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Psychological Distance and Priming: When Do Semantic Primes Impact Social Evaluations?

Marlone D. Henderson[1] and Cheryl J. Wakslak[2]

Abstract

Semantic primes influence the impressions and evaluations people form of others. According to construal level theory (CLT), as stimuli get closer psychologically (e.g., physically, probabilistically), people construe stimuli in more concrete, localized, individuating terms. Across three studies, the authors present participants with individuals performing behaviors (skydiving, motor biking) that are ambiguous with respect to being either adventurous or reckless. Using a CLT framework, the authors show that people are more likely to assimilate their judgments of others to available semantic primes for psychologically close rather than distant targets (Studies 1 and 2). Conversely, they show that general, global attitudes drive evaluations more for distant rather than close targets (Study 3). Implications for priming more broadly are discussed.

Seemingly mundane objects often influence the impressions and evaluations that individuals form of others. A prominent example of this external influence is the effect of semantic primes, which have been documented in more than three decades of research (for reviews, see DeCoster & Claypool, 2004; Förster & Liberman, 2007; Higgins, 1996). Indeed, the effects of priming on judgment and decision making have been so robustly demonstrated that even the popular press routinely quips about the importance of priming (e.g., Carey, 2007; Gladwell, 2005; Tierney, 2009). More specifically, semantic primes have been shown to influence judgments in a variety of ways, most directly through the process of assimilation, where judgments are biased toward the meaning and valence of primed trait concepts. For example, in a seminal study by Higgins, Rholes, and Jones (1977), participants' judgments of a target who engaged in high-risk behaviors that could be interpreted in either a positive or a negative way were influenced by prior exposure to semantic primes: Those primed with a positive construct (adventurousness) rated the target in a more positive fashion than those primed with a negative construct (recklessness).

As a counterpoint to assimilation effects, researchers have also found that exposing people to primes sometimes leads them to form impressions of targets that are biased *away* from the primes (DeCoster & Claypool, 2004). For example, when individuals are exposed to a person who exemplifies extreme trait behavior (e.g., an extremely reckless guy) and then are asked to evaluate another ambiguous target, individuals are likely to judge the target as less reckless and evaluate the target less negatively, as compared to individuals exposed to a person who exemplifies moderate trait behavior (Herr, Sherman, & Fazio, 1983). Also, when people are exposed to semantic primes but become aware that primes may have influenced their judgments, they tend to consciously correct their impressions to remove the bias, often overcorrecting and forming impressions that are biased away from the prime (e.g., Martin, 1986). These two processes have been labeled contrast effects, and determining when to expect assimilation versus contrast continues to be a focal research question (e.g., Kay, Wheeler, & Smeesters, 2008; Liberman, Förster, & Higgins, 2007; Mussweiler & Damisch, 2008).

In the present investigation, we assume, as does much research, that assimilation effects commonly occur because externally activated trait concepts are misinterpreted or confused with individuals' own internally generated reactions to

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a target (Förster & Liberman, 2007, p. 201; Mussweiler & Neumann, 2000, p. 196; Wheeler, DeMarree, & Petty, 2007, p. 241).[1] We follow in the tradition of previous work that has focused on variables that can negate the impact of these primes in favor of more personally accessible information (see, e.g., Dijksterhuis & Knippenberg, 2000). Specifically, we examine the effect psychological distance from a target has on individuals' reliance on temporarily accessible constructs (primes) that are triggered by external cues when forming evaluative judgments of others.

Theoretical Background

Drawing on a construal level theory (CLT) of psychological distance, we suggest that semantic primes lead people to form impressions that are biased toward primes for psychologically close targets but not for psychologically distant targets. According to CLT (Liberman, Trope, & Stephan, 2007), as stimuli get closer temporally (e.g., a conversation with a person tomorrow rather than a year from now; Liberman & Trope, 1998), physically (e.g., a conversation with a person a few miles away rather than several miles away; Fujita, Henderson, Eng, Trope, & Liberman, 2006), socially (e.g., a conversation with a similar rather than dissimilar person; Liviatan, Trope, & Liberman, 2008), or probabilistically (e.g., a high rather than low likelihood of conversing with a person; Wakslak, Trope, Liberman, & Alony, 2006), people construe stimuli in more concrete and specific terms that involve more localized, individuating cognitive processing (Liberman & Förster, 2008).

As an illustration of how individuals seem to engage in more localized, individuating processing for judgments of psychologically near rather than distant objects, Förster, Friedman, and Liberman (2004) found that before having participants work on a visual task, those participants who envisioned their lives and imagined themselves engaging in the visual task in the near future (the next day) as opposed to the distant future (a year later) exhibited less perceptual integration and recognition of images out of a fragmented visual stimulus. Presumably, this occurred because participants with a temporally near perspective focused on the disparate fragments, which prevented them from detecting the overall gestalt. In a similar vein, Liberman, Sagristano, and Trope (2002) found that a temporally near perspective from an event fostered less inclusive processing of information related to the event. For example, Liberman et al. (Study 1) found that participants who imagined engaging in several activities (e.g., having a yard sale, going on a camping trip) in the near future (upcoming weekend) as opposed to the distant future (next year) used narrower categories to classify objects related to the activities. Presumably, individuals with a psychologically near perspective exhibited a narrower breadth of categorization because they disregarded the fewer essential features of objects, which united them together, and

focused instead on idiosyncratic features of each object, which isolated them from one another. Indeed, more recently, Henderson (2009) demonstrated that individuals who perceived less physical distance from members of a task group construed the members as unique, individuated members rather than as simply a group, which resulted in reduced confidence that the members possessed features that were prototypical of the group.

The Present Research

Semantic primes represent temporarily accessible category labels that can influence how individuals interpret and evaluate a target's behavior. When individuals misattribute the source of their accessible category label to their own internally generated reactions to a target, their judgments are likely to be biased toward the conceptual and evaluative implications of the prime (see, e.g., Higgins et al., 1977; Srull & Wyer, 1979). Certainly, variations within the descriptions of a target's behavior will influence the degree of assimilation (i.e., if Donald is described as doing something ambiguously aggressive, an aggressiveness prime should affect evaluations; if Donald is described as doing something clearly nonaggressive, however, evaluations should be less assimilated to an aggressiveness prime; cf. Herr et al., 1983). Also, variations in the identity of the target in question should affect the degree of assimilation to primes; for example, evaluations of a target with whom one is familiar and of whom one has already formed an impression should be less affected by the presence of primes than evaluations of a novel target with whom one has no previous experience. As Stapel, Koomen, and van der Pligt (1997) noted, "No such assimilation effects should emerge when the target stimulus is unambiguous or well known and thus needs no interpretative efforts" (p. 53).

We believe that the amount of psychological distance from a target will change the degree to which individuals are influenced by semantic primes when making evaluative judgments of others. Specifically, we assume that when individuals form judgments of psychologically close targets, they process the target in a more localized, individuating manner (i.e., as a single person who engages in the respective behavior). When individuals form judgments of psychologically distant targets, however, they presumably process the target in a more global, generalized manner (i.e., as a member of a class of people who engage in the respective behavior). Given that when individuals form a local judgment of a single person with whom they have no prior experience that person is seen as novel and unfamiliar, an opportunity should arise for momentarily accessible constructs triggered by external cues to influence their impressions (assimilation). In contrast, when individuals form a judgment of a target as a member of a class of people, they often already have a general impression (e.g., stereotypes, general attitudes) about classes of people who engage in the

behavior, and therefore, little or no opportunity arises for such momentarily accessible constructs to influence their impressions (no assimilation).

Accordingly, we hypothesize that individuals will incorporate the information contained in semantic primes to a greater degree when forming judgments of close rather than distant others, assimilating their judgments to accessible constructs for close, but not distant, targets. Interestingly, in support of this contention, at an empirical level a number of variables that have been linked with reduced psychological distance have been found to lead to increased assimilation in priming tasks. For example, reduced psychological distance and concrete construals tend to occur when individuals adopt a first-person perspective (Kross & Ayduk, 2008; Libby, Shaeffer, & Eibach, 2009), and adopting a first-person perspective has been shown to facilitate greater assimilation effects (Galinsky, Wang, & Ku, 2008; Wheeler, Jarvis, & Petty, 2001). Moreover, Wakslak, Nussbaum, Liberman, and Trope (2008) demonstrated that when people make judgments of how the near versus distant future self will act within different role domains (e.g., child, student, employee), people tend to expect less consistency in their near selves, and individuals who are low in consistency have been found to exhibit greater assimilation effects (Smeesters, Warlop, Van Avermaet, Corneille, & Yzerbyt, 2003). These prior findings are intriguingly consistent with our more general hypothesis that reduced psychological distance facilitates greater assimilation effects.

To directly test this central prediction, we manipulated psychological distance (Study 1: physically; Study 2: probabilistically) after participants had been exposed to semantic primes and then had participants evaluate a target engaging in an ambiguous behavior. In addition, a secondary issue we explore is what factors might influence social judgments of psychologically distant targets. If individuals rely less on semantic primes for psychology distant targets, we expect the general attitudes that individuals have about the class of people who engage in the target's behavior to hold greater weight for psychologically remote targets than psychologically near targets (see, e.g., Fujita, Eyal, Chaiken, Trope, & Liberman, 2008; Ledgerwood & Trope, 2010). To explore this idea, we assessed participants' general attitudes toward the behavior that was performed by a target to see if these general attitudes would differentially relate to near and distant target judgments.

Study 1

Decreased physical distance from social events has been shown to produce more concrete, lower level mental representation (Fujita et al., 2006). For example, in one study, individuals who imagined several behaviors taking place in a physically near rather than distant location were more likely to focus on the specific ways the behaviors might be carried out rather than the overarching, higher order purpose or reason driving the behavior. In Study 1, participants were first exposed to semantic primes and then presented with a person engaged in an ambiguous behavior who was located in a physically near or distant location. Participants then evaluated the person engaged in the ambiguous behavior. Participants also reported their general attitude toward the behavior performed by the person.

Method

In partial fulfillment of a course requirement, 122 New York University students (104 females) responded to a brief survey, which ostensibly presented two unrelated tasks being piloted for future research. The first task, modeled after Higgins and his colleagues' (1977) paradigm, consisted of a word search puzzle (10 letters × 10 letters) used to semantically prime the concept of adventurousness or recklessness. Participants were instructed to find as many words as they could and write the words down on provided blank lines. Two words that were neutral with respect to adventurousness or recklessness (*computer*, *hammer*) were included in the puzzle, as were six additional words related to either adventurousness (*adventure*, *bravery*, *action*, *exciting*, *thrilled*, *wild*) or recklessness (*dangerous*, *prudent*, *sensible*, *cautious*, *fear*, *careful*).

The second task contained our social evaluation stimuli. Participants saw a black-and-white picture of a man skydiving (see the appendix). The picture was intended to be ambiguous with respect to its evaluative implications, as the target person may be perceived as either adventurous or reckless. A brief paragraph preceded the picture, explaining that according to the website where the picture was obtained the person was a tourist who decided to go skydiving from a plane "just a few miles from here in New Jersey" (physically near condition) or "many miles from here in Los Angeles" (physically distant condition). Directly above the picture was a geographical statement of "Few Miles From Here" or "Many Miles From Here." This physical distance manipulation served as our manipulation of psychological distance (see, e.g., Henderson, Fujita, Trope, & Liberman, 2006).

Participants were instructed to pay careful attention to the content of the picture because they would be asked questions about it. Evaluations of the target were assessed on four 7-point scales ("How much do you think that people, in general, like the person in the previous picture?" "If you were going to interact with the person in the picture, how much do you think you would like this person?" "To what extent do you agree that the person in the picture is an unlikable person?" and "To what extent do you agree that this is the kind of person that people avoid spending time with?"). A composite was created by reverse coding the third and fourth evaluation items and averaging participants' responses to the
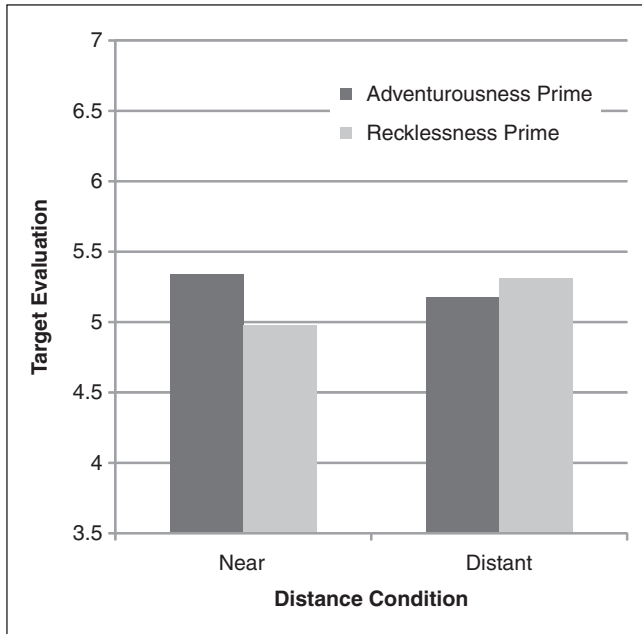
Figure 1. Target evaluation in Study 1 as a function of physical distance from target and type of semantic prime
Scale ranged from 1 to 7.

four items ($\alpha = .59$). Participants' also responded to the following 7-point scales: "In general, how would you evaluate skydiving?" and "How do you generally feel about skydiving?" Responses were averaged together to form a composite index of participants' general attitude toward skydiving ($r = .78$), with higher numbers indicating a more positive attitude. Finally, to verify that participants in the physically near and distant conditions did not differ in the amount of cognitive effort they put into thinking about the target, we included a 7-point scale to measure effortful processing ("Thinking back about the picture you just saw, how much effort did you put into evaluating the person in the picture?"; higher numbers indicated more cognitive effort).

Results and Discussion

We submitted participants' evaluation score to a 2 (physical distance: near versus distant) × 2 (semantic priming: adventurousness vs. recklessness) between-participants ANOVA.[2] The main effect of physical distance was $F < 1$, the main effect of semantic priming was $F < 1$, and the interaction effect was $F(1, 118) = 4.11$, $p < .05$ (see Figure 1). As predicted, participants in the physically near condition primed with adventurousness evaluated the target to be more positive ($M = 5.34$, $SD = 0.68$) than participants primed with recklessness ($M = 4.98$, $SD = 0.68$), $t(58) = 2.00$, $p = .05$, $d = 0.53$, whereas participants in the physically distant condition failed to evidence any semantic priming effect ($M = 5.18$, $SD = 0.74$ vs. $M = 5.31$, $SD = 0.50$, $t < 1$, $d = 0.21$).[3]

Although participants in the four conditions did not differ in their general attitude toward skydiving (all Fs < 1), the relationship between participants' target evaluation and general attitude toward skydiving was positive and reliable for those in the physically distant condition (Pearson's $r = .26$, $n = 62$, $p < .05$) but not significant for those in the physically near condition ($r = .13$, $n = 60$, $p = .32$), although the correlations in the two conditions were not significantly different from each other ($z < 1$).[4]

Finally, we wanted to verify that participants in the near and distant conditions did not differ in the degree of cognitive effort that they exerted during the target evaluation. Results revealed that participants in the near ($M = 3.67$, $SD = 1.17$) and distant (3.84, $SD = 1.45$) conditions did not report any differences in cognitive effort about the target ($t < 1$, $d = 0.13$). The predicted interaction term reported above did not considerably change after controlling for self-reported cognitive effort, $F(1, 117) = 3.41$, $p = .07$.

As expected, the results of the present study demonstrated that individuals' impressions of a psychologically close target were in line with the constructs made temporarily accessible by semantic primes. Conversely, as individuals formed impressions of psychologically distant targets, these same semantic primes did not significantly affect their judgment.

Study 2

In Study 2, we sought to ensure that the distance effect on semantic priming was not uniquely a function of the operationalization of psychological distance that was used in Study 1. Previous research suggests that high probability events are experienced as more close than low probability events (see, e.g., Todorov, Goren, & Trope, 2007), and further studies have shown that an increased probability of experiencing an event produces more concrete, lower level mental representations. For example, participants in one set of studies were less successful at abstracting visual information, but more successful at locating specific details within visual stimuli, when a task was associated with a low (vs. high) probability context (Wakslak et al., 2006). Consequently, in Study 2, we attempted to replicate the previous study's findings using a form of psychological distance rooted in an event's probability of occurrence.

Method

A total of 74 University of Chicago students and employees (35 female; $M = 22$ years old) were each given $2 in return for responding to a brief survey, which ostensibly presented two unrelated tasks being piloted for future research. The design was the same as in Study 1, except that in the paragraph that preceded the picture we explained that according to the website where the picture was obtained there was a "95% chance" (high probability condition) or "5% chance"

(low probability condition) that the target person would sky-dive again that same day because of weather conditions. Directly above the picture was a probability statement of "95% Chance it Happens Again" or "5% Chance it Happens Again." This served as our manipulation of psychological distance (see, e.g., Todorov et al., 2007). We attributed the probability that the person would skydive again that same day to weather conditions to eliminate a positive or negative dispositional inference being drawn about the target as a function of his willingness to skydive again.

Participants in this study responded to the first four evaluation items described in the method section of Study 1 as well as another item ("How positively do you believe that other people participating in this experiment will rate this person?"). A composite was created by reverse coding the third and fourth evaluation items and averaging participants' responses to the five items (α = .69). Participants also responded to the following 7-point scales: "How would you evaluate skydiving?" and "How do you feel about skydiving?" Responses were averaged together to form a composite index of participants' general attitude toward skydiving (r = .77), with higher numbers indicating a more positive attitude.[5] Finally, to verify that participants in the low and high probability conditions did not differ in the amount of cognitive effort they put into thinking about the target, we included a 7-point scale to measure effortful processing ("Thinking back about the picture you just saw, how much effort did you put into thinking about it?"; higher numbers indicated more cognitive effort).

Results and Discussion

We submitted participants' evaluation score to a 2 (probability: high versus low) × 2 (semantic priming: adventurousness vs. recklessness) between-participants ANOVA.[6] The main effect of probability condition was $F < 1$, the main effect of semantic priming was $F(1, 70) = 1.23$, $p = .27$, and the interaction effect was $F(1, 70) = 5.83$, $p < .05$ (see Figure 2). As predicted, participants in the probabilistically high condition primed with the concept of adventurousness evaluated the target to be more positive ($M = 5.17$, $SD = 0.71$) than participants primed with the concept of recklessness ($M = 4.57$, $SD = 0.71$), $t(36) = 2.49$, $p < .05$, $d = 0.83$, whereas participants in the probabilistically low condition failed to evidence any semantic priming effect ($M = 4.79$, $SD = 0.76$ vs. $M = 5.01$, $SD = 0.68$, $t < 1$, $d = 0.32$).

Furthermore, although participants in the four conditions did not differ in their general attitude toward skydiving (all Fs < 1), the relationship between participants' target evaluation and general attitude toward skydiving was positive and significant for those in the probabilistically low condition (Pearson's $r = .39$, $n = 35$, $p < .05$) but negligible for those in the probabilistically high condition ($r = .07$, $n = 38$, $p = .66$), although the difference between the conditions failed to reach significance ($z = 1.40$, $p = .16$).[7]
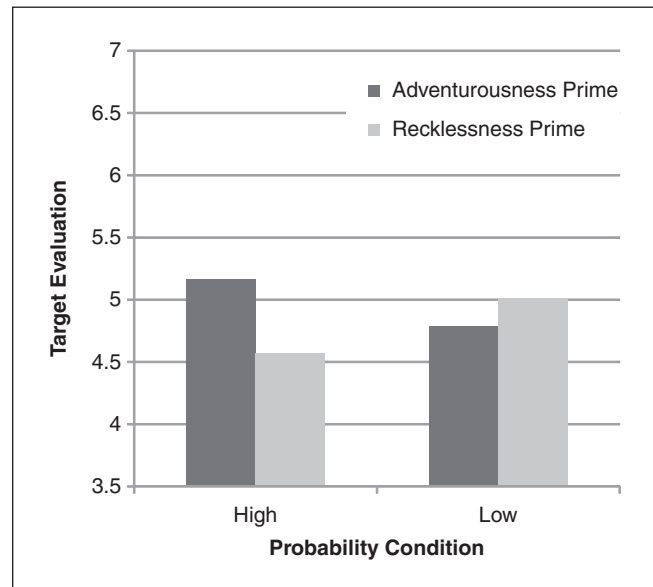

Figure 2. Target evaluation in Study 2 as a function of probability of target behavior and type of semantic prime
Scale ranged from 1 to 7

Finally, results revealed that participants in the probabilistically low ($M = 3.64$, $SD = 1.57$) and high (3.87, $SD = 1.47$) conditions did not report any differences in cognitive effort about the target ($t < 1$, $d = 0.15$). As expected, the interaction term reported above remained significant after controlling for self-reported cognitive effort, $F(1, 69) = 4.46$, $p < .05$.

Study 3

Our focus in Studies 1 and 2 was on the usage of semantic primes when forming impressions of psychologically near targets. In Study 3, we explicitly turn our attention to the type of information individuals will rely on when forming impressions of psychologically remote targets. Our assumption in the previous studies was that people encountering a psychologically remote target would think about the target as a class of people who engage in the respective behavior and thus relate the target's behavior to their general attitudes about the behavior. That is, although participants viewed a single person engaging in a behavior, they were expected to relate their general attitude to the encountered behavior and use this as the basis of their evaluation of the particular distant target in question. To get at this idea, we measured participants' general attitudes toward the depicted behavior (skydiving) and found that this correlated with participants' evaluations of the distant, but not near, targets. However, the correlations for each experimental condition in Studies 1 and 2 were not significantly different from each other. Consequently, the results are only suggestive at this point.

One methodological limitation of the previous studies, however, is that our general attitude measures came after

participants were exposed to the semantic prime and specific target. Consequently, it is probable that our general attitude measure was tainted. For example, the primes may have activated constructs that facilitated or interfered with participants' retrieval of their general attitude. In Study 3, we therefore take a different approach than in Studies 1 and 2 to assess participants' general attitude. Specifically, we first ask participants to spontaneously generate general characteristics that come to mind when they imagine a class of people engaging in an ambiguous behavior and then ask them to evaluate a target person engaging in the same ambiguous behavior in a physically close or far away location. We expect participants to relate the general characteristics that they generate to their evaluations of a distant, but not near, target.

Method

In exchange for a slice of pizza, 30 University of Texas at Austin students responded to a brief survey, which ostensibly involved two tasks being piloted for future research. The first task was modeled after Maio, Bell, and Esses's (1996) open-ended attitude measure. To assess participants' general attitudes, participants were asked to list characteristics that "generally describes the kind of person who would ride a high-speed motorbike." Up to seven responses could be listed (e.g., crazy, adventurous). After indicating their responses, participants were asked to go back and assign a valence to each of the responses. Valences could range from –3 (*negative impression*) to +3 (*positive impression*). Five participants (2 in the near and 3 in the distant conditions) failed to assign a valence code to their responses and thus could not be included in the analyses.

The second task contained our social evaluation stimuli. Participants saw a black-and-white picture of a man riding a motorbike (see the appendix). The picture was intended to be ambiguous with respect to its evaluative implications, as the target person may be perceived as either adventurous or reckless. A brief paragraph preceded the picture, explaining that according to the website where the picture was obtained the person was a tourist who decided to ride a high-speed motorbike "just a few miles from here in Austin, TX" (physically near condition) or "several miles from here in San Bernardino, CA" (physically distant condition). This served as our manipulation of psychological distance (see, e.g., Henderson et al., 2006). Participants were instructed to pay careful attention to the content of the picture because they would be asked questions about it.

Evaluations of the target were assessed on three 7-point scales ("How much do you think that people, in general, like the person in the previous picture?" "To what extent do you agree that the person in the picture is an unlikable person?" and "To what extent do you agree that this is the kind of person that people avoid spending time with?"). A composite was created by reverse coding the second and third evaluation items and averaging participants' responses to the three items

($\alpha = .46$). Also, to verify that participants in the physically near and distant conditions did not differ in the amount of cognitive effort they put into thinking about the target, we included three 7-point scales to measure effortful processing ("Thinking back about the picture you just saw, how much effort did you put into evaluating the person in the picture?" "How hard did you think about the person in the picture when making your evaluations?" and "How much did you concentrate on the person in the picture when making your evaluations?" Responses were averaged together to form a composite ($\alpha = .90$), where higher numbers indicated more cognitive effort.

Results and Discussion

For data analyses, a composite index of participants' general attitude was created by averaging the valence markers that participants assigned to each of the self-generated characteristics. Higher numbers indicated a more positive impression of the kind of person who would ride a high-speed motorbike. Participants' general attitude, experimental condition, and the product of these two variables were entered as predictors of their evaluation of the target. Results revealed no effect of distance ($\beta = .06$, $t < 1$, $d = 0.15$) and a significant effect of participants' general attitude, $\beta = .49$, $t(21) = 3.15$, $p < .01$, $d = 1.37$, which was qualified by a significant interaction, $\beta = .44$, $t(21) = 2.67$, $p < .05$, $d = 1.17$. As shown in Figure 3, participants' general attitude toward riding a motorbike was positively related to their evaluation of the target for those in the physically distant condition but completely unrelated for those in the physically near condition.[8] Presumably, because participants in the near condition construed the target as an individual rather than as an instance of a general class of people who ride motorbikes, their evaluation of the near target was influenced by the idiosyncratic objects and stimuli that they were exposed to in their environment (which we as experimenters did not control) rather than any general attitude they possessed about the class of people who ride motorbikes.

Finally, results revealed that participants in the near ($M = 4.33$, $SD = 1.01$) and distant ($M = 3.69$, $SD = 1.42$) conditions did not report any significant differences in cognitive effort about the target, $t(23) = 1.31$, $p = .20$, $d = 0.57$, and the interaction of participants' general attitude and experimental condition remained a significant predictor of their evaluation of the target after controlling for self-reported cognitive effort, $\beta = .44$, $t(20) = 2.63$, $p < .05$, $d = 1.18$.

General Discussion

Psychological distance appears to influence the extent to which people rely on accessible category constructs that are triggered by extraneous sources when forming evaluations of others. For psychologically close targets, people's judgments of others are in line with the concepts that are activated by primes in their environment. For psychologically remote
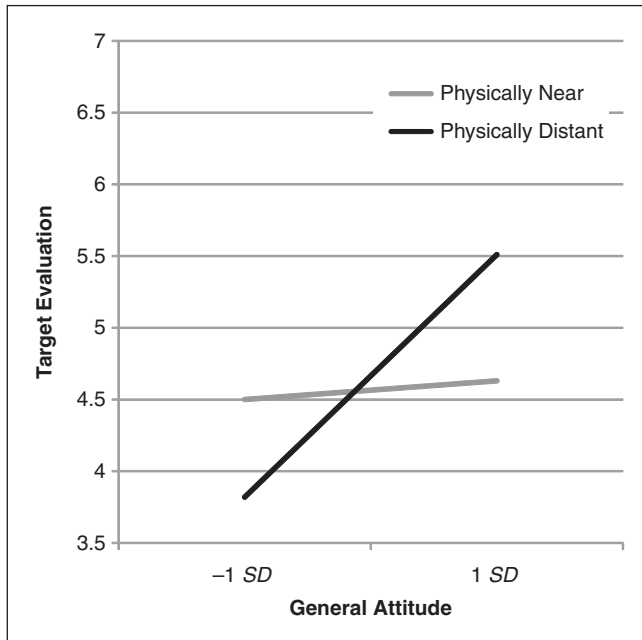
Figure 3. Target evaluation in Study 3 as a function of physical distance from target and general attitude toward motorbikers (at +1 *SD* and −1 *SD* of the mean of the general attitude index) Scale ranged from 1 to 7.

targets, people's judgments of others appear to more closely align with the self-generated attitudes that result from the traits that individuals associate with a class of people who engage in the respective behavior. This latter finding is particularly important because it highlights that it is not the case that individuals are more prone to rely on trait concepts for psychologically close or remote targets but rather that they are more prone to be influenced by externally triggered trait concepts for close targets and personally generated trait concepts for distant targets (see, e.g., Rim, Uleman, & Trope, 2009).

The present research has theoretical relevance because it suggests that in addition to attempting to correct for the influence of a prime that is judged as inappropriate or undesirable by contrasting one's judgments away from the prime (e.g., Martin, 1986), individuals may simply negate the influence of a prime altogether when forming judgments of a target that they relate to a more general group for which they already have an existing internally generated reaction. That is, this lack of usage of semantic information when judging distant targets presumably does not occur because people strive for impressions that are unbiased but rather because psychologically distant targets are construed more broadly as members of a class of people. As individuals typically possess schemas and general attitudes about classes of people, those judging distant others have less need to rely on constructs made momentarily accessible by semantic primes and therefore do not show the assimilation effects that one would otherwise expect. Of course, an interesting question is what happens when individuals are

presented with a target who belongs to a class of people who engage in a behavior that they are unfamiliar with (e.g., freegans: people who eat out of dumpsters to prove a political point) and less likely to have a general attitude about. In such cases, psychological distance may not negate the impact of semantic primes when forming judgments of distant targets, a possibility we leave to future research to explore.

Cognitive Effort

Could the described results be because of differences in effortful processing between the experimental groups? Specifically, is it possible that participants in the current studies who evaluated a psychologically distant rather than near target felt the target to be less self-relevant and therefore engaged in less effortful processing? More important, could such a difference in effortful processing (if it even occurred) explain the results obtained? Although priming research has shown that assimilation to subtle semantic primes tends to be weaker when individuals' engage in less information processing (Petty, DeMarree, Briñol, Horcajo, & Strathman, 2008), it is not clear why participants in the psychologically distant conditions would have necessarily felt the target to be less relevant and worthy of less cognitive effort. Indeed, such an interpretation is not consistent with the lack of differences in cognitive effort that participants in the experimental groups reported exerting when evaluating targets. Moreover, in general, participants self-reported a low to moderate amount of cognitive effort across the studies, suggesting that social desirability concerns were not operating in preventing participants in the psychologically distant conditions from reporting less effort than participants in the psychologically near conditions. We suspect that any differences in effortful processing between experimental groups are unlikely to account for any differences observed across the studies (for a related discussion, see Henderson, Trope, & Carnevale, 2006; Smith & Trope, 2006).

Global–Local Processing

A second potential concern is a recent finding relating global (vs. local) processing to increased assimilation of semantic primes. Specifically, Förster, Liberman, and Kuschel (2008, Study 1) primed participants with aggression-related or control words and had them rate the aggressiveness of an ambiguously aggressive target. Before the priming, Förster et al. induced either global or local processing. They found higher aggressiveness ratings (i.e., more assimilation) after global processing than after local processing. On the surface this might seem contradictory to the current report, given that global processing has been linked with a sense of psychological distance and local processing with a sense of psychological proximity (Förster et al., 2004; Liberman & Förster, 2008). However, an important methodological difference between the Förster et al. studies and our studies might account for these different patterns of findings.

More specifically, Förster et al. manipulated global–local processing before exposing participants to the aggression prime, thus potentially producing differential encoding of the prime, whereas our studies manipulated psychological distance after exposure to the prime. That is, by introducing a global rather than local style of processing before a prime, Förster et al. may have instantiated a more general way of thinking about the prime (e.g., construing the prime as a broad category rather than as a specific exemplar). Prior research has shown that priming individuals with categories (e.g., professor) results in assimilation, whereas priming individuals with exemplars (e.g., Einstein) results in contrast (e.g., Dijksterhuis et al., 1998; Kawakami, Dovidio, & Dijksterhuis, 2003; Nelson & Norton, 2005; but also see LeBoeuf & Estes, 2004).

We speculate that increased distance and global processing had the same effect in both sets of studies: Individuals were more likely to construe stimuli in terms of a general class rather than a specific instantiation. When distance or global processing is introduced before a prime it presumably affects how broadly individuals think about the semantic prime (category or exemplar), but when it is introduced after a prime, it presumably affects how broadly individuals think about the target of judgment (member of category or specific target). These different effects, in turn, have opposite downstream consequences for participants' evaluative judgments. Future studies should explore how the timing or order of exposure of semantic primes relative to information that conveys psychological distance or globality of processing affects priming effects on impression formation.

Beyond Semantic Primes

In the current research, we specifically focused on semantic primes as a particular example of momentarily accessible information that can be triggered externally and influence people's judgments. Although our focus was specifically on semantic primes, momentarily accessible information that is externally triggered can include other types of primes, including primes that activate goals (e.g., Laran, Janiszewski, & Cunha, 2008) or cognitive procedures (e.g., Henderson, de Liver, & Gollwitzer, 2008). Moreover, other types of factors that have little to do with conceptual priming, such as emotions (Hinojosa, Carretié, Méndez-Bértolo, Míguez, & Pozo, 2009; Schwarz & Clore, 1983) can temporarily influence people's judgments and behavior. Future research should explicitly examine whether other types of influences beside semantic primes have greater impact on social evaluations of psychologically close targets.

Coda

The current findings implicate psychological distance as one factor that determines how people will use externally provided information when forming judgments of others.

Specifically, the main implications of the current studies is that when others are engaging in acts that are ambiguous (e.g., Hurricane Katrina victims viewed on the media taking food from supermarkets perceived as either looting or surviving), temporarily accessible constructs triggered by external cues will usually fail to have an influence on how people evaluate others when they are psychologically distant rather than close (e.g., viewed on the news from a distant rather than close location). Indeed, people are frequently called on to form judgments and behave in response to others while in the presence of mundane objects (e.g., Kay, Wheeler, Bargh, & Ross, 2004), and the current research suggests that increases in psychological distance from others will lessen the impact such objects will have on evaluations relative to the impact of one's general attitudes.

Appendix
Stimulus Used in Studies 1 and 2

Stimulus Used in Study 3

Acknowledgments

Declaration of Conflicting Interests

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Notes

1. In some cases, the target can be the self-concept.
2. Four participants who indicated skydiving in the past and two participants who were outliers (more than 1.5 times the interquartile range [IQR] below the first quartile or above the third quartile) were removed from the analyses. Based on feedback from our research assistants, these outliers occurred because participants failed to take the task seriously (e.g., not reading the instructions, circling the same responses for all questions at such a fast pace to suggest they did not read the questions).
3. Given the unexpectedly low reliability of our target evaluation composite in Study 1, we analyzed the same data item by item. With the exception of the first item, which evidenced a main effect of prime (more positive evaluation of target after adventurousness vs. recklessness prime), the itemwise analyses revealed the same pattern of findings as the composite index.
4. For those assigned to the reckless priming condition, there was no relationship for those in the physically near condition ($r = -.03$, $n = 25$, $p = .88$) and a positive relationship for those in the physically distant condition ($r = .22$, $n = 31$, $p = .24$). For those assigned to the adventurous priming condition, there was a positive relationship for those in the near ($r = .25$, $n = 35$, $p = .16$) and distant ($r = .32$, $n = 31$, $p = .08$) conditions. Correlations for the near and distant conditions, however, were not significantly different from each other in either the reckless ($Z < 1$) or adventurous ($Z < 1$) priming conditions.
5. One participant failed to answer these questions.
6. One participant who indicated skydiving in the past and one participant who was an outlier (more than 1.5 times the IQR range below the first quartile) were removed from the analyses. Based on feedback from our research assistants, this outlier occurred because the participant failed to take the task seriously.
7. For those assigned to the reckless priming condition, there was no relationship for those in the physically near condition ($r = -.09$, $n = 19$, $p = .73$) and a positive relationship for those in the physically distant condition ($r = .33$, $n = 17$, $p = .19$). For those assigned to the adventurous priming condition, there was a positive relationship for those in the near ($r = .20$, $n = 19$, $p = .41$) and distant ($r = .42$, $n = 18$, $p = .08$) conditions. However, the correlations within the near and distant conditions were not significantly different from each other in either the reckless or adventurous prime conditions ($Z = 1.18$, $p = .24$ and $Z = .68$, $p = .50$, respectively).
8. Given the unexpectedly low reliability of our target evaluation composite in Study 3, we analyzed the same data item by item. The itemwise analyses revealed the same pattern of findings as the composite index.

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