TEMPORAL CONSTRUAL IN ADVERTISING

The Moderating Role of Temporal Orientation and Attribute Importance in Consumer Evaluations

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ABSTRACT: In two experiments, we study how the temporal orientation of consumers (i.e., future-oriented or present-oriented), temporal construal (distant future, near future), and product attribute importance (primary, secondary) influence advertisement evaluations. Data suggest that future-oriented consumers react most favorably to ads that feature a product to be released in the distant future and that highlight primary product attributes. In contrast, present-oriented consumers prefer near-future ads that highlight secondary product attributes. Study 2 shows that consumer attitudes are mediated by perceptions of attribute diagnosticity (i.e., the perceived usefulness of the attribute information). Together, these experiments shed light on how individual differences, such as temporal orientation, offer valuable insights into temporal construal effects in advertising.

Consider a recent advertisement from the game company Avalon Hill. The advertisement presents a set of miniature World War II tanks that will be available for purchase in eight months. Similarly, in 2007, Microsoft announced a new Windows server that would become available in February 2008. These examples illustrate the use of temporal information in advertising where advertisers seek to inform consumers of new products that are available in the future. In this research, we examine how advertising products that are immediately available (i.e., near future) or that will be available in three weeks (i.e., more distant future) influence consumer attitudes. We label this approach temporal distance priming regarding how far in the future from the present a product is available. Currently, a growing stream of research in psychology (e.g., Henderson, Trope, and Carnevale 2006; Nussbaum, Liberman, and Trope 2006; Trope and Liberman 2003) and marketing (e.g., Chandran and Menon 2004; Kardes, Cronley, and Kim 2006) has drawn on *temporal construal theory* (Trope and Liberman 2003) to explain how differences in temporal distance affect an individual's judgments.

According to temporal construal theory, temporal distance affects how information is mentally construed (i.e., represented) by a person. For the distant future, construals consist of primary, goal-relevant features of an event or object (called high-level construals). In contrast, for the near future, construals are contextualized and contain more secondary details (low-level construals; Trope and Liberman 2003). Research shows that for distant events, people think more in terms of high-level construals and give more weight to the primary attributes of products and events, and less weight to secondary features (Trope and Liberman 2003).

In addition to situational influences, however, such as temporal distance primes, research on temporal orientation suggests that there are individual differences in how people use and perceive time. Temporal orientation is defined as an individual's tendency to engage in thinking about the past, present, or future (Holman and Silver 1998). Research suggests that temporal orientation serves as a cognitive-motivational factor where a future temporal orientation results in a greater ability to construe distant-future events (Simons et al. 2004). This suggests that temporal orientation may influence temporal construals. As a consequence, we expect that individual differences in temporal orientation will moderate previously identified effects of temporal construal on attitudes and processing, and temporal construal theory informs us about the nature of these differences. Therefore, in this research we use temporal construal theory to develop hypotheses regarding how people with a future-oriented or present-oriented temporal orientation will respond to ads that employ distant-future or near-future temporal distance primes.

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We draw on research on cue utilization to disentangle these effects. In two experiments, we test the premise that matching a person's temporal orientation with the temporal construal of advertisement information leads to enhanced evaluations, and we investigate the process that underlies these effects. In Experiment 1, we show that future-oriented consumers react most favorably to ads that feature a product to be released in the distant future with information on primary product attributes. In contrast, present-oriented consumers prefer near-future ads that highlight secondary product attributes. In Study 2, we explore the psychological mechanism that drives these effects. To this end, we present perceived information usefulness (diagnosticity) as a possible mediator. The results of these experiments highlight the importance of understanding temporal construal effects in advertising.

BACKGROUND

Message Construction and Message Construal: Temporal Construal Theory

Temporal construal theory posits that temporal distance changes how people mentally represent future events. These different construals result in changes to how people respond to future events (Trope and Liberman 2003). In other words, temporal distance influences a person's judgments of future events by systematically changing the way they construe those events.

Construal Level and Temporal Distance

According to temporal construal theory, people use high-level construals to represent information about distant-future events. *High-level construals* consist of the core features of the object or event under consideration. They are relatively simple, schematic, decontextualized representations. In contrast, *low-level construals* are more contextualized, less schematic representations that include incidental, secondary features (Trope 2004). For example, a high-level construal of someone writing a novel could be "launching my career as an adventure novelist," whereas a low-level construal could be "buying a laptop with a word processor."

When temporal distance increases, people are predisposed to form more abstract construals of available information. Liberman, Sagristano, and Trope (2002) found that distant-future preferences involve simpler cognitive structures than near-future preferences, suggesting that objects in the distant future are represented in a more schematic and simpler way. They suggest that high-level construals involve important, primary features and the disregarding of incidental features. This view assumes that levels of abstractness represent a gradual reduction in contextual details and the complexity of construals (Liberman, Sagristano, and Trope 2002). In the distant future, people are assumed to have a simpler construal that focuses on the key goal-relevant elements of a product (e.g., a BMW automobile's performance), whereas in the near future, construals are less structured and allow for a greater relative emphasis on secondary attributes than high-level construals (Henderson, Trope, and Carnevale 2006). Hence, in the near future, contextual secondary attributes (e.g., location of a nearby dealer) become more influential.

Consistent with this view, research suggests that greater temporal distance from objects or events results in more emphasis on primary features rather than secondary features (e.g., Förster, Friedman, and Liberman 2004; Liberman, Sagristano, and Trope 2002). Likewise, in a marketing context, Kardes, Cronley, and Kim (2006) suggest that high-level construals involve primary goal-relevant product attributes and low-level construals involve secondary product attributes.

A distant future involves temporal distance, which is the perceived psychological distance of how much time separates the perceiver's present time from the target event (Bar-Anan, Liberman, and Algom 2007). Thus, temporal distance involves perceived proximity of an event to the present. In our research, this temporal distance involves the time between the present and when a new product is being released. A distant-future product release is further away in time from the present than a near-future product release. A variety of time periods have been used to operationalize distant future/near future experimental manipulations. Two of the most common approaches are an event that occurs (1) "one year from now" (distant future) versus "tomorrow" (near future; e.g., Eyal et al. 2004; Liberman and Trope 1998; Nussbaum, Liberman, and Trope 2006) or (2) in three months versus a shorter period in weeks (e.g., three months versus next week; Eyal et al. 2004). We operationalize a distant-future product release as occurring next month and the near-future release as occurring tomorrow. Our manipulation answers the call of Chandran and Menon (2004, p. 385) to investigate temporal boundaries, and we believe such a distant-future manipulation is more realistic and widely applicable for advertising than for products to be released in a year's time.

Temporal Distance and the Weighting of Attributes

Given that temporal construal theory posits that people use high-level construals to represent information about distant-future events, the value associated with primary features (i.e., high-level construals) should be more influential for judgments relating to distant-future events. In other words, temporal distance increases the *weight* assigned to primary attributes and decreases the weight assigned to secondary attributes. For near-future events, the value associated with secondary features (i.e., low-level construals) should be more influential for evaluations

than they would be for a distant-future event (Trope 2004). Consequently, Trope and Liberman (2003) suggest that primary attributes related to the primary function of an object should receive greater weight for distant-future decisions. Research supports these predictions across a variety of contexts ranging from consumer judgments of films to preferences for employment (see Trope and Liberman 2003 for a review).

In an example that is germane to this research, Trope and Liberman (2000) asked participants to rate a radio they would buy tomorrow (near-future temporal distance) or in a year (distant future). In the distant-future condition, they found that participants were persuaded by the radio's performance on a primary feature—sound quality. In the near-future condition, participants were persuaded by the radio's performance on a secondary feature—the clock on the radio. This example demonstrates a common characteristic of temporal construal research: the use of temporal distance primes to activate high-level and low-level construals.

From an advertising perspective, temporal construal theory predicts that the evaluations of products advertised for release in the distant future will be influenced by the value that consumers associate with high-level construals for those products. Since high-level construals involve primary features (Trope and Liberman 2003), then such evaluations should be influenced by the value that consumers associate with those primary product attributes. In other words, advertising effectiveness should depend on promoting information that shows a product performing strongly on primary attributes. In contrast, products advertised for release in the near future will be influenced by the value that consumers associate with low-level construals for those products. Since low-level construals involve secondary features (Trope and Liberman 2003), such evaluations should be influenced by the value that consumers associate with secondary product attributes.

For example, a recent print ad for Singapore Airlines highlights luxury services for the business class passenger (primary attributes of the service), whereas the company Web site offers seat choice and meal choice options (secondary attributes). Temporal construal theory predicts that the secondary attributes would become more important as a passenger nears their flight departure date and considers booking a flight on the Web site. However, in addition to the influence of temporal construal effects, we also explore the effect of consumer temporal orientation.

Individual Differences: Temporal Orientation

Temporal orientation is a theory that posits that people have individual differences in how they perceive their world vis-à-vis the past, present, or future. Temporal orientation as an individual difference represents a chronic tendency to focus on the past, present, or future (Holman and Silver 1998). Research in

this area frequently classifies people as future-oriented, present-oriented, or past-oriented. Of these classifications, the limited research in marketing that has explored temporal orientation suggests that a present–future dichotomy is most applicable to consumers (e.g., Bergadaà 1990; Mendoza and Pracejus 1997; Walsh 1995). Qualitative research in this area has found key differences in present- and future-oriented individuals. For example, Bergadaà (1990) suggests that temporal orientation influences consumer motivation and behavior. She found evidence that future-oriented people plan and feel responsible for their own future. In contrast, present-oriented people adopt a more reactive approach to life. Similarly, Walsh (1995) showed that present-oriented consumers are susceptible to impulse purchases and seek to satisfy immediate wants, whereas future-oriented consumers engage in planning and consider how spending behavior impacts on those plans. Thus, in marketing, temporal orientation research suggests that future-oriented people adopt a more considered approach to consumption that takes into account future consequences of behavior. Present-oriented consumers are viewed as more impulsive and reactive to marketing stimuli designed to encourage impulse purchases. Yet such research sheds little light on the cognitive process that consumers engage in when processing stimuli.

Regarding cognitive processes, research in the social sciences field suggests that temporal orientation can influence the encoding and retrieving of information from memory, the use of goals, and the forming of expectations (Zimbardo and Boyd 1999). For example, in a finding that parallels the considered versus impulsive purchasing found in marketing (Walsh 1995), future-oriented people give more weight to temporally distant goals than present-oriented people, who exhibit more impulsive behavior (Harber, Zimbardo, and Boyd 2003). Furthermore, temporal orientation has also been linked with the accessibility of distant-future construals. For example, research suggests that since future-oriented people have a chronic focus on the future, they have a greater ability to anticipate and construe distant-future events than present-oriented people (Phalet, Andriessen, and Lens 2004; Simons et al. 2004). Hence, future-oriented people more readily engage in the processing of information of distant-future events than present-oriented people.

From an advertising perspective, temporal orientation research suggests that future-oriented people are less likely than present-oriented people to be swayed by secondary attributes. Furthermore, because they habitually think of the future, they may find it easier to imagine distant-future events. In contrast, present-oriented people are more susceptible to impulse purchases and the secondary attributes may prompt such purchases. Because they spend much of their time considering the present, they may find it more difficult than future-oriented people to imagine the distant future, and thus, may respond more favorably to near-future advertising that is set close to

the present. However, although temporal orientation research offers insights from an accessibility perspective, it remains silent on the potential role of diagnosticity. We build on this research by investigating the role of diagnosticity in terms of the accessibility-diagnosticity model.

Cue Utilization Theory and the Accessibility-Diagnosticity Model

Cue utilization theory posits that the degree to which a cue is used in judgments depends on its perceived diagnosticity (e.g., Dick, Chakravarti, and Biehal 1990; Feldman and Lynch 1988). Diagnosticity is defined as a subjective assessment of the extent to which information is regarded as useful to the consumer in making a judgment (Ahluwalia 2002; Pham and Avnet 2004). A model that incorporates diagnosticity and that has been widely used in consumer research is the accessibility-diagnosticity model (Feldman and Lynch 1988). This model posits that judgments are a function of the accessibility and diagnosticity of alternative information inputs. Accessibility and diagnosticity are not mutually exclusive in terms of their cognitive influence. Indeed, diagnosticity results from a judgment process that is influenced by accessible knowledge (Feldman and Lynch 1988). Yet it is the perception of diagnosticity (i.e., the perceived usefulness of the information) that determines whether information influences a person's judgment. In other words, information must be viewed as useful rather than just being salient to a person for it to have an impact. In the context of our research, consumers who form judgments of distant-future events should prefer information related to high-level construals (Trope and Liberman 2003). Accordingly, primary attributes should be viewed as more diagnostic than secondary attributes because they are more suited to high-level construals. In contrast, secondary attributes would be viewed as less useful. However, this prediction is qualified by the consumer's temporal orientation as outlined in the following hypotheses section. We expand on the role of diagnosticity for H2c and H2d.

RESEARCH HYPOTHESES

Temporal Construal, Temporal Orientation, Attribute Importance, and Evaluations

Following research on chronic individual differences (e.g., Zimbardo and Boyd 1999), we suggest that a future temporal orientation does not mean a person constantly thinks about the future. What it does mean is that a future-oriented person should find high-level construals easier to elicit when exposed to a distant-future temporal distance prime than would a present-oriented person. Thus, future-oriented consumers who are exposed to the distant-future ad should generate

high-level construals more easily and react most favorably to ads featuring primary attributes. When present-oriented participants are exposed to a near-future prime, they should engage in low-level construals, and thus respond most favorably to the ad containing secondary attributes. At first glance, this appears to be counterintuitive. Why would anyone prefer secondary attributes? Yet in our study, secondary attributes do not reflect poor performance on important attributes. Instead, the advertised product is promoted on attributes that are less important to the primary purpose of the product but that still have a positive valence.

> *H1a: For future-oriented participants, an advertisement featuring a distant-future temporal construal with primary attributes will result in more favorable attitudes toward the ad, brand attitudes, and purchase intentions than ads featuring other temporal construal-attribute type combinations.*

> *H1b: For present-oriented participants, an advertisement featuring a near-future temporal construal with secondary attributes will result in more favorable attitudes toward the ad, brand attitudes, and purchase intentions than ads featuring other temporal construal-attribute type combinations.*

Processing Mechanism

Cognitive responses allow insight into process issues (Gürhan-Canli and Maheswaran 2000). Following temporal orientation research, future-oriented consumers should be more interested in distant-future ads and more able to form construals related to the distant future. Consequently, future-oriented participants should process attribute information in detail and generate more attribute-related thoughts when presented with a distant-future ad. In contrast, present-oriented consumers who have a chronic focus on the present are expected to process attribute information in detail when viewing the near-future ad.

> *H2a: Future-oriented participants will generate more attribute thoughts when exposed to a distant-future advertisement than when exposed to a near-future advertisement.*

> *H2b: Present-oriented consumers will generate more attribute thoughts when exposed to a near-future advertisement than when exposed to a distant-future advertisement.*

Although H2a and H2b suggest that future-oriented people will focus more on distant-future ads, we predict that the valence of the attribute thoughts will reflect perceptions of diagnosticity. Useful information will be regarded more favorably. Thus, given that the accessibility-diagnosticity model predicts that it is diagnosticity, not simply accessibility, that determines the use of a cue in a judgment (Feldman and Lynch 1988), attribute information that matches the level of construal (e.g., making a distant-future high-level construal judgment using

primary attributes) should be perceived as more diagnostic than incongruent matches (e.g., making a distant-future judgment using secondary attributes). Hence, distant-future ads featuring primary attributes and near-future ads with secondary attributes should be perceived as more diagnostic than other ads. Yet this congruency should be subject to a consumer's temporal orientation. For example, since (1) future-oriented people process distant-future information more readily than present-oriented people, and (2) research asserts that future-oriented consumers are more interested in advertising related to distant-future benefits (Rojas-Méndez and Davies 2005), we expect future-oriented consumers to regard distant-future, primary attributes ads as the most diagnostic combination. Thus, the valence of attribute thoughts should be convergent with the expected results for attitudes (H1a and H1b). In other words, given H2a and H2b, consumers will react most favorably where the attribute information is congruent with the temporal distance prime. Thus, future-oriented consumers who focus more on distant-future copy (H2a) will generate more favorable thoughts in response to distant-future ads featuring primary attributes. In contrast, present-oriented consumers who focus more on near-future copy (H2b) will generate more favorable thoughts when viewing secondary attributes.

> *H2c: Future-oriented consumers will generate more favorable attribute thoughts when exposed to a distant-future advertisement featuring primary attributes than when they are exposed to ads featuring other temporal construal-attribute type combinations.*

> *H2d: Present-oriented consumers will generate more favorable attribute thoughts when exposed to a near-future advertisement featuring secondary attributes than when they are exposed to ads featuring other temporal construal-attribute type combinations.*

STUDY 1

Research Design

The design was a 2 (temporal construal: distant future, near future) × 2 (attribute importance: primary, secondary) between-subjects factorial design with temporal orientation (future-oriented, present-oriented) used as a measured independent variable.

Sample and Procedure

Three hundred forty-eight undergraduate students participated in the study. Participants were volunteers recruited from an undergraduate introductory business studies class and were exposed to one of the four ads used in the study. Female students made up 58% of the sample, and 99.4% of the sample owned a cell phone. Experimental sessions were conducted in lecture halls in groups of up to 100 students. Participants were informed of the voluntary nature of the study and were randomly assigned to the experimental conditions. Following Wooten and Reed (2004), we conducted the study as seemingly unrelated studies. Two researchers introduced the studies as separate projects. The first researcher introduced a study relating to the Internet and technology. Participants completed a questionnaire that contained filler items and the temporal orientation measure. The second researcher then introduced a study relating to perceptions of advertising and handed out a booklet that contained the advertisement and a questionnaire. Participants were thanked and debriefed in a follow-up session. An open-ended question showed no evidence of experimental demand effect bias.

Product Selection and Independent Variables

We chose a cell phone for the product context (pretesting using 36 participants excluded from the main study revealed no gender differences in attitudes toward cell phones and levels of knowledge). To minimize effects of brand familiarity, we used the fictitious brand name "Telgari."

Temporal construal was manipulated using temporal distance primes from prior research (e.g., Liberman and Trope 1998; Liberman, Sagristano, and Trope 2002). Near-future ads stated that the cell phone would be "available tomorrow from all retailers of electronics." Distant-future ads stated that the cell phone was "available next month from all retailers of electronics" (i.e., three weeks away; see the Appendix for an example of the advertising stimuli).

Attribute importance was manipulated by varying the attributes presented in the ad copy (e.g., Maheswaran, Mackie, and Chaiken 1992; Martin, Lang, and Wong 2004). Attributes were derived from a pretest where participants excluded from the main study rated 15 attributes on a seven-point scale (not at all important/very important). This pretest resulted in the following primary attribute importance: "The Telgari DA-1100 is a lightweight phone with loads of useful and easy to use features. Vibrating Alerts, Predictive TXT, 400 hours standby time, 9 hours talk time, and an alarm clock." The secondary attribute importance condition presented the following information: "The Telgari DA-1100 is a phone with loads of useful and easy to use features. Handy one push auto open feature, polyphonic ring tones, memory stick, calendar, internal antennae, and available in a choice of colors: blue, silver and black." Both ads introduced the ad copy with the words "Telgari DA-1100 Mobile Phone." Ads also had the statement "For more information, visit www.telgari.com" at the bottom.

Temporal orientation was measured using the Zimbardo Time Perspective Inventory (ZTPI) adapted from studies of present and future temporal orientation (e.g., Keough, Zimbardo, and Boyd 1999; Zimbardo, Keough, and Boyd 1997).

This scale consists of nine items for present orientation (e.g., "I try to live one day at a time") and 10 items for future orientation (e.g., "It seems to me that my future plans are pretty well laid out"). Responses were scored on a five-point scale (very untrue of me/very true of me). This scale is reduced from the original 56-item ZTPI of Zimbardo and Boyd (1999), which included measures of past orientation that are outside the domain of the present study. Since average scores on the present and future items proved to be negatively correlated rather than independent ($r = −.38$, $p < .001$), scale reliability for present-orientation items was low ($\alpha_{present} = .65$), and a mean-split of the data showed that the majority of participants gave scores that were either (1) high present orientation, low future orientation, or (2) low present orientation, high future orientation (68% of participants) rather than approximately equal cell sizes across all four categories (i.e., high present/low future, low present/high future, high present/high future, low present/low future), we created a single measure for temporal orientation. Specifically, present-oriented items were reverse scored, which resulted in a reliable unidimensional scale for temporal orientation ($\alpha = .76$).[1]

Dependent Variables

Attitudes

Attitude toward the ad was measured on three items (good/bad, interesting/uninteresting, like/dislike; $\alpha = .88$). All attitudes were measured on seven-point scales. Attitude toward the brand was measured on three items (good/bad, pleasant/unpleasant, like/dislike; $\alpha = .96$). Purchase intentions were measured on three items (likely/unlikely, definitely would/definitely would not, probable/improbable; $\alpha = .95$).

Cognitive Responses

Two independent judges coded the cognitive response data for the total number of thoughts, specific attribute-related thoughts, ad- or brand-related thoughts (Maheswaran, Mackie, and Chaiken 1992), and other, irrelevant thoughts (AT, B, O), as well as positive, negative, or neutral in valence (+, −, 0). Examples of thoughts classified under each of the categories are: "The memory stick option was interesting" (A+), "Not much talk time" (A−), "I noticed it had a calendar" (A0), "It looks good" (B+), "Uninspiring ad" (B−), "I noticed the mobile" (B0). Interjudge reliability was 93% with discrepancies resolved by discussion.

Covariates

Two covariates were measured to control for extraneous variation in the data using analysis of covariance—ad involvement

and product knowledge. Since high-involvement consumers are influenced more by primary attribute importance messages than by the secondary cues that can sway low-involvement consumers (Petty, Cacioppo, and Schumann 1983), ad involvement was measured on three, seven-point items (very involved/very uninvolved, concentrating very hard/concentrating very little, paying a lot of attention/paying very little attention; $\alpha = .94$). Given that temporal construal research suggests that greater temporal distance results in an increased reliance on schemas (Nussbaum, Liberman, and Trope 2006) and knowledge research suggests that schema-based processing is more likely for experts with rich knowledge structures than novices (Krishnamurthy and Sujan 1999), we measured product knowledge on three, seven-point items ("I know a lot about mobile phones," "I know more about mobile phones than most people," "I know a lot about mobile phones in general"; $\alpha = .86$) adapted from Block and Keller (1995).[2]

A requirement of covariance analysis is that covariates correlate with the dependent variables (Hair et al. 1998). A correlation matrix suggested that involvement was correlated with the dependent variables (rs > .18, ps < .01) and temporal orientation ($r = .26$, $p < .001$), and was thus a significant covariate. However, knowledge was uncorrelated with any dependent variable (ps > .50) or temporal orientation ($p = .63$) and was excluded from the analysis.

Results

Manipulation and Confound Checks

A full $2 \times 2 \times 2$ multivariate analysis of variance (MANOVA) model was used for all manipulation checks and hypothesis testing for Study 1 and Study 2. Temporal construal research suggests that near-future events should be more proximal and concrete. Thus, in response to the item "When is the product being released?" we measured proximity on two, seven-point items (later/now, distant future/near future; $r = .70$) adapted from Chandran and Menon (2004). A MANOVA on this scale yielded a significant main effect for temporal construal showing that the distant-future ad was perceived as more distant in the future ($M_{Distant} = 3.84$) than the near-future condition, $M_{Near} = 5.56$, $F(1, 221) = 66.83$, $p < .001$, $\omega^2 = .22$. We also measured concreteness on two, seven-point items (not imagery provoking/imagery provoking, dull/vivid; $r = .75$) adapted from Unnava and Burnkrant (1991). This measure showed that a near-future construal ($M_{Near} = 3.71$) was more concrete in terms of generating mental imagery than the distant-future construal, $M_{Distant} = 3.20$, $F(1, 221) = 14.59$, $p < .001$, $\omega^2 = .04$. Overall, the results suggest that temporal construal was successfully manipulated.

For attribute importance, participants rated the ad on three, seven-point scales (compelling/not compelling, convincing/

not convincing, strong/weak, $\alpha = .91$) from Pham and Avnet (2004). Analyses on the mean score for this measure revealed that primary attribute ads ($M = 4.25$) were viewed as more compelling than secondary attribute ads, $M = 3.17$, $F(1, 221) = 59.64$, $p < .001$, $\omega^2 = .15$. We also tested whether one of the manipulations may have inadvertently influenced the effect of another independent variable (Perdue and Summers 1986). This was tested by a full $2 \times 2 \times 2$ MANOVA model with the manipulation check measures (i.e., proximity, concreteness, and AI [attribute importance] measures) included as dependent variables. This analysis showed no significant main effects or interactions for either temporal construal on the AI manipulation check ($ps > .47$) or AI on the proximity ($ps > .45$) and concreteness measures ($ps > .18$). Thus, the manipulations were independent. Using seven-point scales from Gürhan-Canli and Maheswaran (2000), three confound checks were also included: ad believability (highly believable/not at all believable, totally acceptable/not at all acceptable; $r = .91$), ad valence (few positive attributes/many positive attributes, few negative attributes/many negative attributes; $r = .65$), and the congruity of the ad information with participant expectations (totally unexpected/totally expected, very different/not at all different; $r = .87$). Analyses of variance (ANOVAs) on these indices showed no significant effects or interactions ($ps > .19$), suggesting that the experiment was not confounded by differences in ad perceptions.

Hypothesis Testing

To test H1a and H1b, a three-way multivariate analysis of covariance (MANCOVA) was conducted. For temporal orientation, a split was performed with the upper third of the data (future-oriented participants) and lower third (present-oriented participants) of the data retained for further analysis. The middle third was removed, resulting in a data set of 231 participants.

For H1a and H1b, a significant three-way temporal orientation $\times$ temporal construal $\times$ attribute importance interaction was present for purchase intentions, $F(1, 221) = 6.94$, $p < .01$, $\omega^2 = .01$, but not for attitude toward the ad or brand attitudes ($ps > .14$). To further investigate this result, a planned comparison MANCOVA was run across dependent measures for future-oriented temporal orientation participants only. The 2 (temporal construal: distant future, near future) $\times$ 2 (attribute importance: primary, secondary) MANCOVA revealed a significant two-way interaction for attitude toward the ad, $F(1, 112) = 4.22$, $p < .05$, $\omega^2 = .03$, brand attitude, $F(1, 112) = 13.69$, $p < .001$, $\omega^2 = .08$, and purchase intentions, $F(1, 112) = 14.69$, $p < .001$, $\omega^2 = .09$. Table 1 shows that future-oriented consumers were more persuaded by ads that featured a distant-future prime and information on primary attributes. For example, the most favorable brand attitudes reported by future-oriented consum-

ers were for distant-future, primary attribute information ads ($M = 4.52$). Thus, H1a is fully supported.

For present-oriented participants, a two-way temporal construal $\times$ attribute importance interaction was significant for attitude toward the ad, $F(1, 109) = 8.35$, $p < .01$, $\omega^2 = .06$; brand attitudes, $F(1, 109) = 9.98$, $p < .01$, $\omega^2 = .07$; and purchase intentions, $F(1, 109) = 5.55$, $p = .02$, $\omega^2 = .04$. Consistent with the hypotheses, these results revealed a preference for near-future ads featuring secondary attributes (see Table 1). Hence, H1b is fully supported.

Next, we examined cognitive responses. For H2a and H2b, a three-way temporal orientation $\times$ temporal construal $\times$ attribute importance MANOVA revealed a significant temporal orientation $\times$ temporal construal interaction for attribute thoughts, $F(1, 130) = 51.36$, $p < .001$, $\omega^2 = .23$. Consistent with H2a, a two-way temporal construal $\times$ attribute importance MANOVA on the future-oriented consumer data revealed a main effect for temporal construal on attribute thoughts, $F(1, 74) = 38.21$, $p < .001$, $\omega^2 = .33$. Specifically, future-oriented consumers generated more attribute thoughts when processing a distant-future ad ($M = 2.61$) than a near-future ad ($M = .74$). Thus, H2a is fully supported.

A similar two-way interaction for present-oriented consumer data uncovered a significant main effect for temporal construal on attribute thoughts, $F(1, 90) = 14.92$, $p < .001$, $\omega^2 = .13$. Present-oriented consumers generate more attribute thoughts ($M = 1.88$) for near-future ads than distant-future ads ($M = .808$). Thus, H2b is fully supported.

For H2c and H2d, a three-way MANOVA yielded a significant temporal orientation $\times$ temporal construal $\times$ attribute importance interaction for valenced index of attribute thoughts, VAT, $F(1, 134) = 11.02$, $p = .001$, $\omega^2 = .07$. To further investigate this result, an ANOVA was performed on the future-oriented consumer data. Consistent with H2c, future-oriented consumers report more favorable VAT when viewing a distant-future ad with primary attributes ($M = 2.91$) than for other ad types, $Ms < .19$, $F(1, 67) = 24.82$, $p < .001$, $\omega^2 = .17$. Thus, H2c is fully supported. Furthermore, an ANOVA on present-oriented consumer data revealed that present-oriented consumers generate more favorable VAT when viewing a near-future ad with secondary attributes ($M = 1.29$) than for other ad types, $Ms < .15$, $F(1, 63) = 4.29$, $p < .05$, $\omega^2 = .04$. Thus, H2d is fully supported.

In addition, a temporal orientation $\times$ temporal construal $\times$ attribute importance interaction was not significant for attribute thoughts ($p = .43$). For future-oriented participants, a temporal construal $\times$ attribute importance interaction was significant in a manner consistent with the hypotheses for attribute thoughts ($M_{\text{distant future, primary attributes}} = 3.24$ versus $M_{\text{distant future, secondary attributes}} = 1.77$, $p < .01$) and VAT ($M_{\text{distant future, primary attributes}} = 2.90$ versus $M_{\text{distant future, secondary attributes}} = .17$, $p < .001$). For present-oriented participants, a tempo-

TABLE 1
Study 1: Means and Standard Deviations for Attitudes, Purchase Intentions, Total Thoughts,
Valenced Attribute Thoughts, and Valenced Ad and Brand Thoughts Categorized
by Temporal Orientation, Temporal Construal, and Attribute Importance

	Participant temporal orientation			
	Future-oriented		**Present-oriented**	
Dependent measure	**Near-future ad**	**Distant-future ad**	**Near-future ad**	**Distant-future ad**
Attitude toward the ad				
Primary AI	3.60 (.22) [31][a]	4.09 (.22) [26][a]	2.67 (.31) [27][a]	3.20 (.20) [27][a]
Secondary AI	3.37 (.21) [30][a]	3.18 (.21) [30][b]	3.53 (.98) [32][b]	2.63 (.89) [28][b]
Brand attitudes				
Primary AI	2.85 (.22)[a]	4.52 (.25)[a]	3.03 (.20)[a]	3.49 (.23)[a]
Secondary AI	3.10 (.18)[a]	3.43 (.18)[b]	3.93 (.53)[b]	2.86 (.20)[b]
Purchase intentions				
Primary AI	2.95 (.28)[a]	2.95 (.17)[a]	2.32 (.18)[a]	2.50 (.80)[a]
Secondary AI	2.77 (.27)[a]	2.78 (.19)[b]	3.39 (.77)[b]	2.59 (.58)[a]
Total thoughts				
Primary AI	2.60 (.34)[a]	4.96 (.56)[a]	3.68 (.98)[a]	2.89 (.47)[a]
Secondary AI	4.60 (.41)[b]	2.46 (.53)[b]	4.63 (.94)[a]	3.50 (.48)[a]
Valenced attribute thoughts				
Primary AI	.00 (.87)[a]	2.91 (.40)[a]	−.11 (.29)[a]	.12 (.17)[a]
Secondary AI	−.41 (.23)[a]	.18 (.22)[b]	1.29 (.52)[b]	.14 (.18)[a]
Valenced ad and brand thoughts				
Primary AI	.58 (.20)[a]	.59 (.27)[a]	.44 (.22)[a]	−.42 (.36)[a]
Secondary AI	.89 (.22)[a]	.25 (.47)[a]	.23 (.28)[a]	.13 (.18)[a]

Notes: AI = attribute importance.

Cell sizes of number of participants shown in square brackets.

[a, b] Means with different letters are significantly different at $p < .05$. Means with the same letter are not significantly different from each other at $p < .05$.

ral construal × attribute importance interaction was not significant for attribute thoughts ($p > .07$), but was significant in a manner consistent with the hypotheses for VAT ($M_{\text{near future, secondary attributes}} = 1.28$ versus $M_{\text{near future, primary attributes}} = −.11$, $p < .05$). Analysis also showed that future-oriented participants report more total thoughts ($M = 4.96$) when viewing a distant-future ad with primary attributes ($M = 2.96$, Table 1, $p < .05$) and more total thoughts ($M = 4.60$) when viewing a near-future ad with secondary attributes ($M = 2.60$, $p < .05$).

Discussion

The findings show how evaluations of advertisements featuring a temporal distance prime (i.e., distant future, near future) and product attribute information are influenced by a consumer's temporal orientation. Future-oriented consumers respond most favorably to distant-future ads with primary attribute information. In contrast, present-oriented consumers respond most favorably to near-future ads with secondary

attribute information. Furthermore, in terms of processing, future-oriented consumers experience positive thoughts about attributes when viewing their preferred distant-future, primary attributes ad. In contrast, present-oriented consumers experience positive thoughts about attributes when viewing their preferred near-future, secondary attributes ad. In addition, there is some evidence that diagnosticity underlies consumer responses to their preferred ads.

Yet such an interpretation would be more compelling if convergent evidence based on mediation analysis was obtained. In Study 2, we measure attribute diagnosticity and test for mediation following the recommendations of Baron and Kenny (1986). Future-oriented people are expected to exhibit greater perceived diagnosticity when viewing the distant-future primary attribute ad, whereas present-oriented people are expected to view near-future secondary attribute ads as more diagnostic.

H3: Diagnosticity mediates the effects of temporal orientation, temporal construal, and attribute importance on attitude toward the ad, brand attitudes, and purchase intentions.

STUDY 2

Overview

Study 2 tests the generalizability of the results found in Study 1 using a new product (MP3 player, pretested with 48 participants). We replicate Study 1 and measure attribute diagnosticity.

Participants, Design, Measures, and Covariates

A total of 534 undergraduate students from two courses on introductory marketing participated in the study. Females made up 62% of the sample, and 78% of the sample owned an MP3 player. The design, procedure, and measures were identical to Study 1 (temporal orientation: α = .76, attitude toward the ad: α = .96, brand attitudes: α = .96, purchase intentions: α = .94). Ads were presented in the same format with primary attribute importance (e.g., 35 hours of battery life, 8 GB storage capacity, battery life indicator) or secondary attribute importance (e.g., automatic power-off function, FM tuner, and a carrying case). Attribute diagnosticity was measured on a seven-point scale (of very great use/not at all useful) adapted from Ahluwalia (2002), where participants responded to the following statement: "How useful were the product attributes (i.e., product features) in evaluating this product?"

Covariates were ad involvement (α = .91) and objective knowledge. Objective knowledge was measured since subjective knowledge measures, like that used in Study 1, represent self-assessed knowledge rather than actual knowledge. Subjective knowledge measures also include an individual's confidence in his or her knowledge (Brucks 1985). Thus, following Roy and Cornwell (2004), a 10-item test (true, false, don't know) was used to measure objective knowledge. This test resulted in a score from 0 to 10 (median = 4.00), which represented the sum of the correct answers to statements such as "MP3 files are available on the Internet." However, like Study 1, although involvement was correlated with the dependent variables and temporal orientation (rs > .23, ps < .01), and was used as a covariate, objective knowledge was not associated with any of these variables (rs < .03, ps > .67) and was excluded from analysis.

Results

Manipulation and Confound Checks

For temporal construal (r = .79), distant-future ads (M = 3.90) were seen as more temporally distant than near-future ads, M = 4.93, $F(1, 347)$ = 41.11, p < .001, ω^2 = .08. As with Study 1, near-future ads (M = 5.00) were viewed as more concrete (r = .83) than distant-future ads, M = 3.41, $F(1,$ 347) = 125.29, p < .001, ω^2 = .21. For attribute importance (α = .94), primary attribute ads (M = 3.53) were more compelling than secondary attribute ads, M = 2.60, $F(1, 347)$ = 56.15, p < .001, ω^2 = .10. Thus, these manipulation checks suggest that intended factors were manipulated successfully. As with Study 1, a $2 \times 2 \times 2$ MANOVA yielded no significant main effects or interactions for temporal construal on the attribute importance manipulation check (ps > .14) or AI on the proximity and concreteness measures were evident (ps > .70). Similarly, analyses on the confound check indices (ad believability, r = .74, ad valence, r = .75, and congruity, r = .73) showed no significant effects or interactions (ps > .17), suggesting that the experiment was not confounded by differences in ad perceptions.

Hypothesis Testing

Consistent with Study 1, a split was performed on temporal orientation with the upper and lower thirds of the data retained for further analysis, resulting in a data set of 357 participants.

For H1a and H1b, a significant three-way temporal orientation × temporal construal × attribute importance interaction was present for brand attitudes, $F(1, 347)$ = 16.26, p < .001, ω^2 = .03, and purchase intentions, $F(1, 347)$ = 8.26, p < .01, ω^2 = .01, but not for attitude toward the ad (F < 1.41, p > .23). Analysis of the future-oriented consumer data yielded a significant temporal construal × attribute importance interaction for attitude toward the ad, $F(1, 177)$ = 9.79, p < .01, ω^2 = .04, and purchase intentions, $F(1, 177)$ = 11.51, p = .001, ω^2 = .03, but not for brand attitudes (F = 2.72, p = .11). As shown in Table 2, future-oriented consumers reported more favorable ad attitudes for distant-future, primary attribute ads (M = 4.41) than other ad types ($Ms \leq 3.47$). Likewise, consumer purchase intentions were more favorable for distant-future, primary attribute ads (M = 4.73) than other ad types ($Ms \leq 3.65$). As noted, however, this interaction was not evident for brand attitudes. Thus, H1a is partially supported.

Analysis of the present-oriented consumer data also used a 2 (temporal construal: distant future, near future) × 2 (attribute importance: primary, secondary) MANCOVA that uncovered significant two-way interactions for attitude toward the ad, $F(1, 170)$ = 20.98, p = 001, ω^2 = .08; brand attitudes, $F(1, 170)$ = 40.86, p < 001, ω^2 = .18; and purchase intentions, $F(1, 170)$ = 40.75, p < .001, ω^2 = .17. For example, present-oriented consumers report more favorable purchase intentions for the near-future, secondary attribute ad (M = 3.71) than for the near-future, primary attribute ad (M = 2.13). As shown in Table 2, this pattern was repeated for ad attitudes and brand attitudes. Thus, H1b is fully supported.

For cognitive responses, a three-way MANOVA revealed significant temporal orientation × temporal construal interactions

TABLE 2
Study 2: Means and Standard Deviations for Attitudes, Purchase Intentions, Total Thoughts, Valenced Attribute Thoughts, Valenced Ad and Brand Thoughts, and Diagnosticity Categorized by Temporal Orientation, Temporal Construal, and Attribute Importance

Dependent measure	Future-oriented				Present-oriented			
	Near-future ad		Distant-future ad		Near-future ad		Distant-future ad	
Attitude toward the ad								
Primary AI	3.47	(.20) [47][a]	4.41	(.20) [47][a]	2.33	(.23) [45][a]	2.65	(.20) [43][a]
Secondary AI	2.71	(.21) [42][b]	2.36	(.26) [45][b]	3.11	(.18) [44][b]	2.05	(.21) [44][b]
Brand attitudes								
Primary AI	3.69	(.23)[a]	4.52	(.17)[a]	2.40	(.17)[a]	3.43	(.44)[a]
Secondary AI	2.36	(.18)[b]	2.63	(.19)[b]	3.79	(.81)[b]	2.66	(.17)[b]
Purchase intentions								
Primary AI	3.65	(.17)[a]	4.73	(.22)[a]	2.13	(.16)[a]	2.90	(.19)[a]
Secondary AI	2.28	(.18)[b]	2.19	(.17)[b]	3.71	(.63)[b]	2.38	(.17)[b]
Total thoughts								
Primary AI	3.67	(.53)[a]	4.83	(.56)[a]	3.20	(.41)[a]	2.58	(.25)[a]
Secondary AI	2.94	(.36)[a]	5.44	(.33)[a]	2.59	(.17)[a]	3.05	(.47)[a]
Valenced attribute thoughts								
Primary AI	.33	(.14)[a]	2.34	(.29)[a]	.08	(.19)[a]	.04	(.10)[a]
Secondary AI	−.09	(.48)[b]	1.02	(.38)[b]	.74	(.29)[b]	.35	(.19)[b]
Valenced ad and brand thoughts								
Primary AI	.26	(.17)[a]	.14	(.28)[a]	−.95	(.32)[a]	−1.20	(.96)[a]
Secondary AI	.17	(.13)[a]	.01	(.24)[a]	.42	(.47)[b]	1.23	(.44)[b]
Diagnosticity								
Primary AI	4.47	(.11)[a]	5.00	(.24)[a]	3.52	(.21)[a]	3.99	(.26)[a]
Secondary AI	3.43	(.19)[b]	1.92	(.23)[b]	4.90	(.19)[b]	3.73	(.25)[a]

Notes: AI = attribute importance.

Cell sizes of number of participants shown in square brackets.

[a, b] Means with different letters are significantly different at $p < .05$. Means with the same letter are not significantly different from each other at $p < .05$.

for attribute thoughts, $F(1, 278) = 4.84$, $p < .05$, $\omega^2 = .01$, and valenced attribute thoughts, $F(1, 278) = 10.72$, $p = .001$, $\omega^2 = .02$. A two-way temporal construal × attribute importance MANOVA on the future-oriented consumer data revealed a main effect for temporal construal on attribute thoughts, $F(1, 174) = 65.66$, $p < .001$, $\omega^2 = .27$. Future-oriented consumers generated more attribute thoughts when processing a distant-future ad ($M = 2.50$) than a near-future ad ($M = .30$). Thus, H2a is fully supported. An identical MANOVA for present-oriented data uncovered a main effect for temporal construal on attribute thoughts, $F(1, 114) = 21.85$, $p < .001$, $\omega^2 = .13$. Present-oriented consumers generated more attribute thoughts for a near-future ad ($M = .99$) than a distant-future ad ($M = .31$). Thus, H2b is fully supported.

For H2c and H2d, a three-way MANOVA revealed the anticipated temporal orientation × temporal construal × attribute importance interaction for VAT, $F(1, 289) = 11.55$, $p = .001$, $\omega^2 = .03$. Examining the future-oriented consumer data, a significant two-way temporal construal × attribute im-

portance interaction was evident for VAT, $F(1, 175) = 11.34$, $p = .001$, $\omega^2 = .05$. As shown in Table 2, future-oriented consumers generated more favorable attribute thoughts when reading a distant-future, primary attribute ad ($M = 2.34$) than, for example, when reading a distant-future ad with secondary attributes ($M = 1.02$). Thus, H2c is fully supported. For present-oriented consumers, a significant two-way temporal construal × attribute importance interaction was evident for VAT, $F(1, 114) = 5.19$, $p < .05$, $\omega^2 = .03$. Present-oriented consumers generate more favorable attribute thoughts when reading a near-future, secondary attribute ad ($M = .74$) than, for example, when reading a near-future ad with primary attributes ($M = .08$). Thus, H2d is fully supported.

Tests of Mediation (H3)

To test the mediating effect of diagnosticity, we followed Baron and Kenny's (1986) framework for assessing mediated mediation.[3] First, as shown, the independent variables—temporal

orientation, temporal construal, and attribute importance—should interact to affect the dependent variables, attitudes, and purchase intentions (i.e., results for H1a and H1b).

Second, the mediator (diagnosticity) is also significantly affected by this interaction. Specifically, a significant temporal orientation × temporal construal × attribute importance interaction was evident for diagnosticity, $F(1, 344) = 4.22$, $p < .05$, $\omega^2 = .01$. This result was further explored with two-way ANOVAs. For future-oriented consumers, a two-way temporal construal × attribute importance interaction was significant for diagnosticity, $F(1, 175) = 30.32$, $p < .001$, $\omega^2 = .14$. This revealed that future-oriented consumers found distant-future, primary attribute ads to be more diagnostic ($M = 5.00$) than other ad types ($Ms \leq 4.47$; see Table 2). For present-oriented consumers, a temporal construal × attribute importance interaction was also significant for diagnosticity, $F(1, 169) = 21.79$, $p < .001$, $\omega^2 = .11$. This revealed that present-oriented consumers found near-future, secondary attribute ads to be more diagnostic ($M = 4.90$) than other ad types ($Ms \leq 3.99$; see Table 2). Thus, diagnosticity shows a similar significant relationship to the moderating variables, which meets the second condition for mediation.

Third, the effect of the independent variables on the dependent variables should be reduced or eliminated when the mediator is included as a covariate in a repeat of the analyses from step 1. Consistent with expectations, including diagnosticity as a covariate weakened the previously significant temporal orientation × temporal construal × attribute importance interactions for brand attitudes, $F(1, 343) = 10.78$, $p < .01$, $\omega^2 = .02$, and purchase intentions, $F(1, 343) = 3.92$, $p < .05$, $\omega^2 = .00$. Thus, the effect sizes were reduced (brand attitudes: $\omega^2 = .02$ versus .03; purchase intentions: $\omega^2 = .00$ versus .01). Next, we repeated our two-way analyses for future-oriented and present-oriented consumers.

For future-oriented consumers, the previously significant temporal construal × attribute importance interactions for attitude toward the ad, $F(1, 174) = .49$, $p > .47$, and purchase intentions, $F(1, 174) = 2.31$, $p > .13$, were no longer significant. For present-oriented consumers, including diagnosticity as a covariate resulted in weaker temporal construal × attribute importance interactions for attitude toward the ad, $F(1, 168) = 6.53$, $p < .05$, $\omega^2 = .03$; brand attitudes, $F(1, 168) = 27.89$, $p < .001$, $\omega^2 = .12$; and purchase intentions, $F(1, 168) = 24.16$, $p < .001$, $\omega^2 = .10$. Thus, for present-oriented consumers, including diagnosticity reduced interaction effect sizes by 62.5% for attitude toward the ad ($\omega^2 = .03$ versus .08), by 33.3% for brand attitudes ($\omega^2 = .12$ versus .18), and by 41.2% for purchase intentions ($\omega^2 = .10$ versus .17). These results indicate that the influence of temporal orientation, temporal construal, and attribute importance on attitudes is partially mediated by diagnosticity. Thus, H3 is partially supported.

Discussion

Study 2 replicates Study 1 with a different product and reveals convergent results. However, the effect size for the number of attribute thoughts generated by future-oriented consumers for distant-future ads is weaker than in Study 1 (Study 1: $\omega^2 = .33$; Study 2: $\omega^2 = .27$). The mediation analyses showed that these evaluations for preferred ad types (i.e., distant-future, primary attribute ads for future-oriented consumers and near-future, secondary attribute ads for present-oriented consumers) were mediated by perceptions of the diagnosticity of the attribute information.

GENERAL DISCUSSION

This research examined how a consumer's temporal orientation influences temporal construal effects in advertising. The results converged for Studies 1 and 2. Future-oriented consumers were more persuaded by distant-future ads with primary attributes. Present-oriented participants preferred near-future ads featuring secondary attributes. Mediation analyses revealed that evaluations for preferred ad types were mediated by perceptions of diagnosticity.

Theoretical Contributions

This research makes several contributions. Although a number of studies have examined temporal construal effects using temporal distance primes, to the best of our knowledge, no theory-based research has studied how temporal orientation influences temporal construal effects. Our research suggests that attitudes are most favorable when there is *temporal congruency* between a consumer's chronic temporal focus (temporal orientation) and the situational temporal distance prime placed in an ad, namely, when a future-oriented person construes information in a distant-future context and a present-oriented person construes information in a near-future context.

This finding is important, as prior research on temporal construal (see Trope and Liberman 2003) has tended to examine temporal manipulations (distant future, near future) rather than including the effect of a person's psychological traits. In contrast, although the predictions of our research regarding temporal construal follow directly from the work of Trope and Liberman (2003), our study of temporal orientation and the finding of temporal congruency are new. Indeed, our research suggests that temporal congruency amplifies the effects predicted by temporal construal theory. Thus, it is not simply a question of examining a temporal continuum of the present to the near future and distant future when creating temporal construal primes for research, but also where an individual tends to focus his or her attention on that continuum (i.e., their temporal orientation).

Temporal congruency is also relevant, as current research suggests that individual differences offer useful insights into construal effects (Nussbaum, Trope, and Liberman 2003). For example, Henderson, Trope, and Carnevale (2006) speculated that individual differences in perceptions of time may offer useful areas for future research. Likewise, we show that a key individual difference that influences temporal construal effects in advertising is temporal orientation. From a marketing perspective, our research builds on research that has found useful insights by studying consumer psychological traits in conjunction with marketing stimuli (e.g., Day and Stafford 1997; Martin, Lang, and Wong 2004). Thus, we encourage scholars who are interested in researching temporal construal effects to consider the role of temporal orientation.

Another key contribution involves the insights provided on the processing of temporal construal effects in advertising. By considering cognitive response data, this research goes beyond a demonstration of moderating effects on attitudes to examining why these effects occur. We also identified diagnosticity as a mediator of attitudes for preferred ad types. We show that perceptions of diagnosticity may influence evaluations when there is congruency between a consumer's temporal orientation and the temporal distance prime in an ad. Thus, this research suggests that a cue utilization perspective represents a useful framework for future research in this area. Furthermore, in addition to uncovering the moderating influence of temporal orientation, we also consider attribute importance. Although previous psychological research has examined temporal construal using products with one or two attributes (e.g., Trope and Liberman 2000), we extend these findings by examining profiles consisting of multiple attributes.

Managerial Contributions

From a managerial perspective, our findings show that advertising a product as immediately available or as available in three weeks can affect consumer attitudes. Distant-future ads can be useful when targeting future-oriented people, particularly when the ad copy contains strong arguments. More immediate product releases are best suited for present-oriented people who can be swayed by more secondary product features. Yet practitioners should be aware of the need to set an expectation of when the product is available to facilitate the appropriate mental representation of temporal distance. Thus, the temporal construal manipulation should be emphasized in the ad; for example, through the use of a noticeable heading or subheading. Advertisers can also operationalize these findings by choosing media vehicles that have a target consumer profile of a particular temporal orientation. For example, since future-oriented people tend to plan for their financial future (Walsh 1995), magazines that discuss issues such as investments and retirement income could be considered (e.g., *FORTUNE*). In contrast, since present-oriented people tend to engage in sensation-seeking behaviors (Zimbardo, Keough, and Boyd 1997) and pursue immediate enjoyment (Walsh 1995), magazines that highlight exciting leisure activities could be used.

Limitations and Future Research

A limitation of this research is that we studied future-oriented and present-oriented people. Although this approach is supported by the marketing literature (e.g., Bergadaà 1990; Mendoza and Pracejus 1997; Walsh 1995), and despite comparisons of present- and future-oriented individuals dominating temporal orientation research (e.g., Harber, Zimbardo, and Boyd 2003; Keough, Zimbardo, and Boyd 1999; Zimbardo, Keough, and Boyd 1997), it seems reasonable to speculate that some consumers approach life with a past orientation. Hence, future research should explore whether consumers are past-oriented and how this orientation influences temporal construal effects in advertising. Such research could investigate how a focus on the past influences responses to advertising in relation to nostalgic appeals that involve a longing for things from the past (Holbrook and Schindler 1991). Another interesting avenue for future research would be to replicate the present research with a control group. Such a design would offer insight regarding the effect of temporal orientation on evaluations for advertisements that lack temporal distance primes.

A second limitation of this study is the single item measure we used for diagnosticity. Since multi-item measures tap differing aspects of a construct (Robinson, Shaver and Wrightsman 1991) and allow estimates of reliability to be calculated, future research should use multi-item measures. A third limitation relates to product type. Both of the products studied are likely to be medium- to high-involvement purchases involving multiple product attributes. We speculate that our findings are less likely to apply to low-involvement products (e.g., cola) where decisions may be based on single cues (e.g., brand) and which are highly unlikely to be advertised as being released in a number of weeks. We do believe, however, that our findings would apply to services that involve a profile of primary and secondary attributes. Future research should examine how our findings apply to more experiential services (e.g., hotels). Another limitation is that we used a Western sample. Research by Graham (1981) highlights how cultures differ in their perceptions of time. For example, Asians are considered to be more long-term oriented than individuals from Western cultures (Hofstede and Hofstede 2005). Thus, future research could study how temporal construal effects in advertising manifest themselves in other cultures.

NOTES

1. The authors thank a reviewer for this suggestion.

2. Schemas are cognitive structures involving a person's expectations about a domain, such as a product category. Expectations can include typical values of product attributes and the variation between brands on attributes (Sujan and Bettman 1989).

3. The authors thank a reviewer for this suggestion.

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APPENDIX

Near-Future Temporal Construal, Primary Attribute Advertisement

TELGARI
Better Communication™

TELGARI DA-1100 MOBILE PHONE

The Telgari DA-1100 is a lightweight phone with loads of useful and easy to use features. Vibrating Alerts, Predictive TXT, 400 hours standby time, 9 hours talk time, and an alarm clock.

Available *Tomorrow* from All Retailers of Electronics

For more information, visit www.telgari.com