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Looking into the Future: A Match between Self-View and Temporal Distance

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Representing an event in abstract (vs. concrete) terms and as happening in the distant (vs. proximal) future has been shown to have important consequences for cognition and motivation. Less is known about factors that influence construal level and perceived temporal distance. The present research identifies one such factor and explores the implications for persuasion. Four studies show that an independent self-view is associated with abstract representations of future events and with perceiving these events as happening in the more distant future, whereas an interdependent self-view is associated with concrete representations of future events and with perceiving these events as happening in the more proximal future. Furthermore, a match (vs. mismatch) between the temporal frame of an advertisement and the self-view of the recipient leads to systematic changes in advertisement effectiveness and product appeal. These results add to the construal level theory and the self literatures and have practical implications for advertisers.

> It is in you, O mind of mine, that I measure the periods of time. (St. Augustine [354–430 AD], *Confessions*, Book XI)

People's perceptions of time are subjective and variable (Underwood and Swain 1973). Sometimes a day feels like eternity; at other times, it flashes by in a moment. Most research on temporal construal has focused on the consequences of temporal distance—the effects of construing a future object, event, or behavior as being in the distant versus proximal future. For example, research in construal level theory (Liberman and Trope 1998; Trope and Liberman 2000) shows that events happening in the distant future are likely to be represented in abstract, decontextualized, high-level terms, whereas events happening in the proximal future are likely to be represented in specific, contextualized, low-level terms. Further, people tend to focus on the positives when thinking about events in the distant future but focus on the negatives when thinking about events in the proximal future (Eyal et al. 2004). There is considerably less emphasis on the antecedents of temporal perspective, perhaps because it is generally assumed that the passage of time is unavoidable and hence invariant. But while the actual passing of time may be constant across individuals and across contexts, perceptions of time passage vary across people; that is, a future event or behavior may be perceived by some to be rather distant from the present but by others to be quite near. The implication is that the same event may have different consequences depending on whether people construe it to be in the distant or in the proximal future. Thus, an interesting question is—what determines people's temporal construal?

The objective of this research is to identify one antecedent of temporal construal and to examine its implications for persuasion. We propose that the temporal construal of a future event or behavior is influenced by how people view the self—either as an independent individual (i.e., they have an independent self-view) or in relation to others (i.e., they have an interdependent self-view). More specifically, our view is that individuals with a more accessible independent self-view tend to construe future events and behaviors as taking place in the more distant future, whereas those with a more accessible interdependent self-view tend to construe future events and behaviors as taking place in the more proximal future. We further posit that this relationship has important implications for persuasion: when the temporal

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frame of a persuasive appeal (distant-future vs. proximal-future) matches the salient self-view of the recipient (independent vs. interdependent), the effectiveness of the appeal is enhanced.

In the next sections, we first review the relevant literatures to provide the theoretical framework for these hypotheses and then present the results of four studies in support of our predictions.

THEORETICAL BACKGROUND

Construal Level and Temporal Distance

Construal level theory (Liberman and Trope 1998; Trope and Liberman 2000) postulates that objects and events situated in the distant future are represented in more abstract, decontextualized, and high-level terms, and are more concerned with *why* people do things, whereas those situated in the near future are represented in more specific, contextualized, and low-level terms, and are more concerned with *how* people do things. Recent findings suggest that the link between construal level and temporal distance is reciprocal (Liberman and Förster 2009; Liberman et al. 2007; for a review, see Trope and Liberman 2010) such that people perceive events and behaviors described in abstract terms as occurring in the more distant future and those described in specific terms as occurring in the more proximal future (Liberman et al. 2007). For example, when asked to imagine an activity that is described in more abstract, high-level terms (e.g., pay the electricity bill), research participants were more likely to think that the activity would take place in the more distant future relative to when the same activity was described in more concrete, low-level terms (e.g., send a check to the electricity company). And when asked to think why they would like to attain a goal (a high-level construal) as opposed to how they would attain the goal (a low-level construal), participants estimated a later start date of working toward the goal, presumably because they thought of the outcome as occurring in the more distant future, and hence there was no need to hurry (Liberman et al. 2007). Similarly, priming global (vs. local) processing led to estimations of greater temporal distance to a future event (Liberman and Förster 2009).

Notably, Trope and Liberman (2010) propose that temporal distance (e.g., a year from now vs. tomorrow) is only one instance of psychological distance. Other dimensions of psychological distance include social distance (e.g., stranger vs. close friend), physical distance (e.g., another country vs. the same city), and hypothetical distance (e.g., 10% chance vs. 90% chance of occurrence). From this broader perspective of psychological distance, the reciprocal relationship between construal level and temporal distance reflects a more general correspondence between construal level and the different dimensions of psychological distance (Bar-Anan, Liberman, and Trope 2006; Trope and Liberman 2010). The corollary is that the hypothesized relationship between self-view and temporal distance is simply one instance of the relationship between self-view and psychological distance and that a similar relationship between self-view and other dimensions of psychological distance would hold.

Self-View and Psychological Distance

In this research, we propose that people's construal level and temporal perspective are associated with how they view the self. People's view of the self has been found to vary in terms of the extent to which the self relates to social others (Markus and Kitayama 1991). Individuals with an accessible independent self-view (a characteristic of members of most Western cultures) place high values on self-reliance and autonomy. They strive toward being unique, different, and separate from others. Of key importance to the independents is the "inner core" of the self—internal attributes and traits that are enduring and invariant over time and context. In contrast, individuals with a more accessible interdependent self-view (a characteristic of members of many Eastern cultures) value relationships with others and interpersonal harmony. They view the self as part of a social group and strive toward blending and fitting in (Cousins 1989; Markus and Kitayama 1991; Triandis 1989). While the distinction between the two self-views was first drawn in the context of cross-cultural studies (Markus and Kitayama 1991), subsequent research has shown that the two self-views coexist within an individual, regardless of culture (Gardner, Gabriel, and Lee 1999; Hong et al. 2000; Singelis 1994), and the difference in self-view that exists between cultures (and between members of any particular culture) reflects which of the two self-views is more accessible in memory. Thus, situational primes and other contextual factors can make one or the other self-view temporarily more salient irrespective of chronic accessibility and, in turn, influence subsequent cognitive, emotional, and motivational processes (Briley and Wyer 2002; Hong et al. 2000; Lee, Aaker, and Gardner 2000).

There are reasons to believe that the two distinct self-views are associated with different levels of construal and psychological distances. First, interdependents are concerned about relationship harmony and are sensitive to the interconnectedness between people and events. From this perspective, it is both desirable and necessary that they pay close attention to the immediate environment to ensure that relationship harmony is attained and preserved. This attention to the "here" and "now" likely prompts a low-level construal and its corresponding proximal temporal perspective. Second, feelings of agency and control may also lead to higher construal levels among those with an independent self-view. In particular, research has shown that North Americans who are more likely to have an independent self-view feel more in control of their future and report higher levels of personal agency compared to East Asians who are more likely to have an interdependent self-view (Weisz, Rothbaum, and Blackburn 1984). To the extent that perceived high levels of personal control and agency are associated with more abstract representations and greater psychological distance (Smith and Trope 2006), it follows that independents would represent future events using more high-level construals,

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while interdependents would represent future events using more low-level construals (Briley 2009).

Further, empirical evidence in the cultural literature suggests that one's self-view, whether culturally or situationally determined, has consequences for the degree to which people use more abstract versus specific representations when thinking of the self and others, as well as future events and behaviors. In particular, it has been demonstrated that individuals with an independent self-view are likely to represent the self and others in more general and decontextualized terms, using abstract internal attributes such as psychological traits or attitudes; in contrast, individuals with an interdependent self-view are likely to represent the self and others with reference to social situations, using concrete social or contextual information such as membership, relationship roles, or various temporal or spatial situational markers (Cousins 1989; English and Chen 2007; Kinagawa, Cross, and Markus 2001; Markus and Kitayama 1991; Rhee et al. 1995). For example, North Americans are more likely to describe themselves in terms of abstract traits (e.g., "I am athletic," "I am shy"), while East Asians are more likely to describe themselves in terms of specific contexts or social situations (e.g., "I play tennis on weekends," "I don't talk very much in an unfamiliar situation"; Cousins 1989). Similarly, when asked to describe acquaintances and their behavior, South Indian participants are more likely to provide the specific situational or interpersonal context (e.g., "He behaves properly with guests but feels sorry if money is spent on them"), whereas American participants are more likely to focus on general, context-free personality traits ("he is tight" or "he is selfish"; Shweder and Bourne 1984). It has also been shown that representatives of Western cultures are more likely to make attributions for behavior based on abstract traits and general dispositions, whereas representatives of Eastern cultures are more likely to attribute behavior to contextual factors (e.g., Lee, Hallahan, Herzog 1996; Morris and Peng 1994). And when making predictions about future behaviors, Americans are more likely to refer to dispositional information, whereas Koreans are more likely to refer to contextual information (Norenzayan, Choi, and Nisbett 2002). To the extent that trait inferences and dispositional attributions constitute high-level construals of behavior (Nussbaum, Trope, and Liberman 2003), these findings provide additional support for the idea that independents tend to construe information using more abstract representations, whereas interdependents tend to construe information using more specific representations.

Given the reciprocal nature of the relationship between construal level and psychological distance, it follows that self-view would also be associated with different temporal perspectives. Construal level theory holds that the more abstract the representation of a future event or behavior, the more temporally distant its construal. Thus, when the self or others are implicated in a future event or behavior, independents would be more likely to construe the event or behavior not only in more abstract terms but also as taking place in the more distant future, whereas interdependents would be more likely to construe the event or behavior in more concrete terms and as taking place in the more proximal future. More formally, we hypothesize that

H1: Individuals with a more accessible independent self-view tend to construe future events or behaviors at a more abstract level and as situated in the more distant future, whereas those with a more accessible interdependent self-view tend to construe future events or behaviors at a more concrete level and as situated in the more proximal future.

Another important objective of this research is to explore the implications of the relationship between self-view and perceived temporal distance for persuasion. It has been shown that people attend preferentially to information that is compatible with their self-view and that the increased attention and elaboration under conditions of compatibility lead to stronger persuasion effects (Aaker and Lee 2001; Han and Shavitt 1994). For example, Aaker and Lee (2001) report that independent-primed (vs. interdependent-primed) individuals could better recall information that matched (vs. mismatched) their self-view and were more persuaded by matched (vs. mismatched) appeals. Specifically, independent-primed (vs. interdependent-primed) individuals had better recall for promotion-focused (vs. prevention-focused) arguments; they also had more favorable attitudes toward promotion (vs. prevention) appeals when the appeals used strong arguments and less favorable attitudes when the appeals used weak arguments, suggesting that the persuasion effects were driven by differential attention to matched (vs. mismatched) appeals. These effects are generally consistent with dual-process models of persuasion (e.g., Chaiken, Giner-Sorolla, and Chen 1996; Petty and Cacioppo 1986), which posit that people who are motivated engage in more systematic processing of persuasive messages and, in turn, become more sensitive to argument strength. That is, greater attention and elaboration leads to more favorable attitudes when the arguments used in the message are strong but to less favorable attitudes when the arguments are weak. To the extent that distinct self-views are associated with different temporal perspectives, we expect a similar mechanism at work when the temporal framing of an appeal (distant-future vs. proximal-future) matches the accessible self-view of the recipient (independent vs. interdependent). That is, people would selectively attend to and elaborate more on appeals with temporal frames that match their salient self-view. More specifically, appeals that emphasize distant-future benefits would be more effective when the recipient's independent self-view is more accessible, whereas appeals that emphasize proximal-future benefits would be more effective when the recipient's interdependent self-view is more accessible. These effects would be driven by differential attention to messages that match (vs. mismatch) the recipient's accessible self-view. Formally stated, we hypothesize the following:

H2: Individuals with an accessible independent self-view pay more attention to and are more per-

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suaded by appeals that emphasize distant-future than proximal-future benefits, whereas individuals with an accessible interdependent self-view pay more attention to and are more persuaded by appeals that emphasize proximal-future than distant-future benefits.

We present four studies that examined these hypotheses. We first examined the relationship between self-view and level of construal in studies 1a and 1b and the relationship between self-view and temporal distance in study 2. In studies 3 and 4, we examined the persuasive effect of a match (vs. mismatch) between self-view and the temporal frame of an advertising appeal, and we explored the underlying mechanism of the matching effect on persuasion in study 4 by examining the matching × argument strength effect on persuasion.

STUDIES 1A AND 1B: THE IMPACT OF SELF-VIEW ON CONSTRUAL LEVEL

The objective of studies 1a and 1b was to test whether having a more salient independent (vs. interdependent) self-view results in more abstract (vs. concrete) representations of behaviors. For convergence, we primed participants' independent or interdependent self-view using two different manipulations; we also measured construal level in two different ways—by examining how people construe behaviors (i.e., either at a high level that focuses on why certain actions are performed or at a low level that focuses on how to perform these actions) in study 1a and by examining the number of categories people use to classify objects in study 1b.

Study 1a

We first tested the hypothesized link between self-view and level of construal using Vallacher and Wegner's (1989) Behavioral Identification Form (BIF). According to Action Identification Theory (Vallacher and Wegner 1989), any behavior can be represented in low-level, specific terms, with a focus on how one performs the behavior, or in high-level, abstract terms, with a focus on why one performs the behavior. The BIF is a 25-item dichotomous response survey in which respondents are asked to describe an action (e.g., making a list) either in terms of a high-level construal that focuses on desirability concerns (e.g., "getting organized") or a low-level construal that focuses on feasibility concerns (e.g., "writing things down"). A higher BIF score represents a greater tendency to identify behaviors at a more abstract level (Vallacher and Wegner 1989). To the extent that independents are more likely to describe people and behaviors in more abstract, invariant traits that reflect an internal focus and interdependents are more likely to describe people and behaviors in more concrete and contextualized terms that reflect a focus on the environment and the situation, we expect that those with a more salient independent self-view would have a higher BIF score than those with a more salient interdependent self-view. The two distinct self-views were made temporarily more accessible using a priming manipulation.

Method. Sixty-seven online-panel participants recruited through Amazon.com's Mechanical Turk platform (51% female, mean age = 33.09 years) took part in this survey in exchange for monetary compensation. Participants were randomly assigned to an independent or an interdependent self-view condition. Self-view was manipulated using Brewer and Gardner's (1996) pronoun prime task. Specifically, participants were instructed to read a short paragraph describing a "trip to the city" and list all the pronouns found in the paragraph. Participants were also asked to count and report the total number of pronouns. The paragraphs in the two conditions were identical, except that the pronouns used in the independent condition were "I," "me," "my," and "myself," and the pronouns in the interdependent condition were "we," "us," "our," and "ourselves."

After completing the pronoun task, participants were presented with the BIF (Vallacher and Wegner 1989). The total number of high-level identifications constituted the participant's BIF score, with higher scores indicating a preference for high-level, abstract representation of behaviors.

Results. We predicted that an independent self-view is associated with a higher level of construal than an interdependent self-view. A one-way ANOVA on participants' BIF scores revealed the predicted main effect of self-view ($F(1, 65) = 4.62$, $p = .04$). As expected, participants in the independent prime condition had higher BIF scores ($M = 15.31$) than those in the interdependent prime condition ($M = 12.14$), providing preliminary support for our hypothesis that those with an independent self-view tend to construe actions at a higher, more abstract level than those with an interdependent self-view. We sought further evidence for this relationship between self-view and construal level in the next study.

Study 1b

To provide further evidence for the hypothesized relationship between self-view and construal level, we used a different operationalization of self-view and measured construal level using a categorization task in study 1b. Because abstract categories are more inclusive, people who construe information at a high (vs. low) level tend to classify objects using fewer categories. Consistent with this notion, it has been demonstrated that people use fewer categories to classify objects for distant (vs. proximal) situations (Liberman, Sagristano, and Trope 2002); they also chunk behavioral sequences into broader segments when the behaviors are distant rather than proximal (Henderson, Trope, and Carnevale 2006) or hypothetical rather than likely (Wakslak et al. 2006). Thus, our prediction was that people with an independent self-view would use fewer and broader categories to classify objects as compared to those with an interdependent self-view.

Method. Forty-eight undergraduate students (23 women, mean age = 21.58 years) at Cornell University participated in this study in exchange for extra course credit. They were

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randomly assigned to either an independent or an interdependent self-view condition.

Self-view in this study was manipulated using a word-puzzle task. Upon coming to the lab, all participants were asked to work on a 10 × 11 word jumble as a pretest for future studies. Their task was to find and circle five words that were hidden in the jumble. The five target words in the independent-prime condition were "independent," "individual," "personal," "myself," and "mine"; the target words in the interdependent-prime condition were "brotherly," "parents," "sister," "family," and "friend." After completing the word-puzzle task, participants were asked to work on an ostensibly unrelated study to help understand how college students plan off-campus activities. Using the stimuli adapted from Liberman et al. (2002), each participant received a questionnaire that described three events: going on a camping trip, organizing a yard sale, and moving into a new apartment. Participants were asked to imagine performing these behaviors and to classify 30 objects related to each behavior using as many categories as they thought appropriate, without overlapping.

Results and Discussion. We counted the number of categories that participants used to classify the objects for each event. Our prediction was that those with an independent self-view would use more abstract categories to classify objects and hence should use fewer categories than those with an interdependent self-view. As expected, participants in the independent prime condition classified objects into fewer categories ($M_{\text{overall}} = 5.74$; $M_{\text{camp}} = 5.42$; $M_{\text{yard}} = 5.68$; $M_{\text{move}} = 6.39$) than those in the interdependent prime condition ($M_{\text{overall}} = 7.21$; $t(46) = 2.53$, $p = .01$; $M_{\text{camp}} = 7.18$; $t(46) = 2.74$, $p < .01$; $M_{\text{yard}} = 6.64$; $t(46) = 2.36$, $p < .05$; $M_{\text{move}} = 7.82$; $t(46) = 1.76$, $p = .08$).

Taken together, the results from studies 1a and 1b provide convergent evidence that distinct self-views are associated with different construal levels. Relative to those with a more accessible interdependent self-view, participants with a more accessible independent self-view represented information about events and behaviors in more abstract, high-level terms, as reflected in their higher BIF scores (study 1a) and in their use of fewer categories to classify objects (study 1b).

Given the established reciprocal link between construal level and temporal distance, these findings also suggest that the two self-views should be associated with different temporal construals. Specifically, those with an independent self-view should construe future events and behaviors as happening at a more distant point in time, whereas those with an interdependent self-view would construe the same events and behaviors as happening at a more proximal point in time. We tested this proposition in the next study.

STUDY 2: THE IMPACT OF SELF-VIEW ON TEMPORAL CONSTRUAL

The objective of study 2 was to examine the effect of self-view on people's temporal construal of future behaviors. In this study, we first asked participants to list activities they planned to engage in and then primed them with either an independent or interdependent self-view; finally, we asked participants to indicate when they would be performing each of the activities. This sequence was designed to ensure that the activities listed were not influenced by the primed self-view. We expected that participants primed with an independent self-view would construe the planned activities as happening in the more distant future relative to those primed with an interdependent self-view.

Method

Forty-nine undergraduate students (25 female, mean age = 21.29 years) at Cornell University participated in this study in exchange for extra course credit and were randomly assigned to one of the two self-view conditions. Participants were first asked to list three activities that they planned to perform in the next few days, weeks, or months. Then they were asked to work on an ostensibly unrelated scrambled-sentence task that made salient either an independent or an interdependent self-view. In particular, they were presented with a series of five-word strings and asked to form a four-word sentence from each of these strings. Each word string consisted of two pronouns, one of which could be used to form a grammatically correct sentence. In the independent prime condition the pronouns were "I," "me," "my," "mine," "myself," and in the interdependent prime condition the pronouns were "we," "us," "our," and "ourselves." After completing the scrambled-sentence task, participants were presented with the three activities they listed earlier and were asked to report when, in days, weeks, or months from the present, they planned to engage in each activity. To help rule out potential confounds, we also asked participants to rate the perceived importance, difficulty, and pleasantness of each activity and to indicate whether they planned to perform each activity alone or with others.

Results and Discussion

Participants listed a variety of activities, from mundane everyday ones ("study," "cook a meal," "watch TV") to less common ones ("travel," "go on a wine tour," "go snowboarding," etc.). All reported time estimates were converted into days. Because time estimates deviated from the normal distribution, they were log-transformed.

A one-way ANOVA examining the effect of self-view on the average time estimates across the three activities showed a significant effect of self-view ($F(1, 47) = 4.11$, $p < .05$). As predicted, independent-primed participants indicated on average more distant time estimates for the activities than interdependent-primed participants ($M_{\text{ind}} = .80$ vs. $M_{\text{int}} = .55$). Separate ANOVAs on the time estimates for each of the three activities revealed a significant effect of self-view for activity 1 ($M_{\text{ind}} = .74$ vs. $M_{\text{int}} = .47$; $F(1, 46) = 4.49$, $p = .04$) and activity 3 ($M_{\text{ind}} = .96$ vs. $M_{\text{int}} = .56$; $F(1, 44) = 5.13$, $p = .03$). Self-view did not make any difference for the estimates of activity 2 ($M_{\text{ind}} = .64$ vs. $M_{\text{int}} = .63$; $F < 1$).

Participants in this study generated activities they planned

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to perform in the future *prior* to the self-view manipulation. Thus, the nature of these activities should not be influenced by self-view. As expected, one-way ANOVAs examining the effect of self-view on the perceived difficulty, importance, and pleasantness of the activities revealed no effect of the prime (all $F < 1$). Participants' likelihood of performing each of the activities alone versus with others was also not affected by self-view ($\chi^2_{act1} = 2.13$, $p > .10$; $\chi^2_{act2} = .32$, $p > .50$; $\chi^2_{act3} = .81$, $p > .30$).

The self-view priming manipulation, however, influenced participants' perceived temporal distance to the enactment of these activities. Consistent with predictions, independent-primed participants reported that they would perform the activities much later relative to their interdependent-primed counterparts. Taken together, the results from studies 1a, 1b, and 2 provide clear support for the hypothesized relationship between self-view, construal level, and temporal perspective. Whereas a more accessible independent self-view is associated with a tendency to construe behaviors at a more abstract level and to enact them in the more distant future, a more accessible interdependent self-view is associated with a tendency to construe behaviors at a more concrete level and to enact them in the more proximal future.

This relationship between self-view and temporal construal has important implications for persuasion. To the extent that people pay more attention to and are more persuaded by information that matches their self-view (e.g., Aaker and Lee 2001; Han and Shavitt 1994), we hypothesized that those with an independent self-view would attend more to and be more persuaded by appeals that highlight long-term gains and benefits to be realized in the distant future, whereas those with an interdependent self-view would attend more to and be more persuaded by appeals that highlight near-term gains and benefits to be realized in the proximal future. We tested this self-view temporal construal match hypothesis in the next two studies and further explored the mechanism underlying the hypothesized persuasion effect.

STUDY 3: MATCHING SELF-VIEW AND TEMPORAL CONSTRUAL ON PERSUASION: THE TRAVEL STUDY

The objective of study 3 was twofold: first, we wanted to further demonstrate the relationship between self-view and temporal construal. Second, we wanted to explore the implication of the hypothesized relationship between self-view and temporal construal for persuasion. To these aims, we examined the effect of a match between self-view and temporal distance on persuasion. We hypothesized that people with an independent self-view would be more positive toward appeals that highlight distant (vs. proximal) future benefits, whereas the reverse would be true for those with an interdependent self-view. We operationalized self-view in this study as one's chronic tendency to view the self as an autonomous individual or as part of a larger social collective. Temporal distance was manipulated by varying whether the promoted event was to take place in the proximal or in the distant future.

Method

Ninety undergraduate students (41 men, mean age = 21 years) at Cornell University took part in the study in exchange for course credit. We first measured participants' chronic self-view using Singelis's (1994) 24-item Self-Construal Scale. The scale was administered at the beginning of the experimental session. Participants were asked to indicate their agreement (1 = very strongly disagree; 9 = very strongly agree) with each of the 12 items that measure the independence dimension of self-view (independence subscale) and the 12 items that measure the interdependence dimension of self-view (interdependence subscale). Participants' ratings on the two subscales were averaged to form an independence index ($M = 5.55$; SD = .84, $\alpha = .58$) and an interdependence index ($M = 5.99$; SD = .79, $\alpha = .60$, $r = .07$). Notably, the absence of correlation between the two indices is consistent with prior findings (e.g., Kitayama et al. 2009; Singelis 1994), showing that the independent and the interdependent self-views are largely orthogonal and coexist in each individual and that people differ only on how accessible one self-view is relative to the other self-view.

After completing the Self-Construal Scale, participants were presented with an advertising message for a fictitious online travel agency promoting a trip to Athens, Greece. The message also contained the temporal distance manipulation. Specifically, we varied whether the promoted trip to Athens was to take place in the proximal future (next month) or in the distant future (next year). More specifically, participants in the interdependent (independent) self-view condition read:

> *Next month* [*year*], discover the beauty of Greece!
>
> Imagine walking along the sunny boulevards of Athens *a month* [*year*] from now, enjoying the view from the Acropolis, exploring the secrets of the Parthenon temple. ABC Tours can make this happen. Become a member of our online travel club and you will be entered automatically in a lottery to win a 4-day trip to Athens, Greece *next month* [*year*]. ABC Tours is a full-service agency that offers a broad range of vacation and travel arrangements to destinations around the world. For more information, visit www.abctours.com or call us at 1-800-ABCTOURS.

After reading the advertisement, participants were asked to evaluate it using a four-item, 7-point scale (negative/positive, unfavorable/favorable, ineffective/effective, and not impactful/impactful; Ad Attitude Index, $\alpha = .86$). To assess the success of the temporal-frame manipulation, we asked respondents to indicate the extent to which their thoughts while reading the message were about going on a trip soon (reverse coded) and about going on a trip later, using 7-point scales (1 = not at all; 7 = a lot; Temporal Thought Index, $r =$

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.67). Upon completion of the questionnaire participants were debriefed, thanked, and dismissed.

Results and Discussion

Manipulation Check. A one-way ANOVA on the Temporal Thought Index revealed a significant effect of temporal frame ($F(1, 88) = 4.21$, $p < .05$). Participants who read the distant-future frame appeal had more thoughts about going on a trip later ($M = 4.83$) relative to those who read the proximal-future frame appeal ($M = 4.26$).

Hypothesis Testing. Our key hypothesis concerned differences in the message evaluation as a function of participants' chronic self-view and the temporal frame of the message. To test this hypothesis, we regressed the Ad Attitude Index on participants' mean centered independence and interdependence indices, the message temporal frame (coded 1 = distant future; 0 = proximal future), and the two interaction terms between temporal frame and mean centered independence and between temporal frame and mean centered interdependence. The overall model was significant ($R^2 = .13$, $F(5, 84) = 2.56$, $p < .05$). More central to this research and, as predicted, the temporal frame × independence interaction term was positive and significant ($\beta = .29$; $p < .05$), suggesting that the more (less) accessible participants' independent self-view was, the more they preferred the distant (proximal) future ad to the proximal (distant) future ad. Also as predicted, the temporal frame × interdependence interaction term was negative and significant ($\beta = -.30$; $p = .05$), suggesting that the more (less) accessible participants interdependent self-view was, the more they preferred the proximal (distant) future ad to the distant (proximal) future ad.

To achieve a better understanding of the data, we examined the effects of the two self-view indices on participants' attitude toward the ad at each level of the temporal frame. First, for the distant temporal framed ad, the independence coefficient was positive and significant ($\beta = .40$, $t(84) = 2.05$, $p < .05$), whereas the interdependent index was not significant ($\beta = -.18$, $t < 1$). And for the proximal temporal framed ad, the interdependence coefficient slope was positive and marginally significant ($\beta = .42$, $t(84) = 1.87$, $p = .07$), whereas the independence index was not significant ($\beta = -.17$, $t < 1$). These results provide evidence that participants' independent self-view had a positive influence on their attitude toward the distant temporal framed ad but had no effect on their attitude toward the proximal temporal framed ad, whereas their interdependent self-view had a positive influence on their evaluation of the proximal temporal framed ad but had no effect on their evaluation of the distant temporal framed ad.

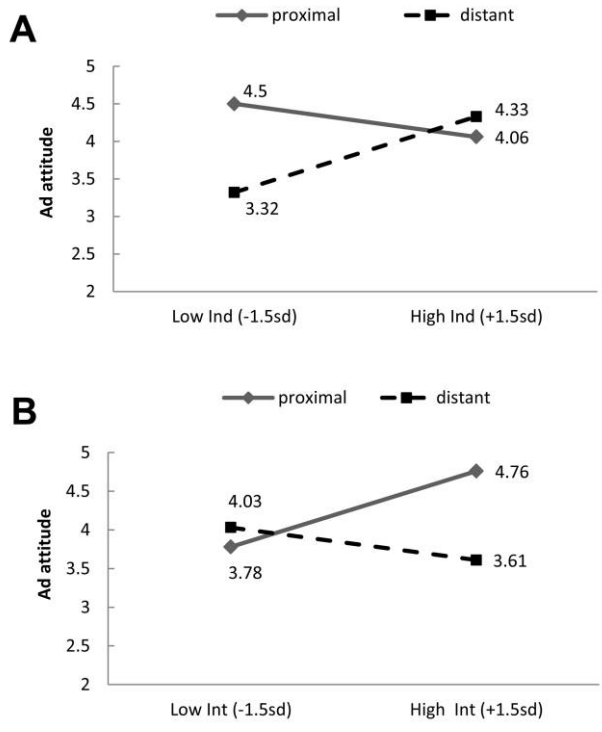
We also conducted a spotlight analysis (Aiken and West 1991) at one and a half standard deviations above and below the mean of the independence index ($M = 5.55$) while holding the interdependence index constant at its mean ($M = 5.99$). The result showed that whereas high-independence participants did not differ in their evaluations of the distant-future framed ad and the proximal-future framed ad ($\beta = .27$, $t(84) < 1$), low-independence participants preferred the proximal-future framed ad to the distant-future framed ad ($\beta = -1.18$, $t(84) = -2.78$, $p = .007$; see fig. 1*A*).

A similar spotlight analysis at one and a half standard deviations above and below the mean of the interdependence index ($M = 5.99$) while holding the independence index constant at its mean ($M = 5.55$) showed that high-interdependence participants evaluated the proximal-future framed ad more favorably than the distant-future framed ad ($\beta = -1.15$, $t(84) = -2.72$, $p < .01$), whereas low-interdependence participants did not distinguish between the distant-future framed ad and the proximal-future framed ad ($\beta = .25$, $t(84) < 1$; see fig. 1*B*).

Taken together, these results offer additional support for the hypothesized relationship between self-view and temporal construal and provide initial evidence for a matching effect on attitudes. Our view is that the hypothesized greater persuasiveness of messages that match (vs. mismatch) one's self-view is due to the greater attention to and more elaborate processing of matched (vs. mismatched) messages. The current findings that a message promoting a distant future event

FIGURE 1

A, ATTITUDE TOWARD THE AD AS A FUNCTION OF PARTICIPANTS' INDEPENDENT SELF-VIEW AND TEMPORAL FRAME; *B*, ATTITUDE TOWARD THE AD AS A FUNCTION OF PARTICIPANTS' INTERDEPENDENT SELF-VIEW AND TEMPORAL FRAME



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is more appealing to individuals with a chronically accessible independent self-view whereas a message promoting a near future event is more appealing to those with a chronically accessible interdependent self-view are consistent with the notion that people pay more attention to messages construed at a temporal distance that matches their salient self-view.

However, this study has several limitations. First, self-view was a measured variable, and, hence, the results are subject to alternative explanations. Second, the Cronbach's alphas of the items used to measure the two self-views showed only moderate reliability. Finally, the results emerging from the spotlight analysis were mixed: while results related to the interdependence self-view clearly supported our predictions, results related to the independence self-view seemed to suggest that the predicted pattern was driven more by those whose independent self-view was *not* accessible. To address these concerns and also to seek more direct evidence for the underlying mechanism of the matching effect, we conducted the next study.

STUDY 4: MATCHING SELF-VIEW AND TEMPORAL CONSTRUAL ON PERSUASION: THE HEALTH FOOD STUDY

Study 4 was designed with two objectives in mind: first, we wanted to examine the robustness of the persuasion effect observed in study 3 by using different operationalizations of self-view and temporal distance. Instead of assessing participants' chronic self-view, we operationalized self-view by making salient an independent or an interdependent self-view in the appeal. We also manipulated temporal distance in the appeal by highlighting either the target brand's immediate benefits or benefits to be reaped in the more distant future. We expected that participants would develop more positive attitudes toward the advertisement and the target brand when there is a match (vs. mismatch) between the salient self-view and the temporal frame of the message.

A second objective of study 4 was to shed light on the mechanism underlying the persuasion effect. Our view is that people pay more attention to messages with temporal frames that match their more accessible self-view. Heightened attention would, in turn, lead to more elaborate and systematic processing of the message and result in greater discernment regarding the quality of the message arguments. Thus, a useful way to demonstrate the different extent of attention and elaboration is to vary the argument strength of the message. Discernment of argument strength is a well-established indicator of attention and systematic processing such that more elaborate processing is associated with greater discernment between strong and weak arguments (Petty and Cacioppo 1986; Petty, Cacioppo, and Schumann 1983). That is, the selective attention to and increased elaboration of matched (vs. mismatched) messages would result in greater discernment between strong and weak arguments when the temporal frame of the message matches (vs. mismatches) people's accessible self-view. More specifically, when the arguments presented in the message are strong, a match (vs. mismatch) between recipient's self-view and the temporal frame should lead to more favorable attitudes. However, when the arguments are weak, a match (vs. mismatch) should lead to less favorable attitudes.

We created a strong and a weak version of an advertising message advocating the benefits of a line of health food. We operationalized self-view by making salient either the independent or interdependent self-view in the message, and we manipulated temporal frame by emphasizing product benefits in the proximal or distant future. Thus, a 2 (self-view: independent vs. interdependent) × 2 (temporal frame: proximal-future vs. distant-future) × 2 (argument strength: strong vs. weak) between-subjects design was used.

Method

A total of 186 undergraduate students (106 women, mean age = 22.09 years) at Northwestern University took part in this study. They were randomly assigned to each of the eight experimental conditions. Upon coming to the lab, participants were given a booklet containing the advertising message and a series of follow-up questions. To enhance external validity, we used a real brand (Spa Cuisine Classics) and adapted texts from the Lean Cuisine website to create eight versions of the advertisement. Self-view was manipulated by varying the target recipient highlighted in the ad ("you" vs. "your family"). Temporal frame was manipulated by varying the tagline of the ad to make salient either the immediate product benefits ("Make today a healthy day") or the more distant-future benefits ("Make today the first of many healthy days"). Finally, argument strength was operationalized by varying the importance of the product benefits and the quality of the arguments presented in the advertisement. For example, participants in the independent proximal-future strong argument condition read:

> Make today a healthy day for you! Spa Cuisine Classics allows you to experience the immediate benefits of a healthy diet. From Rosemary Chicken and Pasta to Mediterranean Wild Rice—Spa Cuisine meals provide the perfect combination of nutrients to keep you energized throughout the day. The complex carbohydrates in the whole-grain rice and pastas fuel the brain and muscles so you can perform at your best. Spa Cuisine combines health and nutrition preferences to bring restaurant-quality food to you in the comfort of your home. Don't wait! Let Spa Cuisine help you make today a Healthy Day!

And participants in the interdependent distant-future weak argument condition read:

> Make today the first of many healthy days for your family! Spa Cuisine Classics allows your family to experience the long-term benefits of a healthy diet. We realize that a good meal should provide the best possible combination of nutrients to help build resilience, vitality, and long-term health so the whole family can sustain their best performance. That is why we use only quality frozen vegetables and some fresh

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ingredients too. Furthermore, an average serving contains no more than 9 grams of trans fats, and does not exceed the daily dose of sodium and cholesterol. And each Spa Cuisine meal comes in a colorfully designed plastic or styrofoam microwavable package that is easy to store and carry. Don't wait! Let Spa Cuisine help your family make today the first of Many Healthy Days!

Participants evaluated the Spa Cuisine brand using a four-item, 7-point scale (bad/good, negative/positive, unfavorable/favorable, not at all likely to try/very likely to try; Brand Attitude Index, $\alpha = .92$). Participants also evaluated the advertisement using a three-item, 7-point scale (bad/good, negative/positive, unfavorable/favorable; Ad Attitude Index, $\alpha = .86$).

To assess if the intended self-view was made more accessible, participants were asked to indicate the extent to which they thought about themselves and the extent to which their thoughts were focused on themselves while reading the ad (Self Thought Index, $r = .87$). They also indicated the extent to which they thought about their family and the extent to which their thoughts were focused on their family (Others Thought Index, $r = .93$). To verify the success of the temporal frame manipulation, participants were asked to report the extent to which their thoughts were about the immediate benefits of Spa Cuisine, about staying healthy now, and about the immediate consequences of their diet (Immediate Thought Index, $\alpha = .78$), as well as the extent to which their thoughts were about the long-term benefits of Spa Cuisine, about staying healthy in the long run, and about the long-reaching consequences of their diet (Future Thought Index, $\alpha = .84$). Responses to all these questions were recorded on 7-point scales (1 = not at all; 7 = a lot). Finally, to assess argument strength, we asked participants to rate the effectiveness of the advertisement using a two-item, 7-point scale (ineffective/effective, not impactful/impactful; Ad Effectiveness Index, $r = .82$).

Results and Discussion

Manipulation Checks. A 2 (self-view: independent vs. interdependent) × 2 (thought type: self vs. other) repeated measures ANOVA with thought type as a within-subjects factor revealed a main effect of thought type such that participants had more thoughts about the self ($M = 4.71$) than about their family ($M = 3.11$; $F(1, 184) = 98.17$, $p < .001$). The main effect of self-view was also significant ($F(1, 184) = 7.60$, $p < .01$) such that participants in the interdependent-prime condition had more thoughts in general ($M = 8.36$) than those in the independent-prime condition ($M = 7.25$). More importantly, the predicted self-view × thought type interaction was significant ($F(1, 184) = 17.09$, $p < .001$). While independent-primed and interdependent-primed participants did not differ in the extent to which they thought about the self ($M = 4.78$ vs. 4.65; $F < 1$), interdependent-primed participants had more others-focused thoughts ($M = 3.70$) than their independent-primed counterparts ($M = 2.47$; $F(1, 184) = 28.11$, $p < .001$). These findings are consistent with previous research showing that when the interdependent self-view is primed among members of an individualist culture, the number of other-focused thoughts increases without surpassing the number of self-focused thoughts (Aaker and Williams 1998).

A 2 (temporal frame: proximal-future vs. distant-future) × 2 (thought type: immediate vs. future) repeated measures ANOVA with thought type as a within-subject factor showed that neither the main effect of temporal frame nor the main effect of thought type was significant ($F < 1$); however, the interaction was significant ($F(1, 184) = 5.01$, $p < .05$). As expected, participants in the proximal-future condition reported more immediate thoughts ($M_{prox} = 4.75$ vs. $M_{dis} = 4.44$; $F(1, 184) = 4.22$, $p < .05$) and fewer future thoughts ($M_{prox} = 4.51$ vs. $M_{dis} = 4.67$; $F(1, 184) = 1.12$, $p < .20$) than those in the distant-future condition, although the latter contrast did not reach statistical significance.

To examine the effectiveness of our argument-strength manipulation, we conducted a 2 (self-view) × 2 (temporal frame) × 2 (argument strength) ANOVA on the Ad Effectiveness Index. The results showed a main effect of argument strength such that participants perceived the strong message as more effective ($M = 3.93$) than the weak message ($M = 3.52$; $F(1, 178) = 4.42$, $p < .05$), suggesting that our argument strength manipulation was successful. The three-way interaction between self-view, temporal frame, and argument strength was also significant ($F(1, 178) = 7.40$, $p < .01$). Subsequent analyses revealed that the difference in argument quality was only observed when the temporal frame of the message matched participants' activated self-view. In particular, independent-primed participants perceived the strong message as more effective than the weak message in the distant-future condition ($M_{strong} = 4.46$ vs. $M_{weak} = 3.55$; $F(1, 178) = 5.01$, $p < .05$) but not in the proximal-future condition ($M_{strong} = 3.57$ vs. $M_{weak} = 3.42$; $F < 1$). Similarly, interdependent-primed participants perceived the strong message as more persuasive ($M = 4.40$) than the weak message ($M = 3.40$; $F(1, 178) = 6.59$, $p < .05$) in the proximal-future condition but not in the distant-future condition ($M_{strong} = 3.31$ vs. $M_{weak} = 3.71$; $F(1, 178) = 1.06$, $p = .30$).

Attitude toward the Brand. We hypothesized that a match between self-view and temporal distance would intensify participants' reactions to the message and result in more polarized evaluations toward the advertised brand; that is, positive evaluations would become more positive and negative evaluations would become more negative. A 2 × 2 × 2 ANOVA on the Brand Attitude Index revealed a significant main effect of argument strength such that participants presented with the strong message were more favorable toward the advertised brand ($M = 5.06$) than those presented with the weak message ($M = 4.07$; $F(1, 178) = 30.02$, $p < .001$). This main effect was qualified by a significant three-way interaction ($F(1, 178) = 22.49$, $p < .001$). Further analyses clarified that when the message arguments were strong, participants whose independent self-view was made more accessible had more favorable attitudes toward

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the brand when the ad highlighted distant-future (vs. proximal-future) benefits (M_{prox} = 4.49 vs. M_{dis} = 5.31; $F(1, 178) = 4.75$, $p < .05$). Conversely, participants whose interdependent self-view was made more accessible had more favorable attitudes toward the brand when the ad highlighted proximal-future (vs. distant-future) benefits (M_{prox} = 5.77 vs. M_{dis} = 4.62; $F(1, 178) = 10.44$, $p < .005$). However, the reverse was observed when message arguments were weak. Participants whose independent self-view was made more accessible evaluated the brand less favorably when the ad highlighted distant-future (vs. proximal-future) benefits (M_{prox} = 4.34 vs. M_{dis} = 3.56; $F(1, 178) = 4.68$, $p < .05$), whereas their interdependent counterparts evaluated the brand less favorably when the ad highlighted proximal-future (vs. distant-future) benefits (M_{prox} = 3.81 vs. M_{dis} = 4.50; $F(1, 178) = 3.76$, $p = .06$; see table 1).

Attitude toward the Ad. We next investigated the matching effect on the Ad Attitude Index. A three-way ANOVA on this measure revealed a significant main effect for argument strength. As expected, participants evaluated the ad more favorably when they were presented with the strong (vs. weak) appeal (M_{strong} = 4.86 vs. M_{weak} = 4.08; $F(1, 178) = 21.62$, $p < .001$). More central to this research, this main effect of argument strength was qualified by a significant three-way interaction between self-view, temporal frame, and argument strength ($F(1, 178) = 21.01$, $p < .001$). Planned contrasts showed that in the context of the strong appeal, independent-primed participants had more favorable attitudes toward the distant-future framed ad than the proximal-future framed ad (M_{prox} = 4.55 vs. M_{dis} = 5.18; $F(1, 178) = 3.31$, $p = .08$). Conversely, interdependent-primed participants had more favorable attitudes toward the proximal-future framed ad than the distant-future framed ad (M_{prox} = 5.42 vs. M_{dis} = 4.29; $F(1, 178) = 11.88$, $p = .001$). These effects were reversed when participants were presented with a weak message. Independent-primed participants preferred the weak proximal-future framed ad to the weak distant-future framed ad (M_{prox} = 4.39 vs. M_{dis} = 3.70; $F(1, 178) = 4.32$, $p < .05$), whereas interdependent-primed participants preferred the weak distant-future framed ad to the weak proximal-future framed ad (M_{prox} = 3.82 vs. M_{dis} = 4.43; $F(1, 178) = 3.46$, $p = .07$; see table 2).

Discernment of Argument Strength. Our hypothesis is that people pay more attention to and elaborate more on messages that match their self-view, and this selective attention and elaboration in turn leads to greater discernment between strong and weak arguments (Petty et al. 1983). Thus, we posit that participants whose self-view matched (vs. mismatched) the temporal frame of the message would be more discerning between strong and weak arguments. Indeed, independent-primed participants evaluated the brand more favorably when the message was strong than when the message was weak (M_{strong} = 5.31 vs. M_{weak} = 3.56; $F(1, 178) = 22.16$, $p < .001$) but only when the brand benefits were framed in the distant future. Argument strength did not make a difference when brand benefits were framed in the proximal future (M_{strong} = 4.49 vs. M_{weak} = 4.34; $F < 1$). Similarly, interdependent-primed participants reported significantly different brand attitudes as a function of argument strength when proximal-future benefits were highlighted (M_{strong} = 5.77 vs. M_{weak} = 3.81; $F(1, 178) = 30.33$, $p < .001$) but not when distant-future benefits were highlighted (M_{strong} = 4.62 vs. M_{weak} = 4.50; $F < 1$).

A similar pattern was revealed for participants' attitude toward the ad. Independent-primed participants evaluated the ad more positively when the benefits were backed by strong ($M = 5.18$) rather than weak claims ($M = 3.70$; $F(1, 178) = 18.68$, $p < .001$) when distant-future benefits were highlighted but not when proximal-future benefits were highlighted (M_{strong} = 4.55 vs. M_{weak} = 4.39; $F < 1$). And interdependent-primed participants reported more favorable attitude toward the ad that contained strong (vs. weak) claims when the ad highlighted proximal-future benefits (M_{strong} = 5.42 vs. M_{weak} = 3.82; $F(1, 178) = 23.81$, $p < .001$) but not when it highlighted distant-future benefits (M_{strong} = 4.29 vs. M_{weak} = 4.33; $F < 1$).

With self-view being a manipulated variable, these results replicate study 3 findings that people are more persuaded when the temporal frame of the message matches their self-view and provide unambiguous support for the self-view temporal construal fit hypothesis. Further, the argument strength results provide clear evidence that greater persuasion comes from increased attention and more elaborate processing of messages when the temporal frame matches (vs. mismatches) the recipient's self-view.

GENERAL DISCUSSION

This research suggests that the rate at which people travel through mental time is influenced by the way they view

TABLE 1

ATTITUDE TOWARD THE BRAND IN STUDY 4

	Independent		Interdependent	
	Proximal	Distant	Proximal	Distant
Brand attitude strong arguments	4.49 (1.38) $n = 21$	5.31 (1.29) $n = 22$	5.77 (1.08) $n = 24$	4.62 (.85) $n = 24$
Brand attitude weak arguments	4.34 (1.34) $n = 25$	3.56 (1.37) $n = 22$	3.81 (1.34) $n = 24$	4.50 (1.15) $n = 24$

NOTE.—Standard deviations are in parentheses.

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TABLE 2

ATTITUDE TOWARD THE AD IN STUDY 4

	Independent		Interdependent	
	Proximal	Distant	Proximal	Distant
Ad attitude strong arguments	4.55 (1.39) $n = 21$	5.18 (1.15) $n = 22$	4.29 (1.01) $n = 24$	5.42 (.88) $n = 24$
Ad attitude weak arguments	4.39 (1.04) $n = 25$	3.70 (1.49) $n = 22$	3.82 (1.13) $n = 24$	4.43 (.95) $n = 24$

NOTE.—Standard deviations are in parentheses.

themselves. Whereas people with a more accessible independent self-view tend to think of future events in more abstract, decontextualized terms, those with a more accessible interdependent self-view tend to think of future events in more detailed, context-specific terms. This difference in construal level gives rise to different temporal perspectives for people with distinct self-views. Individuals whose independent self-view is dominant perceive future events and behaviors as occurring in the more distant future, while those whose interdependent self-view is dominant perceive future events and behaviors as occurring in the more proximal future.

Across four studies, this research demonstrates the robust relationship between self-view and construal level and temporal perspectives, using different operationalizations of self-view (situational prime in studies 1, 2, and 4; individual difference in study 3) and across a wide range of dependent measures (BIF scale in study 1a; categorization task in study 1b; behavioral enactment time estimates in study 2; attitudes in studies 3 and 4). More specifically, independent-primed participants scored higher on the BIF (study 1a) and used fewer categories to classify objects (study 1b) as compared to interdependent-primed participants, providing evidence that independents represent information at a higher, more abstract level than interdependents. Results showing that independent-primed participants construed planned behaviors as happening in the more distant future than interdependent-primed participants (study 2) provide support for our hypothesis that an independent self-view is associated with a more distal temporal perspective, whereas an interdependent self-view is associated with a more proximal temporal perspective. We extended these findings to a persuasion context and showed that a match (vs. mismatch) between self-view and the temporal frame of an advertising message led to more favorable evaluations when the arguments were strong (studies 3 and 4), but the reverse held when the arguments were weak (study 4). These results provide convergent evidence for the proposed correspondence between self-view and temporal construal. Further, the results of study 4 showing that people are more discerning between strong and weak matched (vs. mismatched) appeals suggest that selective attention to and more elaborate processing of messages that match (vs. mismatch) people's self-view underlie the self-view × temporal construal effect on persuasion.

The current research makes a theoretical contribution on several fronts. First, we add to the self literature by identifying some unexplored consequences of the self schema for cognition. Building on prior studies examining how people from individualistic versus collectivistic cultures represent the self and others, we show that an independent versus an interdependent self-view is associated with different levels of construal and the corresponding temporal perspectives toward future events, and that the associations hold regardless of whether self-view is chronically accessible or temporarily made salient. Our findings are consistent with recent research demonstrating a link between self-view and temporal perspective and its effect on motivation (Lee, Lee, and Kern 2010). The current results extend previous findings by showing that the link between self-view and temporal perspective reflects a more general association between self-view, psychological distance, and construal level.

Recent research has conceptualized proximal versus distal social distance as an event for the self versus for others (Kim, Zhang, and Li 2008). That is, the self is associated with a proximal psychological distance, whereas others are associated with a distal psychological distance. The current studies extend this research by making salient the importance of distinguishing between the two different self schemas: whereas an interdependent self is indeed associated with a proximal psychological distance, an independent self is associated with a more distal psychological distance. An interesting venue for future research may be to more systematically examine the different temporal perspectives activated when one thinks about a stranger versus a close other versus the self.

The results from our studies also contribute to the literature on construal level and psychological distance. Most temporal construal research has focused on the effects of temporal distance on construal level and preferences. This research adds to the literature by examining an antecedent rather than the consequences of temporal construal and shows that the way people view themselves in relation to others has important implications for how they construe information and perceive events in time, as well as for how they process information that matches (vs. mismatches) their construal level and temporal perspective.

Our results showing greater discernment between strong and weak persuasive appeals when the temporal frame of the message matches (vs. mismatches) the self-view of the recipients suggest that people pay more attention to and elaborate on matched (vs. mismatched) messages. These results are consistent with previously established persuasion

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effects in the self-construal literature (Aaker and Lee 2001; Han and Shavitt 1994) and more broadly with dual-process models of persuasion (Chaiken et al. 1996; Petty and Cacioppo 1986). They are also consistent with recent findings showing temporal distance effects on attention and persuasion. Specifically, Fujita at al. (2008) showed that people were more sensitive to argument strength when arguments matched (vs. mismatched) the recipient's salient temporal orientation (Fujita et al. 2008).

This research also contributes to the regulatory focus literature (Higgins 1997). Prior literature has shown that a promotion (prevention) focus is associated with an independent (interdependent) self-view (Lee et al. 2000), a high (low) level of construal (Lee, Keller, and Sternthal 2010), and distant (proximal) temporal construal (Pennington and Roese 2003). The current research showing a relationship between self-view and temporal construal and construal level closes the gap and demonstrates the interrelationship between the various constructs. Further, the current findings demonstrating a matching effect between self-view and temporal distance on persuasion is consistent with the regulatory fit effect documented in the literature (for a review, see Lee and Higgins 2009). In fact, our study 4 findings showing an argument strength effect for matched but not for mismatched messages are consistent with the self-view × regulatory focus effect on attitudes toward strong versus weak arguments documented by Aaker and Lee (2001; study 3), and with the self-view × temporal construal effect on motivation toward a pleasant versus unpleasant task reported by Lee, Keller, and Sternthal (2010; studies 3 and 4).

We situated our research in the context of consumer judgments and showed that when the independent self is focal in one's thoughts, consumers are attracted to products that promise the fulfillment of more distal, far-reaching goals, and when the interdependent self and close others are focal, products that fulfill more immediate goals are more enticing. An interesting avenue for future research is to examine age as a potential moderator of the observed effects. In particular, participants in our studies were young college students. However, research on age and perceptions of time shows that people's perceptions of time and prioritizations of goals change as they move through life (Carstensen, Isaacowitz, and Charles 1999). Earlier in life, time is perceived to be expansive, and long-term goals related to personal achievement and self-actualization tend to be chosen over short-term goals, presumably because they optimize future possibilities for the self. However, with the approach of life's end, goals for the self may assume a more immediate-future character. At that stage, it may be the thoughts of children and close others that become associated with more distant temporal representations and perspectives. Thus, it is plausible that as the nature of one's goals evolves with age, the relationship between self-construal and temporal construal may change such that thoughts about close others, typically associated with an interdependent self-view, may lead to more distant temporal perceptions. How the relationship between self-view and temporal construal may evolve through one's life stages awaits future research.

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