((\beta = .58, p = .076)\). No other effects were significant \((ps > .13)\).
To clarify the nature of the three-way interaction, we conducted follow-up tests. In line with the predictions, for participants with a predominant interdependent self-construal (+1SD above the mean), the attitude accessibility × normative clarity interaction was significant ($\beta = 1.99, p < .001$). When normative clarity was low, high attitude accessibility reduced readiness ($\beta = -.94, p = .01$). When normative clarity was high, high attitude accessibility increased readiness ($\beta = 1.06, p = .008$). In contrast, for participants with a predominant independent self-construal (-1SD below the mean), the attitude accessibility × normative clarity interaction was not significant ($\beta = .67, p = .189$). In addition, we conducted a floodlight analysis (Spiller et al., 2013). This analysis identifies the significant regions of the attitude accessibility × normative clarity interaction at all levels of the moderating variable: self-construal. The results revealed that the attitude accessibility × normative clarity interaction emerged for participants whose self-construal score was above -.80 (approximately 78% of the sample). When discomfort was entered as a covariate, the accessibility × normative clarity interaction held ($\beta = 1.38, p < .001$), but the three-way interaction did not ($p = .165$).

**Figure B.6** Felt Readiness to Act as a Function of Manipulated Attitude Accessibility and Country

The graph is based upon standardized ANCOVA adjusted means controlling for discomfort at the mean.
Expected Attitude Similarity. The same regression analysis on the expected attitude similarity item revealed an attitude accessibility × normative clarity interaction (β = .97, p = .034) and a normative clarity × self-construal interaction (β = -.59, p = .053). The three-way interaction was not significant (β = .59, p = .151).

We conducted separate follow-up tests to understand the nature of the two interactions. First, we conducted contrast analysis on an accessibility × normative clarity ANOVA of attitude similarity. As expected, the interaction was significant (F(1, 198) = 4.29, p = .04). The follow-up contrast tests suggest that under low normative clarity, participants with more accessible attitudes indicated that they would have marginally less similar opinions as their friends (Ms = 4.98 vs. 5.52, respectively; F(1, 198) = 2.841, p = .093). Under high normative clarity, participants with more accessible attitudes indicated that they would have had directionally, but not significantly, more similar opinions as their friends (Ms = 5.34 vs. 4.95, respectively; F(1, 198) = 1.54, p = .216).

Second, we examined the normative clarity × self-construal interaction, but when attitude accessibility was removed from the analysis (β = -.31, p = .121) or when attitude accessibility was included as a covariate (β = -.31, p = .129), the interaction was not significant. Thus, we did not conduct further tests.

Moderated Mediation. We tested whether the effect of attitude accessibility and normative clarity on readiness was mediated by expected attitude similarity for interdependents (Hayes 2018, Model 7). We restricted the sample to participants whose self-construal score was greater than -.80 per the results of the floodlight analysis (n = 159). Attitude accessibility was the independent variable, normative clarity was the moderator, expected attitude similarity was the
mediator, and readiness was the dependent variable. The analysis revealed that the accessibility × normative clarity interaction predicted expected similarity (β = 1.26, p = .015) and expected attitude similarity predicted readiness (β = .38, p < .001). These results suggest that having more accessible attitudes made interdependents unsure that they would share attitudes with others under low normative clarity (β = -.71, p = .053), but having more accessible attitudes did not significantly affect expected attitude similarity under high normative clarity (β = .55, p = .125).

Consistent with the expectations, when interdependents were in conditions of low normative clarity, expected attitude similarity mediated the relationship between attitude accessibility and readiness. Having more accessible preferences reduced attitude similarity, which reduced readiness (LL = -.57, UL = -.03). In contrast, expected attitude similarity did not mediate the relationship between accessible attitudes and readiness when normative clarity was high (LL = -.07, UL = .58). The index of moderated mediation was also significant (LL = .07, UL = 1.03).

**Figure B.7** Moderated-Mediation in Appendix B.14

<table>
<thead>
<tr>
<th>Normative Clarity (0 = Low, 1 = High)</th>
<th>Expected Attitude Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude Accessibility (0 = Low, 1 = High)</td>
<td>Felt Readiness to Act</td>
</tr>
</tbody>
</table>

**Discussion**

These results further indicate the importance of normative clarity regarding the relationship between attitude accessibility and readiness. We found that high attitude
accessibility, compared to low accessibility, raised interdependents’ concern that one’s opinion would be dissimilar from a group of close others when the topic had low normative clarity. Lower expected similarity mediated participants’ reduction in readiness. In contrast, when the normative attitudes of close others were clearer, more accessible attitudes did not raise the concern that one’s personal attitude would be different from others’ opinions.
Appendix B.15

Attitude Accessibility Increases WTP Under Low (vs. High) Norm Relevance

Norm relevance can be described as the extent to which the approved and expected values, attitudes, and behaviors of others are important and consequential for the individual (Sherif & Sherif, 1956; Wood, Christensen, Hebl, & Rothgerber, 1997). Importantly, past research suggests that salient norms only have influence when they are sufficiently relevant to the individual (e.g., Kallgren, Reno, & Cialdini, 2000). Therefore, even in high norm focus contexts, attitude accessibility may still provide coping value when the salient norm is not consequential. For example, accessible preferences may be more predictive of consumer responses (e.g., willingness to pay) when the salient norm involves what to wear for a casual night out versus at work.

In contrast, more accessible personal preferences may not aid in coping when the salient norm is more consequential. Past literature has demonstrated that accessible information is not always useful when making judgments (Feldman & Lynch, 1988; Snyder & Kendzierski, 1982; Stayman & Kardes, 1992). In one illustrative study, increasing the accessibility of affirmative action attitudes only increased corresponding judicial behaviors for low (vs. high) self-monitoring individuals (Snyder & Kendzierski, 1982). In related work, the accessibility of alternatives were only diagnostic of choice when other options were unspecified (Posavac et al., 1997). Consistent with these findings, we argue that in the presence of a salient and personally relevant norm (i.e., options are specified by external standards), an individual’s attention may shift away from the self (e.g., accessible personal preference) in order to process the appropriate responses that correspond with a relevant normative context.
People cope with decision demands via relying on internal states or adjusting to external pressures (e.g., Lam & Zane, 2004). Consequently, self-awareness may be important to consider in the benefits of attitude activation. In contrast to public and social awareness, private self-awareness refers to the awareness of oneself from a personal perspective and heightened private self-awareness has been associated with a greater consciousness of personal preferences (Goukens, Dewitte, & Warlop, 2009). Moreover, numerous studies suggest that private self-awareness leads to behaviors that reflect personal attitudes (Fejfar & Hoyle, 2000; Froming, Walker, & Lopyan, 1982; Gibbons, 1990; Hormuth, 1982). Thus, private self-awareness may permit distinction between those whose focus shifts inward versus elsewhere after attitude rehearsal when norms are salient and relevant.

Integrating these findings with those from attitude and norm theories, we expect attitude accessibility to be associated with increased private self-awareness, but only when there is low norm relevance. Given that coping can be characterized by reliance on internal states, we expected that private self-awareness would mediate the relationship between accessible preferences and positive coping outcomes in low norm-relevant contexts. In contrast, attitude accessibility should be less likely to increase private self-awareness in contexts of high norm relevance. When norm relevance is high, there is a greater possibility that private self-awareness receives less attention in favor of other types of awareness. To test this, the following study induced norm salience across conditions but manipulated high (vs. low) norm relevance.

Finally, we measured participants’ willingness to pay for the focal attitude object in addition to their feelings of readiness and discomfort. If consumers feel more comfortable making choices based on more accessible attitudes as prior research suggests (Blascovich et al., 1993; Fazio et al., 1989; Fazio et al., 1992), then we expected that consumers might be willing to
pay more for products for which they had more accessible attitudes in low norm-relevant contexts. In contrast, consumers might report lower willingness to pay for products for which they had more accessible attitudes in high norm-relevant contexts.

**Method**

*Pretest.* Twenty students from the same population as those in the main study identified scenarios that varied in norm relevance. All pretest participants saw several scenarios and indicated whether each domain had norms they should follow (1 = does not have norms I should follow, 7 = has norms I should follow), if the scenario was important (1 = would not be important to me, 7 = would be important to me), and if the scenario would happen to them (1 = would not happen to me, 7 = would happen to me). We assumed that scenarios that received higher scores on these 3 items had higher normative relevance among the sample. Thus, we averaged the 3 items together to create a normative relevance index (α = .865). The results from a paired samples t-test revealed that deciding clothes to wear in class (M = 5.37) had higher norm relevance than deciding what clothes to wear to a sports bar during an Illini sporting event (M = 4.07; t(19) = 6.19, p < .001). Thus, we used these two scenarios to manipulate norm relevance.

**Main Study Method**

*Participants and Design.* Two hundred and thirty-three undergraduate business majors participated in the study for participation credit. The study used a 2 (attitude expression: single vs. repeated) × 2 (norm relevance: high vs. low) between-subjects design.

*Procedure and Measures.* The study consisted of three parts. In the first part, participants were told that the experimenters were interested in opinions toward College-branded promotional items. All participants evaluated eight objects on nine-point scales anchored from 1 (disapprove/bad/dislike) to 9 (approve/good/like) presented in random order. Participants in the
repeated attitude expression condition evaluated the focal item (e.g., a winter knit hat) three times on separate screens with different anchors. Participants in the single attitude expression condition evaluated the focal item once and a non-focal item (e.g., a tumbler) three times on separate screens with different anchors.

In the second section, participants were asked to evaluate a second set of eight College-branded promotional items using two keys to represent “bad” and “good.” The only common item between the first and second surveys was the focal attitude object. To manipulate norm relevance per the pretest, participants read that they should think about whether the item would be good to wear/use in class (high norm relevance) or at a sports bar during an athletic event (low norm relevance). The experiment was programmed so that a single item appeared in the center of the screen and automatically advanced when the participant pressed the “bad” or “good” key. After a series of practice trials, participants evaluated each of the new eight items on separate screens in random order. We collected the response latencies on each page to capture attitude accessibility.

Next, we asked participants to complete a brief questionnaire. The question included the same readiness and discomfort measures as the earlier studies; private, public, and social self-awareness scales (Govern & Marsch, 2001); and willingness to pay for the focal item (Rucker & Galinsky, 2008). Each self-awareness subscale consisted of three items and had high inter-reliability ($\alpha_{\text{private}} = .832$, $\alpha_{\text{public}} = .786$, $\alpha_{\text{social}} = .839$). Sample items include, “Right now, I am aware of our innermost thoughts” (private), “Right now, I am concerned about what other people think of me” (public), and “Right now, I am conscious of what is going on around me” (social; Govern & Marsch, 2001). Finally, willingness to pay for the focal item was collected using Rucker and Galinsky’s (2008) 12-point interval scale (1 = 10% of retail value, 12 = 120% of
Participants also reported their self-construal on a 24-item scale (Singelis, 1994). Following prior work (e.g., Riemer & Shavitt, 2011), we computed an index of self-construal by subtracting the 12-item independent subscale ($\alpha = .77$) from the interdependent subscale ($\alpha = .82$). Thus, higher (lower) numbers indicated predominant interdependent (independent) self-construal.

It should be noted that an accessibility $\times$ norm relevance interaction on self-construal emerged ($F(1, 229) = 4.17, p = .042$). Under high norm relevance, more accessible attitudes were associated with marginally more independent self-construal ($M_{\text{more accessible}} = -.11, M_{\text{less accessible}} = .18, p = .058$). In contrast, under high norm relevance, attitude accessibility did not affect self-construal ($M_{\text{more accessible}} = .05, M_{\text{less accessible}} = -.10, p = .321$).

**Results**

*Response Latency.* Because we introduced the norm relevance manipulation before the manipulation check, we expected attitude expression and norm relevance to interact such that repeated (vs. single) attitude expression would increase response latency only when norm relevance was low. This effect would be attenuated when norm relevance was high. A 2-way attitude expression $\times$ norm relevance ANOVA on the reciprocally transformed response latencies for the focal item revealed the expected interaction ($F(1, 229) = 4.819, p = .029$). Follow-up contrasts supported predictions. When norm relevance was low, repeated (vs. single) attitude expression increased response latency ($M_{\text{repeated}} = .61, M_{\text{single}} = .57, F(1, 229) = 4.116, p = .044$). There was no difference in response latency when norm relevance was high ($M_{\text{repeated}} = .57, M_{\text{single}} = .59, p = .289$). No other effects were significant.

*Private Self-Awareness.* We predicted that if personal attitude expression interferes with normative considerations, then repeated (vs. personal) expression should increase private self-
awareness among participants in the low norm relevance condition. Again, the effect should be attenuated when norm relevance was high. A 2-way attitude expression × norm relevance ANOVA on private self-awareness revealed a main effect of attitude expression \( (F(1, 229) = 5.326, p = .022) \) that was qualified by the expected interaction \( (F(1, 229) = 5.821, p = .017) \). As we predicted, participants in the low norm relevance condition reported higher private self-awareness after repeated (vs. single) attitude expression \( (M_{\text{repeated}} = 4.74, M_{\text{single}} = 3.76, F(1, 229) = 10.83, p = .037) \). There was no difference in private self-awareness when norm relevance was high \( (M_{\text{repeated}} = 4.36, M_{\text{single}} = 4.38, F(1, 229) = 4.116, F < 1) \). No other effects on private self-awareness were significant and there were no significant effects on public or social self-awareness (all \( ps > .10 \)).

**Willingness to Pay.** We hypothesized an attitude expression × norm relevance interaction such that for participants in the low norm relevance, repeated (vs. single) attitude expression should increase WTP. However, this effect should be suppressed when norm relevance was high. In support, an attitude expression × norm relevance ANOVA on WTP yielded a significant interaction \( (F(1, 229) = 5.971, p = .015) \). Follow-up analyses revealed that participants in the low norm relevance condition reported higher WTP when they repeated their attitudes \( (M_{\text{repeated}} = 5.72, M_{\text{single}} = 4.71, F(1, 229) = 3.98, p = .047) \). In contrast, participants reported similar WTP regardless of attitude expression when norm relevance was high \( (M_{\text{repeated}} = 4.5, M_{\text{single}} = 5.21, F(1, 229) = 2.109, p = .148) \). The results remained significant when participants’ beanie preferences were entered as a covariate (interaction: \( F(1, 228) = 6.85, p = .009 \)). The contrast effect at high norm relevance also became marginally significant \( (M_{\text{low accessibility}} = 5.28, M_{\text{high accessibility}} = 4.56, p = .084) \).
**Moderated-Mediation Analysis.** We tested the extent to which private self-awareness explained WTP when norm relevance was low (vs. high). We submitted the data to Hayes’ (2013) PROCESS macro (Model 7) with 5,000 bootstrapped samples to test these predictions. Attitude expression was the independent variable (0 = single, 1 = repeated), norm relevance was the moderator (0 = low, 1 = high), private self-awareness was the mediator, and WTP was the dependent variable. In support of the proposed underlying process, the analysis revealed that private self-awareness mediated WTP when norm relevance was low ($\beta = .216$, Boot $SE = .13$, 95% CI: .02, .56). The same mediation was not found when norm relevance was high ($\beta = .005$, Boot $SE = .08$, 95% CI: -.19, .13). The index of moderated mediation was significant ($\beta = -.22$, Boot $SE = .16$, 95% CI: -.67, -.02).

**Readiness.** The analyses of readiness yielded insignificant effects (all $ps > .10$).

**Discussion**

Collectively, these findings extend those of the previous studies by showing how having accessible attitudes in relevant normative contexts can suppress previously documented coping outcomes. Specifically, we found that the relationships suggested in prior research (repeated attitude expression increasing private self-awareness and willingness to pay) were obtained when norm relevance was low, signifying that having accessible attitudes helped participants cope with deciding their willingness to pay for the focal item. However, when norm relevance was high, we predicted and found that repeated attitude expression did not increase private self-awareness and the previous effects were attenuated. These findings further support the notion that highly accessible attitudes can be problematic when the surrounding norms are salient and important to consumers.
APPENDIX B.16

Indicating Preferences Makes Asians/Latinos Less Self-Centered and More Group-Focused

In some of our studies, we noticed that making preferences more accessible affected how people reported their salient self-construal. We also have encountered the question of whether these findings could be explained using our theoretical framework. That is, for people who tend to have salient interdependent self-construal (e.g., Asians and Latinos), indicating preferences may prompt the consideration of their peers’ preferences or normative constraints instead of their internal states (e.g., Riemer et al., 2014). In contrast, one might expect that for people who tend to have salient independent self-construal (Caucasian Americans), indicating preferences does prompt their internal states. One way to examine the degree to which people focus on themselves or others is by measuring their idiocentric, allocentric, and group cognitions (Kuhn & McPartland, 1954). Idiocentric cognitions refer to personal qualities (e.g., “I am funny”), allocentric cognitions refer to a quality of interdependence (e.g., “I am a good friend”), and group cognitions refer to group membership (e.g., “I am an APO member”). Therefore, we explored whether the act of indicating preferences differentially affected Asians/Latinos’ (vs. Caucasians’) cognitions.

Method

Ninety-three undergraduate students participated in a 2 (task: evaluate vs. unscramble) × 2 (ethnicity: Caucasian vs. Asians/Latinos) between-subjects experiment. Participants were randomly assigned to indicate preferences toward 10 apparel brands (e.g., Nike) or unscramble the same brands (e.g., EKIN = NIKE). This procedure was chosen to manipulate whether participants performed an evaluative versus a non-evaluative task and to control participants’ exposure to the attitude objects. Next, participants completed a Ten Statements Task (TST; Kuhn
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& McPartland, 1954). They filled in the blanks to ten statements starting with “I am.” Finally, we
collected demographic information including the participants’ ethnicities.

**Results and Discussion**

Two research assistants independently coded participants’ statements as either
idiocentric, allocentric, or group. There was adequate reliability between their ratings for
idiocentric \((r = .659, p < .01)\) and group cognitions \((r = .421, p < .01)\), but poor reliability
between the ratings for allocentric cognitions \((r = -.142, p = .164)\). We therefore tested whether
rating (vs. not rating) brands would lead to more idiocentric statements for Caucasians, but less
statements for Asians/Latinos. In addition, we tested whether rating (vs. not rating) brands would
lead to more group statements for Asians/Latinos, but less statements for Caucasians. We
conducted two task \(\times\) ethnicity ANOVAs on the number of idiocentric and group cognitions. The
analysis of idiocentric cognitions revealed a main effect of ethnicity \((F(1, 89) = 10.5, p = .002)\)
and a task \(\times\) ethnicity interaction \((F(1, 89) = 5.11, p = .026)\). Follow-up analyses revealed that, as
expected, rating (vs. not rating) brands decreased idiocentric statements for Asians/Latinos
\((M_{\text{rating}} = 4.91, M_{\text{not rating}} = 6.33; p = .03)\). In contrast, the task did not affect the number of
idiocentric statements for Caucasians \((M_{\text{rating}} = 7.66, M_{\text{not rating}} = 6.91; p = .298)\).

The analysis of group cognitions revealed a main effect of ethnicity \((F(1, 89) = 21.62, p < .001)\) and a marginal task \(\times\) ethnicity interaction \((F(1, 89) = 3.31, p = .072)\). Follow-up
analyses revealed that rating (vs. not rating) brands increased group cognitions for
Asians/Latinos \((M_{\text{rating}} = 3.88, M_{\text{not rating}} = 2.68; p = .014)\). In contrast, the task did not affect the
number of group cognitions for Caucasians \((M_{\text{rating}} = 1.58, M_{\text{not rating}} = 1.68; p = .855)\).
These findings partially supported our expectations. The findings suggest that the act of reporting a preference makes Asians/Latinos think less about themselves and more about groups. In contrast, it appears that Caucasians were equally likely to be thinking of themselves and groups across tasks.
Appendix B.17

A Multi-Trial Investigation of Attitude Accessibility

We set out to replicate the main study effects using a study paradigm that more closely mirrored prior work (e.g., Fazio et al., 1992). The original studies lacked multiple trials. That is, participants in the current studies indicated their readiness to act for one attitude object. Here, we tried to replicate the effects across multiple attitude object to reduce the concern that the effects stemmed from the stimuli. This new approach required mixed effects modeling to estimate and separate the error attributed to stimuli and participants from the effects of the key independent variables (Rocklage & Fazio 2018).

Colors were selected as the attitude objects for several reasons. Following prior work (Fazio et al., 1992) colors are simple for people to evaluate. There are few dimensions to form one’s evaluation of a painting or color. In contrast, for example, many dimensions help form one’s evaluation of a car model or apparel item. Moreover, given our interest in the influence of norms on the function of attitude accessibility, We needed attitude objects to which attitudes could be easily modulated across normative contexts. For example, one might have a highly accessible preference for blue pants, but may not have as accessible of a preference for a blue car.

The objective was to test the hypothesis that, for more interdependent people, attitude accessibility increases the readiness to act when others’ preferences are less (vs. more) salient. In contrast, for more independent people, attitude accessibility might increase the readiness to act independent of the salience of others’ preferences. We manipulated the salience of others’ preferences by priming an important norm or not (pretested below). We manipulated attitude
accessibility with attitude rehearsal. We operationalized self-construal with participants’ ethnicities.

**Pretest**

We conducted a pretest to identify an appropriate normative context. Twenty-eight undergraduates read four descriptions in which they were asked to imagine choosing a color for various situations (see table B.2) and rated two how much they would need to consider others and how easy the decision would be on eight items. An exploratory factor analysis revealed two separate factors that accounted for 61% of the total variance. The ‘consider others’ factor included: (a) it would be important that I considered others’ color preferences, (b) I would need to think a lot before making this decision, (c) my decision would affect others, and (d) other people would care that I made the right decision. The ‘decision ease’ factor included: (a) this would be an easy decision and (b) I could confidently make this decision. Questions in each set were averaged together to create ‘consider others’ and ‘decision ease’ indices. I selected the work reception scenario based on the pretest results (see table B.2).

**Table B.2 Pretest Results Across Normative Situations**

<table>
<thead>
<tr>
<th></th>
<th>Consider others</th>
<th>Easy decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office accent wall</td>
<td>4.97&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.07&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Break room painting</td>
<td>4.86&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.09&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Work event poster</td>
<td>4.83&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.32&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Work reception</td>
<td>5.39&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.32&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note: Different superscripts indicate differences within rows at the $p < .01$ level

**Main Study Method**

*Participants and Design.* One hundred and twenty-one undergraduates participated in the study for course credit. The study used a 2 (attitude accessibility: high vs. low; within-subjects) ×
2 (ethnicity: European American vs. Asian and Asian Americans) × 2 (norm context: salient vs. control; between-subjects) mixed design.

Procedure and Measures. The study was conducted as part of several studies linked together with a computer program. To begin this study, participants were randomly assigned to rehearse their attitudes to one of two sets of 10 colors (Set A or Set B). Colors were randomly generated and fit within 300px × 300px constraints using Adobe Photoshop. Participants indicated their evaluations four times on four-point scales (like strongly, like, dislike, dislike strongly). In the next part, participants read that they were going to indicate preferences between two colors. To allow participants to provide their preferences as quickly as possible, participants were instructed to place their index fingers on the ‘Z’ and ‘/’ keys to indicate their preference for the color on the left or the right, respectively. To practice, participants completed 15 practice trails with unrelated object pairs (e.g., Coke–Pepsi, Spotify–Apple Music).

After the practice trials, participants were assigned to norm salience conditions. Those in the norm salient condition were asked to think about where they wanted to work after graduation, imagine being assigned to plan a reception hosted by their imagined company, and choosing the colors to decorate the venue. Those in the norm control condition did not see this information.

Next, participants completed the focal pairwise preference task. The colors were randomly paired with one other color in its set, forming 10 pairs. Pairs were arranged in blocks of 5 pairs from Set A and Set B. Therefore, participants saw 5 pairs of colors to which they had rehearsed attitudes and 5 pairs to which they had not rehearsed attitudes. The order of presentation was counterbalanced. The counterbalance variable produced no main or interactive effects with the other variables and therefore will not be discussed further. After completing the
pairwise task, participants completed demographic information and proceeded to the next study in the session.

**Results**

*Preference Latency.* Based on guidance from previous research, all 1,060 latencies were log transformed prior to analysis (Rocklage & Fazio, 2016; Savani et al., 2008). We eliminated 19 observations that were more than three standard deviations above the mean and 24 observations that were below 300 ms (Savani et al., 2008), leaving 1,017 observations.

We contrast coded the observations where the participants’ rehearsed set matched with their preference set (-1 = less accessible attitudes, 1 = more accessible attitudes). For example, observations among participants who rehearsed set A were coded as -1 when they indicated preferences toward colors in set B; their observations were coded as 1 when they indicated preferences toward colors in set A. Participants were coded as -1 if they indicated being European American and they were coded as 1 if they indicated being Asian or Asian American. Observations in the norm salient condition were coded as 1 and those in the norm control condition were coded -1.

The predictors of interest were attitude accessibility, ethnicity, norm salience, and all possible interactions. Replicating prior literature, there was a significant effect of accessibility condition, \( \gamma = -0.08, t(96.8) = -6.00, p < .001, 95\% \text{ CI: } [-.11, -.05] \). People were faster at indicating preferences between colors to which they had rehearsed their attitudes versus not. There was a marginal effect of norm salience condition, \( \gamma = .05, t(99.4) = 1.89, p = .062, 95\% \text{ CI: } [-.003, .11] \). People were somewhat faster at indicating preferences between colors in the control condition versus the norm salient condition.
Table B.3 Raw Mean Latency Estimates of Marginal and Significant Effects in Appendix Study B.17

<table>
<thead>
<tr>
<th></th>
<th>No-Rehearsal Set (Low Attitude Accessibility)</th>
<th>Rehearsal Set (High Attitude Accessibility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude Rehearsal</td>
<td>1.19***</td>
<td>1.02***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norm Salience</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.04†</td>
<td>1.17†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Americans</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No-Norm</td>
<td>1.09</td>
</tr>
<tr>
<td></td>
<td>Norm</td>
<td>1.08</td>
</tr>
<tr>
<td>Asians and Asian Americans</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No-Norm</td>
<td>.99*</td>
</tr>
<tr>
<td></td>
<td>Norm</td>
<td>1.26*</td>
</tr>
</tbody>
</table>

Note: ***adjacent pairs are significantly different at \( p < .001 \), *adjacent pairs are significantly different at \( p < .05 \), †adjacent pairs are marginally different at \( p = .064 \)

Finally, there was a significant norm \( \times \) ethnicity interaction, \( \gamma = .07, t(99.4) = 2.47, p = .015 \), 95% CI: [.01 .13]. Follow-up analysis revealed that Asians and Asian Americans were faster at indicating preferences between colors in the control condition versus the norm salient condition, \( \gamma = -.11, t(36.6) = 2.28, p = .028 \), 95% CI: [.01 .20]. In contrast, for European Americans, norm condition did not affect the speed of indicating preferences between colors, \( \gamma = .02, t(62.9) = -.483, p = .631 \), 95% CI: [-.08 ,.05]. There were no other significant effects.

Figure B.8 Results from Appendix Study B.17
Discussion

The results from this pilot study provide partial support for our theory. People with ethnicities traditionally associated with more interdependent self-construal (Asians and Asian Americans) were slower at indicating preferences when an important normative context was salient (vs. not). In contrast, for people with ethnicities traditionally associated with more independent self-construal (European Americans), norm condition had no effect on the speed of indicating preferences.
APPENDIX C: SUPPLEMENTAL STUDIES FOR CHAPTER 3

Appendix C.1

Attitudinal (Behavioral) Consensus Cues Were Directionally More Diagnostic to Indians (Americans)

The objective of this study was to determine the relative diagnosticity of behavioral and attitudinal consensus cue types across cultures. Diagnosticity refers to an object’s importance in a judgment (Feldman & Lynch, 1988), so it is conceptually similar to the notion of personal relevance. We measured diagnosticity with a two-item measure (Aaker & Sengupta, 2000). If, to interdependents, attitudinal (vs. behavioral) consensus cues are more personally relevant, they should indicate that the consensus information was more important and relevant on self-report scales.

Method

Participants and Design. Two hundred and one adults ($M_{age} = 35$, 61% male, 104 Americans, 97 Indians) participated in the study for money. The study used a 2 (country: US vs. India) × 2 (cue type: attitudinal vs. behavioral) between-subjects design.

Procedure and Measures. First, participants read a brief description of a new tablet brand that doubled as a laptop. The description included a statement from an independent market research firm about the popularity of the item. We used this information to manipulate cue type. Participants in the attitudinal (behavioral) cue condition read that during the Laplet’s first few months in the US/India market, 85% of consumers who didn’t own a tablet and learned about it, loved (bought) the brand.

Second, participants rated the Laplet’ price premium compared to an unbranded tablet using a modified interval scale from prior work (Rucker & Galinsky, 2008). Participants were
asked to rate the Laplet on a 12-point scale, where 1 = 10% of an unbranded tablet’s price, 2 = 20% of an unbranded tablet’s price, and increasing intervals of 10% per scale point up to 12 = 120% of an unbranded tablet’s price.

Finally, participants rated the diagnosticity of the consensus cue on two 7-point scales (“How relevant/important was it that 85% of consumers who don't own a tablet and learn about Laplet, buy (love) the brand?” 1 = important/relevant to 7 = extremely important/relevant) (Aaker & Sengupta, 2000). We averaged these items to create the diagnosticity index (r = .76, p < .001).

**Results**

*Cue Diagnosticity*. A country by consensus cue type ANOVA on the diagnosticity index revealed a two-way interaction ($F(1, 197) = 4.0, p = .047$) and no other effects (other $F$s < 1). Follow-up tests revealed that, for Indians, attitudinal consensus cues were directionally more diagnostic ($M = 5.57$) than behavioral consensus cues ($M = 5.21; F(1, 197) = 1.83, p = .178$). In contrast, for Americans, behavioral consensus cues were directionally more diagnostic ($M = 5.69$) than attitudinal consensus cues ($M = 5.32; F(1, 197) = 2.18, p = .141$).

**Figure C.1** Cue Diagnosticity as a Function of Country and Consensus Cue Type
Price Premium. In general, Indians rated the Laplet lower than Americans. An ANOVA on price premium revealed an effect of country (M_{India} = 6.9, M_{US} = 7.99; F(1, 197) = 8.18, p = .005) and no other significant effects (other Fs < 1, ns).

Discussion

The results from this study suggest that certain types of consensus cues may be more diagnostic to some cultural groups than others. In the attitudinal consensus condition, the results were directionally consistent with Aaker and Maheswaran’s (1997) finding that attitudinal consensus cues are more diagnostic to interdependents (vs. independents). However, the results also extend those findings by showing that behavioral consensus cues may be more diagnostic to independents (vs. interdependents).
Appendix C.2

**Indians Used More Consensus-Related Language to Describe a Product with Attitudinal (vs. Behavioral) Consensus Cues**

The objective of this study was to examine cross-cultural differences in the relative diagnosticity of attitudinal and behavioral consensus cues in a different way. Namely, we assessed the degree to which consumers’ written product descriptions mentioned consensus in response to behavioral versus attitudinal consensus cues (Aaker & Maheswaran, 1997). Personal relevance reflects the importance of some element to the individual. A respondent’s written product description is likely to include the elements that are personally relevant to him or her. We reasoned that if, to interdependents, attitudinal (vs. behavioral) consensus cues are more personally relevant, their product descriptions should have more consensus-related words.

**Method**

*Participants and Design.* One hundred and fifty adult MTurkers ($M_{age} = 33.7$, 54% male; 83 Americans and 67 Indians) participated in the study for money. The study used a 2 (country: US vs. India) × 2 (consensus cue type: attitudinal vs. behavioral) between-subjects design.

*Procedure and Measures.* Participants read a brief description of a new tablet brand that doubled as a laptop. The description included a statement from an independent market research firm about the popularity of the item. We used this information to manipulate consensus cue type. Participants in the attitudinal (behavioral) consensus cue condition read that during the Laplet’s first few months in the US/India market, 85% of consumers who didn’t own a tablet and learned about it, loved (bought) the brand.

To prepare for the focal writing task, participants provided up to six general thoughts while they read the product description. Specifically, participants saw the following prompt:
We are interested in your thoughts while you read the description. Please list the thoughts and feelings that were going through your mind in the boxes below. These thoughts may be positive, negative, or neutral – all thoughts are fine. Please try and list only one thought (can be a sentence or two) in each box. Do not feel you have to fill all the boxes.

Participants rated the Laplet’s price premium compared to an unbranded tablet using a modified interval scale from prior work (Rucker & Galinsky, 2008). Participants were asked to rate the Laplet on a 12-point scale, where 1 = 10% of an unbranded tablet’s price, 2 = 20% of an unbranded tablet’s price, and increasing intervals of 10% per scale point up to 12 = 120% of an unbranded tablet’s price.

Next, participants completed the focal writing task. They were asked to describe a Laplet using as many words as they can think of. We coded these responses for the presence of consensus-related cognitions. This was the focal dependent measure to capture the diagnosticity of the consensus information.

After describing the Laplet, participants rated the Laplet on four 9-point semantic differential scales (-4 = would not consider purchasing a Laplet/unfavorable/not useful/bad, 4 = would consider purchasing a Laplet/favorable/useful/good). These items were averaged to create a product evaluation index ($\alpha = .93$). Then, they indicated their interest and involvement while reading the Laplet description (1 = not interested/involved, 7 = highly interested/involved). These were averaged to create an involvement index ($r = .64, p < .001$). Finally, to ensure that the consensus cues were equally positive, they rated the favorability of the market research results (1 = unfavorable, 7 = favorable).
Results

*Cue Diagnosticity.* We followed the coding scheme from Aaker and Maheswaran (1997) to categorize the thoughts from participants’ Laplet descriptions into consensus and attribute-related categories. For example, phrases such as, “Laplet is a popular brand,” were categorized as a consensus-related cognition. In contrast, phrases such as, “Laplet is easy to use,” were categorized as an attribute-related cognition. We computed a proportion of consensus cognitions to the total amount of cognitions (consensus + attribute). A country × cue type ANOVA on this proportion revealed a significant 2-way interaction ($F(1, 146) = 4.4, p = .039$).

Follow-up tests revealed that Indians used a marginally greater proportion of consensus-related cognitions in their descriptions when Laplet was described with an attitudinal consensus cue ($M = .17$) compared to a behavioral consensus cue ($M = .06; F(1, 146) = 3.49, p = .064$). In contrast, Americans used a similar proportion of consensus-related cognitions across consensus cue type ($M_{attitudinal} = .04, M_{behavioral} = .10; F(1, 146) = 1.08, p = .30$).

**Figure C.2** Cue Diagnosticity as a Function of Country and Consensus Cue Type
Price Premium. In general, Indians thought the Laplet had lower price premium than Americans. An ANOVA on the estimated price premium compared to unbranded item measure revealed an effect of country ($M_{\text{India}} = 7.1$, $M_{\text{US}} = 8.1$; $F(1, 146) = 4.02, p = .047$) and no other significant effects (other $Fs < 1$, ns).

Product Evaluation. In general, Indians rated the Laplet more favorably than Americans. An ANOVA on the attitudes index revealed an effect country ($M_{\text{India}} = 7.76$, $M_{\text{US}} = 6.77$; $F(1, 146) = 13.11, p < .001$) and no other significant effects (other $Fs < 1$, ns).

Involvement. Motivation was equally distributed across the four cells. An ANOVA on the motivation index revealed no significant effects (all $ps > .19$).

Favorability of the Consensus Information. The consensus information was equally favorable across all cells. An ANOVA on the favorability item revealed no significant effects (all $ps > .32$).

Discussion

The cognitive response data suggest that attitudinal consensus cues prompted Indians, but not Americans, to describe the product using more consensus-related language. This finding suggests that, to interdependents, attitudinal (vs. behavioral) consensus cues are more diagnostic and personally relevant (Aaker & Maheswaran, 1997). However, the results on price premium and product evaluations did not replicate findings from Studies 2 and 3 and Appendices C.5 and C.6.
Appendix C.3

Separate Analyses of Willingness to Pay and Attitudes as a Function of Self-Construal and Consensus Cue Type in Study 3

Willingness to Pay. We analyzed willingness to pay (WTP) using multiple regression. Given that consensus cue type has 3 levels (no consensus, attitudinal, and behavioral), we created two dummy variables, with attitudinal consensus serving as the comparison condition. Thus, the independent variables in the regression equation were no consensus (coded: 0/1), behavioral consensus (coded: 0/1), self-construal (mean-centered), the no consensus × self-construal interaction, and the behavioral consensus × self-construal interaction. The analysis revealed significant effects of self-construal (β = 1.11, se = .41, p = .007), the no cue × self-construal interaction (β = -1.27, se = .62, p = .043), and the behavioral cue × self-construal interaction (β = -1.33, se = .55, p = .017).

Follow-up analyses of the behavioral (vs. attitudinal) consensus cue × self-construal interaction revealed that interdependents (+1SD) were willing to pay less when there was a behavioral consensus cue (M = 5.86) compared to an attitudinal cue (M = 7.41; β = -1.55, se = .63, p = .016). In contrast, independents (-1SD) were WTP similar amounts regardless of consensus cue type (M_{behavioral} = 6.21, M_{attitudinal} = 5.67; p = .39).

Follow-up analyses of the no cue (vs. attitudinal consensus cue) × self-construal interaction revealed that, consistent with prior work (Aaker & Maheswaran, 1997), interdependents were willing to pay directionally, but not significantly, more when there was an attitudinal consensus cue (M = 7.41) compared to no cue (M = 6.30, β = -.95, se = .66, p = .156). In contrast, independents were willing to pay directionally, but not significantly less when there
was an attitudinal consensus cue ($M = 5.51$) compared to no cue ($M = 6.56; \beta = 1.05, \text{se} = .67, p = .118$).

**Evaluations.** We analyzed evaluations using the same multiple regression model detailed above. The analysis revealed significant effects of self-construal ($\beta = .61, \text{se} = .19, p = .002$), the no cue (vs. attitudinal) dummy ($\beta = -.43, \text{se} = .21, p = .047$), the no cue $\times$ self-construal interaction ($\beta = -.73, \text{se} = .30, p = .015$), and the behavioral cue $\times$ self-construal interaction ($\beta = -.72, \text{se} = .26, p = .006$).

Follow-up analyses of the behavioral (vs. attitudinal) consensus cue $\times$ self-construal interaction revealed that interdependents ($+1 SD$) gave less favorable product evaluations when there was a behavioral consensus cue ($M = 5.02$) compared to an attitudinal cue ($M = 5.75; \beta = -.73, \text{se} = .30, p = .016$). In contrast, independents ($-1 SD$) gave directionally, but not significantly, more favorable product evaluations when there was a behavioral (vs. attitudinal) consensus cue type ($M_{\text{behavioral}} = 5.20, M_{\text{attitudinal}} = 4.80; \beta = .40, \text{se} = .30, p = .174$).

Follow-up analyses of the no cue (vs. attitudinal consensus cue) $\times$ self-construal interaction revealed that, consistent with prior work (Aaker & Maheswaran, 1997), interdependents gave more favorable product evaluations when there was an attitudinal consensus cue ($M = 5.85$) compared to no cue and ($M = 4.85, \beta = -1.00, \text{se} = .31, p = .002$). In contrast, independents’ product evaluations were unaffected by consensus cue presentation ($M_{\text{attitudinal}} = 5.04, M_{\text{no cue}} = 4.90; p = .653$).

**Moderated Mediation.** We predicted that the time spent processing attribute information would mediate the relationship between consensus cue type and product evaluation for interdependents, but not independents (H4). We tested this hypothesis using Hayes (2018) PROCESS macro Model 7 with 5,000 bootstrapped samples. Consensus cue type was the

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independent variable (dummy-coded: 0 = attitudinal, 1 = behavioral), mean-centered self-construal was the moderator, time spent processing attribute information was the mediator, and willingness to pay and product evaluation were the dependent variables in separate models. As expected, the analyses revealed that consensus type and self-construal interacted to predict time spent processing attribute information ($\beta = -3.28, \text{se} = 1.24, p = .008$). Participants with a predominantly interdependent self-construal spent less time processing additional information when the product was shown with a behavioral consensus cue ($M = 7.49$) compared to an attitudinal consensus cue ($M = 11.84; \beta = -4.35, \text{se} = 1.42, p = .003$).

Time spent processing attribute information was positively and significantly associated with product evaluation ($\beta = .05, \text{se} = .02, p = .002$), but not willingness to pay ($\beta = .03, \text{se} = .03, p = .325$). Therefore, conditional indirect effect tests revealed that time spent processing attribute information mediated the relationship between consensus cue type and product evaluation, but not WTP, for interdependents ($\beta = -.20, \text{Boot SE} = .10, 95\% \text{ CI: -.42, -.05}$), but not independents ($\beta = .04, \text{Boot SE} = .07, 95\% \text{ CI: -.09, .19}$). The index of moderated mediation was significant ($\beta = -.15, \text{Boot SE} = .08, 95\% \text{ CI: -.33, -.03}$). These results are consistent with the hypotheses (H4) that the tendency to process additional information mediates the effect consensus cue type on product evaluation for interdependents, but not independents.
Appendix C.4

Behavioral (vs. Attitudinal) Consensus Cues Were More Diagnostic Among Caucasian Undergraduates

The primary objective of this study was to replicate the results on the relative diagnosticity of behavioral and attitudinal consensus cues using an undergraduate sample. A secondary objective was to assess whether behavioral and attitudinal consensus cues generated different attributions across independents and interdependents. If, to interdependents, attitudinal (vs. behavioral) consensus cues are more diagnostic (personally relevant), then they should also be attributed to more internal factors (e.g., personal desires).

Method

Participants and Design. Two hundred and twenty-three undergraduates ($M_{\text{age}} = 20$, 37% male) participated in the study for partial course participation credit. The study used a 2 (ethnicity: Caucasian vs. Asian) $\times$ 2 (consensus cue type: attitudinal vs. behavioral) between-subjects design. 22 participants were removed from analyses because they indicated an ethnicity other than Caucasian or Asian; this procedure left 204 participants for the analyses.

Procedure and Measures. First, participants read a brief description of a new tablet brand that doubled as a laptop. The description included a statement from an independent market research firm about the popularity of the item. We used this information to manipulate cue type. Participants in the attitudinal (behavioral) cue condition read that during the Laplet’s first few months in the US/India market, 85% of consumers who didn’t own a tablet and learned about it, loved (bought) the brand.

Second, participants rated the Laplet’s price premium compared to an unbranded tablet using a modified interval scale (Rucker & Galinsky, 2008). Participants were asked to rate the
Laplet on a 12-point scale, where 1 = 10% of an unbranded tablet’s price, 2 = 20% of an unbranded tablet’s price, and increasing intervals of 10% per scale point up to 12 = 120% of an unbranded tablet’s price.

Third, to assess whether participants attributed attitudinal or behavioral consensus to internal or external factors, we asked participants the extent to which they felt people bought (loved) the Laplet brand because of 1 = “their own personal feelings or preferences” or 7 = “outside influences or pressures” (He & Bond, 2015). Next, we collected measures of participants’ perceived cue diagnosticity (two items, \( r = .80, p < .01 \)) and motivation (two items, \( r = .54, p < .01 \)) (Aaker & Maheswaran, 1997).

Finally, participants responded to two questions to check the manipulation. First, participants rated the favorability of the independent market research results for Laplet from 1 = “unfavorable” to 7 = “favorable.” Next, participants were asked to recall the percentage of consumers who loved (bought) the brand.

Results

Manipulation Check. Seventy-eight percent of participants correctly recalled that 85% of people in the market research results bought (loved) the brand. However, an ethnicity by consensus cue type ANOVA on the favorability item revealed a main effect of ethnicity (\( M_{\text{Caucasian}} = 5.45, M_{\text{Asian}} = 4.60; F(1, 200) = 23.30, p < .001 \)).

Cue Diagnosticity. An ethnicity by consensus cue type ANOVA on the diagnosticity index revealed effects of consensus cue type (\( F(1, 200) = 3.46, p = .064 \)) and ethnicity (\( F(1, 200) = 15.86, p < .001 \)) that were qualified by a two-way interaction (\( F(1, 200) = 5.56, p = .019 \)). Follow-up tests revealed that, for Caucasians, behavioral consensus cues were more diagnostic (\( M = 5.75 \)) than attitudinal consensus cues (\( M = 4.99; F(1, 200) = 7.74, p = .006 \)). In contrast, for
Asians, the consensus cues were equally diagnostic ($M_{behavioral} = 4.61, M_{attitudinal} = 4.70; F < 1, ns$).

**Figure C.3** Cue Diagnosticity as a Function of Ethnicity and Consensus Cue Type

![Cue Diagnosticity Chart](chart.png)

**Attribution.** An ethnicity by consensus cue type ANOVA on the attribution item revealed a two-way interaction ($F(1, 200) = 4.09, p = .045$). Follow-up tests revealed that Caucasians were more likely to attribute behavioral consensus cues to outside influences ($M = 4.03$) than attitudinal consensus cues ($M = 3.23; F(1, 200) = 4.69, p = .023$). In contrast, Asians made similar attributions across consensus cue type ($M_{behavioral} = 3.85, M_{attitudinal} = 4.04; F < 1, ns$). Attribution did not mediate (Model 7, Hayes 2018) consensus cue diagnosticity for Caucasians ($\beta = -.01, \text{Boot SE} = .02, 95\% \text{ CI: } -.05, .04$) or Asians ($\beta = .02, \text{Boot SE} = .05, 95\% \text{ CI: } -.08, .12$).

**Price Premium.** An ANOVA on the price premium compared to unbranded item measure revealed no significant effects (all $Fs < 1$).
Discussion

The results suggest that behavioral versus attitudinal consensus cues were more diagnostic and attributable to external causes among Caucasians in this study. The diagnosticity result among Caucasians is consistent with our theorizing (Bem, 1972; White & Simpson, 2013), but the attribution result is a departure from our theorizing. We expected behavioral consensus cues to be more diagnostic because Caucasians perceive behavioral consensus to reflect others’ ‘true’ preferences. For Asians, we would have predicted greater cue diagnosticity and internal attributions after exposure to an attitudinal (vs. behavioral) consensus cue.
Appendix C.5

Interdependent Indians More Favorably Evaluated Groceries with Attitudinal (vs. Behavioral) Consensus Cues

The objectives of this study were to replicate the basic self-construal × cue type interaction using commonly consumed items and different types of attitudinal and behavioral consensus cues. Instead of describing a single, potentially unfamiliar product, we used common grocery items as stimuli. We operationalized consensus cue type by showing participants grocery items that were the “most-consumed” or “most-loved” (Tu & Fishbach, 2015). We operationalized product evaluations with participants’ perceived brand equity and purchase likelihood (Aaker, 1996). We predicted that more interdependent people would more favorably evaluate products associated with attitudinal (vs. behavioral) consensus cues. However, consensus cue type should not produce different product evaluations among more independent people.

Method

Participants and Design. Ninety-six American and eighty-five Indian adults (Mage = 33.18, 68.5% male) participated in the study for payment. The study used a 2 (consensus cue type: attitudinal vs. behavioral) × self-construal (measured) between-subjects design.

Procedure and Measures. Participants were told that the study was part of a large consumer project in which grocery item information was gathered from a large group of people. On the next screen, all participants saw a sample of common grocery items (e.g., chicken, bread, cereal, rice, milk, mangos) accompanied with text describing findings from previous research. This text was used to manipulate cue type. Participants in the attitudinal (behavioral) cue
condition read that the items were the most-loved (most-purchased) products based on a large sample of consumers who checked the items they liked best (consumed).

Next, all participants indicated their perceptions of brand equity for each item. Participants rated the extent to which the products were of low (1) to high (7) quality, weak (1) or dominant (7), and whether consumers of the products were not loyal at all (1) to very loyal (7). Participants were then asked to report their purchase likelihood of each brand on an imaginary trip to the grocery store (1 = definitely no, 7 = definitely yes). The four items had high internal reliability (α = .94); thus, we created a product evaluation index with the mean values and ipsatized these indices within country.

Following the dependent measures, participants answered whether the products they viewed were “the most frequently consumed” or the most loved.” This item served as the manipulation check. Finally, participants completed Singelis’ 24-item self-construal scale (1994). Following past research (e.g., Riemer & Shavitt, 2011), we computed a dominant chronic self-construal score by subtracting participants’ mean ratings on the independent items (α = .826) from their mean ratings on the interdependent items (α = .807). Higher (lower) scores thus indicated a dominant interdependent (independent) self-construal.

Results

Manipulation check. As expected, a high proportion of participants correctly answered the manipulation check item according to their assigned condition (grand \( \bar{X} = 74 \) percent) (Aaker & Maheswaran, 1997). Also as expected, Indian participants were more predominantly interdependent (\( M = .46 \)) than American participants (\( M = -.41; \ t(179) = 6.05, p < .001 \)).

Product Evaluation. We predicted that more interdependent participants would more favorably evaluate products associated with attitudinal (vs. behavioral) consensus cues.
However, more independent participants might evaluate products similarly, regardless of consensus cue type. We tested these hypotheses with multiple regression. We regressed cue type (0 = behavioral, 1 = attitudinal), mean-centered self-construal, and their interaction on the product evaluation index. The analysis revealed a significant effect of consensus cue type ($\beta = .29$, $t = 2.15$, $p = .033$) and no other significant effects (all $ps > .12$). The self-construal $\times$ cue type interaction was not significant ($p = .129$), but the patterns were consistent with our predictions. For example, predominantly interdependent participants ($+1SD$ above the mean of self-construal) rated the grocery items higher when they were marketed with attitudinal consensus cues ($M = .37$) than behavioral consensus cues ($M = -.14$; $\beta = .51$, $t = .255$, $p = .012$). In contrast, predominantly independent participants ($-1SD$ below the mean of self-construal) rated the grocery items similarly regardless of consensus cue type ($Ms = -.16$ vs. -.18; $t < 1$, ns).

We also analyzed the data including the country variable and all possible two- and three-way interactions with consensus cue type and measured self-construal as predictors. This analysis revealed a marginal effect of consensus cue type ($\beta = .35$, $t = 1.81$, $p = .072$), a significant country $\times$ consensus cue type interaction ($\beta = -.83$, $t = -2.20$, $p = .030$), and a significant country $\times$ measured self-construal $\times$ consensus cue type interaction ($\beta = 1.16$, $t = 2.75$, $p = .007$). Follow-up tests revealed that the measured self-construal $\times$ consensus cue type interaction was significant among Indians ($\beta = 1.27$, $p = .001$), but not Americans ($\beta = .11$, $p = .508$). Specifically, Indians with predominantly interdependent self-construal more favorably evaluated the grocery items when they were shown with attitudinal (vs. behavioral) consensus cues ($M_{attitudinal} = .42$, $M_{behavioral} = -.44$; $\beta = .86$, $t = 2.93$, $p = .004$). The opposite was true for Indians with predominantly independent self-construal. They evaluated the grocery items more
favorably when they were shown with behavioral (vs. attitudinal) consensus cues ($M_{\text{attitudinal}} = -1.65$, $M_{\text{behavioral}} = .20$; $\beta = -1.82$, $t = -2.67$, $p = .008$).

**Figure C.4** Evaluation as a Function of Country and Consensus Cue Type

![Figure C.4](image)

**Discussion**

The current study did not cleanly replicate our prior findings. However, we did observe supportive results among Indian participants as a function of measured self-construal and consensus cue type.
Appendix C.6

Caucasians More Favorably Evaluated Service Providers with Behavioral (vs. Attitudinal) Consensus Cues

The objective of this study was to generalize the findings from previous studies using services (e.g., cell phone provider) instead of products. We used ethnicity to operationalize self-construal. We used “Best Selling” and “Top Rated” to operationalize consensus cue type. We used brand attitudes to operationalize product evaluations. We expected Asians (interdependents) to more favorably evaluate services associated with attitudinal (vs. behavioral) consensus cues. However, consensus cue type should not affect perceived service evaluation among Caucasians (independents), but Caucasians might evaluate the service more favorably when it is shown with behavioral (vs. attitudinal) consensus cues.

Method

Participants and Design. One hundred and ninety-one undergraduates ($M_{age} = 20.52$, 41.1% male) participated in the study for partial course participation credit. Participants who did not indicate that they were Caucasian or Asian were removed from the sample ($n = 58$), leaving 133 participants in the analyses. The study used a 2 (ethnicity: Caucasian [independents] vs. Asians [interdependents]) $\times$ 2 (consensus cue type: attitudinal vs. behavioral) $\times$ 2 (service: mobile phone vs. home-energy; within-subjects) mixed-subjects design.

Procedure and Measures. Participants read information about large-scale cell phone and home electricity providers. To induce personal relevance across all conditions, participants read that the product will be marketed in the local area and that their opinions were important. The order of service presentation was counterbalanced. Importantly, participants were randomly assigned to view service information with attitudinal (vs. behavioral) consensus cues.
Participants in the attitudinal consensus cue condition read that both the cell phone provider (Neutron Mobile) and the home electricity provider (Proton Energy) were “Top Rated” and rated positively by 81% of 300 college-aged consumers in the market. In contrast, those in the behavioral consensus cue condition read that both providers were a “Best Selling” option and that 81% of 300 college-aged consumers in the market signed up for the service.

Participants rated each service immediately after reading information about it. They indicated their product evaluations on four 7-point scales (e.g., “In terms of how good or bad the product is, how would you rate Proton?” 1 = bad, 7 = good) (Campbell & Goodstein, 2001). As a manipulation check, participants were asked to recall what kind of information was presented based upon what they read (i.e., “Which of the following is true based upon what you read?” 1 = 81% of students rated the brand positively, 2 = 25% of students loved the brand, 3 = 81% of students bought the brand, 4 = 75% of students recommended the brand).

Results

Manipulation Check. 78% of participants correctly answered the manipulation check question. Therefore, we considered the consensus cue type manipulation to be effective.

Service Evaluation. An ethnicity × consensus cue type × service type repeated measures ANOVA on service evaluation revealed a significant ethnicity × consensus cue type interaction (F(1, 129) = 5.75, p = .018) and no other significant effects. Follow-up analyses collapsing across service type revealed that Caucasians’ service ratings were significantly higher when the services were shown with behavioral consensus cues (M = 4.99) than attitudinal consensus cues (M = 4.48; F(1, 129) = 5.70, p = .018). In contrast, Asians’ service ratings were directionally, but not significantly, higher when the services were marketed with attitudinal consensus (M = 4.67) than behavioral consensus cues (M = 4.46; F < 1, ns).
Discussion

These significant self-construal by consensus cue type interaction on evaluation replicated the findings from previous studies in a service context. Consistent with our theorizing, Caucasians gave higher ratings to service providers shown with behavioral (vs. attitudinal) consensus cues. Asians gave directionally higher ratings to service providers shown with attitudinal (vs. behavioral) consensus cues.