Journal of Personality and Social Psychology
2006, Vol. 91, No. 5, 845–856

0022-3514/06/$12.00 DOI: 10.1037/0022-3514.91.5.845

Transcending the "Here": The Effect of Spatial Distance on Social Judgment

Marlone D. Henderson, Kentaro Fujita, and Yaacov Trope
New York University

Nira Liberman
Tel Aviv University

Construal level theory proposes that increasing the reported spatial distance of events produces judgments that reflect abstract, schematic representations of the events. Across 4 experiments, the authors examined the impact of spatial distance on construal-dependent social judgments. Participants structured behavior into fewer, broader units (Study 1) and increasingly attributed behavior to enduring dispositions rather than situational constraints (Study 2) when the behavior was spatially distant rather than near. Participants reported that typical events were more likely and atypical events less likely when events were more spatially distant (Study 3). They were also less likely to extrapolate from specific cases that deviated from general trends when making predictions about more spatially distant events (Study 4). Implications for social judgment are discussed.

Keywords: construal, spatial distance, psychological distance, extrapolation, unitization

How do individuals think and make judgments about events that take place in other neighborhoods, towns, states, continents, or planets? In other words, how does the perceived spatial distance of events from one's immediate physical surrounding affect judgments and decisions about those events? Individuals frequently think about and make decisions regarding social events that are spatially near or distant. For example, a parent may make decisions about a child who is attending a nearby or faraway university. The present article examines how people's responses to the same social event can change depending on whether it is believed to occur at a spatially near or distant location.

A large body of work suggests that individuals' understanding of spatially near versus distant objects is constructed through different sensory modalities and representational systems (e.g., McNamara, 1986; Tversky, 2003, 2005). In fact, spatial cognition research suggests that different areas of the brain might even be recruited to represent the same object at near and distant locations (e.g., Berti & Fassinetti, 2000; Halligan, Fink, Marshall, & Vallar, 2003). Representations of spatially near objects are dependent on the axis of the body (head–feet, front–back, left–right) and the three-dimensional space surrounding the body, whereas representations of spatially distant objects have been associated with mental constructions that are more global and schematized (e.g., Bryant & Tversky, 1999; Tversky, 2003). In representing spatially distant objects, individuals circumvent the need to encode all fine-grain metric values by relying instead on categorical information, which can lead to systematic biases and distortions in spatial distance judgments (e.g., Huttenlocher, Hedges, & Duncan, 1991; McNamara, 1986; Tversky, 1981).

Despite the amount of work on spatial distance and mental representations, the question of how representations of near and distant events might affect social judgment remains largely unexplored. The present studies investigate the consequences of spatial distance for social judgment within the framework of construal level theory (CLT; Trope & Liberman, 2003). According to CLT, space is a dimension of psychological distance, along with time, social distance, and hypotheticality. Psychological distance is posited to affect the way individuals represent information such that psychologically distant events are represented more by their essential, general, and prototypical features (high-level construals) and psychologically near events are represented in terms of their incidental, specific, and unique features (low-level construals). CLT assumes that an association forms between psychological distance and level of construal and that this association is then overgeneralized, causing people to continue to form high-level construals for distant events and low-level construals for near events, even when information about events is completely known and reliable.

Much of the research in support of CLT has focused on temporal distance from events (see Liberman, Trope, & Stephan, in press; Trope & Liberman, 2003) and has examined how temporal distance affects construal and construal-mediated choice and prediction. Temporal distance has been shown to affect a wide range of psychological phenomena, from person perception to self-regulation to interpersonal interactions (e.g., see Gilovich & Med-

Marlone D. Henderson, Kentaro Fujita, and Yaacov Trope, Department of Psychology, New York University, Nira Liberman, Department of Psychology, Tel Aviv University, Tel Aviv, Israel.

This research was supported by a National Science Foundation Graduate Student Fellowship to Marlone D. Henderson, a National Science Foundation Graduate Student Fellowship to Kentaro Fujita, National Institute of Mental Health Grant 1R01MH59030-01A1 to Yaacov Trope, and United States–Israel Binational Science Foundation Grant 2001057 to Nira Liberman and Yaacov Trope. We thank Ryan D. Coganow and Celia Gonzalez for their assistance with data collection. Special thanks also go to Ido Liviatan and Cheryl J. Wakslak for extensive discussion of ideas.

Correspondence concerning this article should be addressed to Marlone D. Henderson, who is now at the Department of Psychology, University of Chicago, Chicago, IL 60637 or Kentaro Fujita, who is now at the Department of Psychology, Ohio State University, Columbus, OH 43210. E-mail: mhenderson@uchicago.edu or fujita.5@osu.edu

vec, 1995; Henderson, Trope, & Carnevale, in press; Keren & Roelofsma, 1995; Ross, 1989; Ross & Wilson, 2002; Sherman, Zehner, Johnson, & Hirt, 1983; Trope & Liberman, 2003; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000; Zauberman & Lynch, 2005). In particular, research has consistently found that judgments and decisions for temporally distant rather than near events are determined more by higher level, schematic construals of events. For example, Nussbaum, Trope, and Liberman (2003) found that perceivers placed more weight on general, decontextualized characteristics (global trait concepts) and less weight on situation-specific states when predicting others' behavior in a distant rather than a near future situation. In another set of studies, Liberman, Sagristano, and Trope (2002) found that individuals were more likely to expect distant rather than near future events to resemble the ideal case or prototype of an event's category. For example, in one study they asked participants to list the events they expected to experience during either a good or bad day in either the near or distant future and had them rate the valence of each event. Liberman et al. found that the more distant future good and bad days were more uniformly positive and negative, respectively.

CLT theorists posit that the same general principles that apply to temporal distance should also hold for other psychological distance dimensions, including spatial distance (Liberman et al., in press). Recently, Fujita, Henderson, Eng, Trope, and Liberman (2006) have extended research on psychological distance and construal to issues of spatial distance and mental representation of social events and objects. Specifically, they demonstrated that increasing the reported spatial distance of social events led individuals to represent the events more abstractly and globally. For example, in one study, they found that participants who imagined a spatially distant rather than near event preferred to identify actions associated with the event in terms of superordinate end states rather than subordinate means. In another study, they found that participants used more abstract language to describe an event that purportedly took place at a spatially distant rather than near location, suggesting a higher level of construal of the event (Semin & Fiedler, 1988).

Although Fujita, Henderson, et al.'s (2006) findings offer support for CLT's broader notion of psychological distance, whereby different distance dimensions are interrelated and similarly affect mental representation, the implications of spatial distance for social judgment and decision-making have yet to be explored. That is, their studies demonstrated the effects of spatial distance on level of construal but did not examine the implications of this effect for social judgment and prediction. In the present article, we extend the previous work in that direction. We also seek to extend CLT to novel paradigms of construal, prediction, and judgment that have not been examined with other dimensions of distance (Studies 1, 3, and 4).

Our first study examined the effect of spatial distance on construal by using a construal task that has never been examined within the framework of CLT, namely, segmentation of continuous action (Newtson, 1973). If judgments about spatially distant events are based on more schematic, higher level construals of events, then continuous behavior should be segmented into fewer, broader action units (Study 1). In Studies 2–4 we examined the effect of spatial distance on judgment and prediction in social situations in which a general, global view of the prediction problem suggests a different prediction than a more local, specific analysis of the same problem. We expected that when predictions pertained to more spatially distant locations, they would derive more from the high-level, global aspects of the problem and less from the low-level, local characteristics of the problem. In Study 2 we examined whether predictions of another's behavior are based more on personal dispositions (e.g., attitudes) than on specific situational constraints when behavior purportedly occurs in a more distant location, an effect that has been demonstrated already with future temporal distance (Nussbaum et al., 2003). In Study 3 we treated the central tendency of a distribution as a prototypical, high-level feature, and a deviant case as a low-level feature. Accordingly, in this study we examined whether predictions about spatially distant outcomes would be more confident when they pertain to a typical event and less confident when they pertain to an atypical event. In Study 4 we viewed the general trend of a series of outcomes as a high-level construal of the prediction situation and a local deviation from the trend as a low-level construal of the same prediction situation. We predicted that extrapolations of a graph would be more in accord with the general trend and less in accord with the local deviation when they pertained to more spatially distant situations.

Study 1: Spatial Distance and Unitization Judgments

Schemas represent knowledge about the prototypical features or aspects of objects and events (Rosch, 1975; Rosch & Llyod, 1978; Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). Research has shown that schemas allow individuals to organize or "chunk" information about objects and events into consistent, meaningful, discernible units (Chase & Simon, 1973; Reitman, 1976). One domain that such researchers have been found to be important is the understanding of behavior (Cohen & Ebbesen, 1979; Lassiter, Geers, Apple, & Beers, 2000; Massad, Hubbard, & Newtson, 1979; Newtson, 1973; Newtson & Engquist, 1976; Wilder, 1978a; 1978b). Although behavior is continuous, perceivers must discern the relevant parts of action from the irrelevant to integrate the behavioral information with previously acquired knowledge.

Perceivers with an activated schema have been found to adopt a more selective unitization strategy (dividing a behavior sequence into fewer meaningful actions) than perceivers without an activated schema (Cohen & Ebbesen, 1979; Markus, Smith, & Moreland, 1985). Markus et al. (1985), for example, asked individuals who had well-developed schemas in the domain of masculinity (masculine schematics) and individuals who lacked such schemas (masculine aschematic) to view two films that were either relevant or irrelevant to the domain of masculinity. They found that masculine schematics consistently divided the schema-relevant film into fewer, larger units than did masculine aschematic; no differences emerged for the schema-irrelevant film. In the current study, we tested the hypothesis that as spatial distance from an event is increased, individuals would form a high-level construal of actions that occurred during the event, resulting in fewer, broader units.

Method

Participants. A sample of 86 individuals (54 women, 32 men) at New York University (NYU) participated in the study for $5 or in partial fulfillment of a course requirement. They were randomly assigned to condition, with equal numbers per condition. We included the sex of the participant as a factor for all of the analyses reported in this article and

controlled for sex in all analyses; the pattern of results was unchanged in all cases. Thus, the sex of participants is not discussed further.

Materials and procedures. Participants were tested in groups of 1 to 8 in a study ostensibly about reactions to a cartoon video. All instructions for the study took place on the computer. Participants were asked to imagine a scenario in which they secured a new position in a film production company. As part of their job, they were instructed to view a cartoon video that was currently in production. The cartoon was presented as a rough sketch of an event that took place during a camping trip for young teenagers. Participants learned that the principal characters in the video were drawn not as people but as shapes. They were told to imagine that the film depicted the action of three teenagers around a cabin at a well-known summer camp. The summer camp at which the events in the film took place was described as located "on the East Coast, about 3 miles from here" (spatially near condition) or "on the West Coast, about 3,000 miles from here" (spatially distant condition).

Next, participants in both conditions were introduced to the unitization procedure. During a unitization procedure, participants typically view a film that contains a sequence of actions, and they are requested to push a button each time a meaningful unit of behavior occurs (e.g., see Newtson, 1973). The unitization task, which has been used in a variety of unitizing studies (e.g., Lassiter & Stone, 1984; Lassiter, Stone, & Rogers, 1988; Newtson, 1973), included the following instructions:

> The assignment your boss has given you is to watch the video of this East [West] Coast camping trip carefully, and to segment what you see into actions that seem natural and meaningful to you. While watching this cartoon video, you've been instructed to hit the space bar when, in your judgment, one meaningful action ends and another begins. There is no right or wrong way to do this; it's up to you to decide whether or not an action seems natural and meaningful to you.

Participants in all conditions then viewed and unitized a silent cartoon. Specifically, we showed participants the animated film developed by Heider and Simmel (1944).[1] This film depicts two triangles and a circle that move against and around each other. Virtually all people (except for individuals with autism and Asperger's syndrome) create a social plot for the stimuli in the film on the basis of movement of the shapes (Heider & Simmel, 1944; Klin, 2000). The key that participants pressed to mark a meaningful unit of action activated a computer program that recorded the number of actions identified (unitization rate). No instructions were given regarding the expected or appropriate size of participants' units. All participants appeared able to perform the task. The film was shown on the computer and lasted 76 s.

Heider and Simmel's (1944) video was ideal for our purpose in this study because it depicts symbolic representations of behavior that can easily be framed as occurring in either a geographically close or remote location. More important, Heider and Simmel's video contains the basic elements required for a unitization task, namely, streams of action, without the confound of potential differences in perceived similarity or group affiliation with the "social agents" performing the action.

Following the film presentation, participants completed a series of questions that addressed other potential confounds. We measured participants' difficulty in imagining the camping trip event using the following questions: "While watching the video, how difficult was it for you to picture it as a real life event?" "How easy was it to visualize the cartoon as a real life event?" (reverse scored). The answer scales ranged from 1 (*not very difficult*) to 7 (*very difficult*) and from 1 (*not very easy*) to 7 (*very easy*), respectively. The responses were averaged to form a single index of difficulty ($r = .83$). We also measured participants' familiarity with summer camp in the specified spatial location ("How familiar are you with east [west] coast summer camps?") and knowledge about summer camps in general ("How knowledgeable are you of summer camps in general?"). The answer scales ranged from 1 (*not very familiar*) to 7 (*very familiar*) and from 1 (*not very knowledgeable*) to 7 (*very knowledgeable*), respectively. Finally, participants were debriefed and dismissed.

Results and Discussion

We analyzed the mean number of key presses (i.e., the number of units into which the film was segmented). A smaller number of units indicates larger units. As predicted, participants who imagined the same event as spatially distant versus spatially near consistently divided the film into fewer units (10.09 vs. 14.41, Mann–Whitney $U = 694.00$, $Z = 2.00$, $p < .05$).[2] This effect was not due to differences in difficulty of imagining, familiarity with, or knowledge about the social event. There was no significant difference between the two distance conditions in ease of imagining the event or in the reported amount of knowledge about it. Participants reported being more familiar with the social event in the spatially near location ($M = 2.81$) than in the spatially distant location ($M = 1.86$), $t(84) = 2.16$, $p < .05$. None of these variables, however, were significantly correlated with the number of segments (all rs ≤ 1.0). Moreover, after adjusting for each of these as covariates, the results reported above remained significant, suggesting that they do not mediate the effect of spatial distance on social judgment.

The results from this study offer the first evidence that psychological distance in general, and spatial distance in particular, affects the way people segment a stream of behavior. Increased spatial distance from an event leads to larger chunks of behavior during the event. As individuals construct broader conceptualizations of others' behavior, they should be more likely to abstract the overarching, general purpose behind the actions of spatially distant others rather than simply identifying their behavior as discrete action (see Kudadjie-Gyamfi & Rachlin, 1995; Rachlin, 1995; see also Vallacher & Wegner, 1987). That is, forming larger behavioral chunks should facilitate construal in terms of looking for enduring, global dispositions and omitting more specific situational factors. One implication from these results then is that individuals will be more prone to abstract dispositions from actions of more spatially distant others. The next study tests this hypothesis.

Study 2: Spatial Distance and the Correspondence Bias

In this study, we examined whether correspondent inferences—the tendency to make predictions about targets that are consistent with personal attitudes expressed in situationally constrained behavior—are stronger when people are drawing inferences from situationally constrained behavior that occurs in more spatially

[1] We thank Sara Kiesler for making this video available on the Internet.

[2] A t test revealed the predicted difference between participants in the spatially near and spatially distant conditions, $t(84) = 2.45$, $p = .02$. However, as suggested by Markus, Smith, and Moreland (1985), a nonparametric statistic (based on the median) was used in reporting these results because the variance within the spatially near group was significantly larger than that within the spatially distant group. This difference in variance is consistent with the rest of our reasoning: Judgments about spatially distant events are based on more schematic, higher level construals of events, and thus participants with a spatially distant perspective are much more consistent in the type of units they produce.

distant locations. A considerable amount of person perception research has demonstrated a bias toward forming correspondent inferences (see Gilbert & Malone, 1995). In terms of CLT, this bias reflects a high-level construal of behavior in terms of abstract, decontextualized qualities rather than in terms of more concrete, situation-specific factors. Consistent with this framework, Nussbaum et al. (2003) demonstrated that the correspondence bias is stronger as the temporal distance from behavior is increased. The current study tested the hypothesis that increased spatial distance will also produce a greater correspondence bias. To test this hypothesis, we used a variation of the Jones and Harris (1967) attitude attribution paradigm. Participants read a situationally constrained or unconstrained essay arguing in favor of a controversial issue that was written by a spatially near or distant target. On the basis of this information, participants were asked to predict whether the writer would engage in behaviors that were congruent with the attitude expressed in the essay. These predictions served as a measure of correspondent attitude inferences. We hypothesized that situational constraints are more likely to attenuate correspondent attitude inferences about a spatially near writer than a spatially distant writer. The correspondence bias is thus more likely to be manifested when the reader believes the essay to be written in a distant location rather than a near location.

Method

Participants. A sample of 60 individuals (39 women, 21 men) at NYU participated in the study for $10. They were randomly assigned to condition, with equal numbers in each condition.

Materials and procedures. Participants were tested in groups of 1 to 8 in a purported study about essay reading. All instructions for this study and the remaining studies took place on paper. Participants read an essay arguing in favor of the institution of senior comprehensive exams at NYU, purportedly written by a NYU student for a writing class. They were told the writer was instructed either to write an essay that supported senior comprehensive examinations at NYU (constrained condition) or to express his or her view on senior comprehensive examinations at NYU (unconstrained condition). Half of the participants were told that the writer of the essay had written the essay while "in New York City, attending New York University's Washington Square campus" (spatially near condition). The other half were told the writer had written the essay while "in Italy, attending New York University's Study Abroad Program" (spatially distant condition).

After reading the essay, participants predicted the writer's attitude-related behaviors. The three behavior prediction questions were as follows: "While having a conversation with his or her friends, how likely is the writer (in Italy) to express views in favor of comprehensive examinations?" "How likely is the writer (in Italy) to express attitudes that favor comprehensive examinations if he or she were interviewed by NYU's student newspaper?" and "If students had a chance to vote on the issue, how likely is the writer (in Italy) to vote in favor of comprehensive examinations?" Participants responded on a 7-point scale, anchored at 1 (*not at all likely*) and 7 (*very likely*). We created an index of essay-consistent (correspondent) attitude inference by averaging each participant's responses to the three items ($\alpha = .83$).

As a check on the manipulation of situational constraints, participants answered the question "To what extent do you think the writer (in Italy) was forced to write about the view expressed in the essay?," rating it on a scale that ranged from 1 (*not at all forced*) to 7 (*completely forced*). Participants also answered the question "How convincing is the essay about instituting comprehensive examinations?," rating it on a scale that ranged from 1 (*not at all convincing*) to 7 (*extremely convincing*). Afterward, participants were debriefed and thanked for their participation in the study.

Results and Discussion

Manipulation checks. Participants' perceptions of situational constraints were analyzed using a 2 (spatial distance: near vs. distant) × 2 (situational constraint: unconstrained vs. constrained) between-participants analysis of variance (ANOVA). As expected, we found a significant main effect of situational constraints, $F(1, 56) = 10.19$, $p < .005$, indicating that participants perceived the instructions given to the writer as more forceful in the constrained condition than in the unconstrained condition (Ms = 5.00 vs. 3.70, respectively). Neither spatial distance as a main effect ($F < 1$) nor spatial distance in interaction with situational constraints, $F(1, 56) = 1.13$, $p = .29$, affected these perceptions. We also analyzed participants' perceptions of essay convincingness using a 2 (spatial distance) × 2 (situational constraint) between-participants ANOVA. Neither the main effects nor the interaction effect were significant (all Fs < 1).

Attitude inference. The index of participants' essay-consistent attitude inference was analyzed using a 2 (spatial distance: near vs. distant) × 2 (situational constraint: unconstrained vs. constrained) between-participants ANOVA. The results showed a main effect of situational constraint, $F(1, 56) = 9.05$, $p < .005$, with participants in the unconstrained condition making a stronger essay-consistent attitude inference ($M = 5.81$) than participants in the constrained condition ($M = 4.95$). Results also showed a main effect of spatial distance, $F(1, 56) = 3.84$, $p = .06$, with participants in the distant condition making a stronger essay-consistent attitude inference ($M = 5.66$) than participants in the near condition ($M = 5.10$). As expected, however, both of these main effects were qualified by the Spatial Distance × Situational Constraint interaction effect, $F(1, 56) = 4.15$, $p < .05$. As can be seen in Figure 1, specific comparisons revealed that there were no significant differences in the tendency to make essay-consistent attitude inferences among participants forming judgments about a spatially distant writer that was constrained ($M = 5.52$) versus unconstrained ($M = 5.80$), $t < 1$. It was only when participants formed

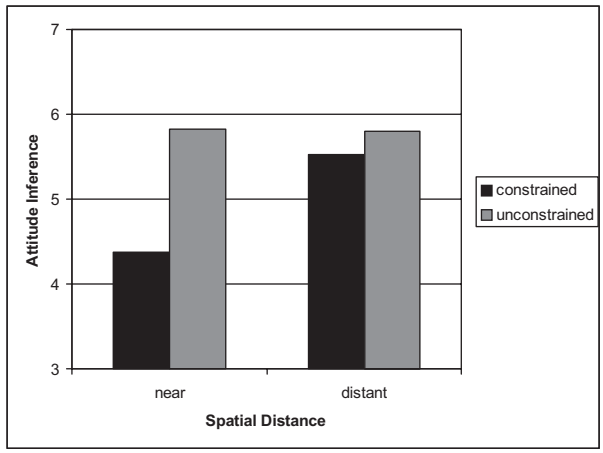

Figure 1. Essay-consistent attitude inference as a function of spatial distance and situational constraints (Study 2)

a judgment for a spatially near writer that they made a weaker essay-consistent attitude inference when the writer was constrained ($M = 4.38$) rather than unconstrained ($M = 5.82$), $t(28) = 3.11$, $p < .005$, $d = 1.76$. Furthermore, specific comparisons revealed that there were no significant differences in essay-consistent attitude inferences among participants who formed a judgment about an unconstrained writer who was spatially distant versus near ($t < 1$). In contrast, those forming judgments about constrained writers made essay-consistent attitude inferences to a greater degree when the writer was spatially distant rather than spatially near, $t(28) = 2.43$, $p = .02$, $d = .92$.

These results support the present predictions regarding the effect of spatial distance from behavior on the correspondence bias. The attitudes of an essay writer are relatively general and decontextualized constructs that are a part of a high-level construal of writing an essay, whereas situational constraints are relatively concrete and contextual features that are a part of a low-level construal of writing the essay. We therefore predicted that spatial distance from an essay writer would lead participants to see the content of the essay as diagnostic of the writer's attitude and give less weight to situational constraints on the essay writer. Supporting this prediction, the results show that participants were more likely to disregard the influence of situational constraints when drawing inferences about a spatially distant rather than near essay writer.

It is important to note that the spatially near and distant groups did not differ in their perceptions of the situational constraints placed on the writer or in their perceptions of the convincingness of the writer's essay, making it unlikely that spatial distance alters the fundamental perception of constrained behavior. Rather, we reason that the amount of spatial distance from a constrained target alters the extent to which people weigh such constraints when drawing an inference about the target. That is, the extent to which perceivers make correspondent inferences about a spatially close target should depend upon the amount of perceived constraint placed on the target's behavior, whereas the extent to which perceivers make such inferences about a spatially distant target should be independent of perceived constraint. This would be manifest in an interaction between perceived constraint and distance condition, in which the degree of perceived constraint predicts spatially near attitude inferences but not spatially distant attitude inferences.

Indeed, when we regressed participants' attitude inferences on perceived constraint and its interaction with distance condition, results revealed that the interaction between distance condition and constraint condition no longer significantly predicted participants' attitude inferences, whereas the interaction between perceived constraint and distance condition did so. Using simple slope analysis to illustrate the impact of perceived constraint on attitude inferences for the near and distant groups, we found that the attitude inferences that were made by participants in the distant group were unchanging as a function of perceived constraint, whereas the inferences that were made by those in the near group were less strong as perceived constraint increased. This supports our assertion that the situationally constrained essay was seen as more diagnostic of the corresponding attitude when the essay was purportedly written in a spatially distant location. That is, situational constraint, even when perceived, was not considered when drawing inferences from a distant behavior.

One potential alternative explanation for the present results might be that our participants held different stereotypes about NYU students in Italy versus New York in their endorsement of comprehensive examinations. That is, when the essay was unconstrained, participants might have taken the essay writer at his or her word, but when the essay was constrained, participants might have perceived the base rates in favor of comprehensive examinations to be greater on the spatially distant (Italy) campus. If the base rates were indeed perceived to be greater on the distant campus, that could explain why the correspondence bias was lower in the distant constrained group compared with the near constrained group. Although, unless the base rates are perceived to be 100% in favor of comprehensive examinations on the distant campus, on the basis of this alternative explanation one would still expect to find the correspondence bias to be lower in the distant constrained group than in the distant unconstrained group. The logic of this is that whereas at least some of the writers who are constrained to write in favor of comprehensive examinations would actually be opposed to them, none who freely choose to write in favor of them would be opposed to them. As reported above, however, the results do not support this interpretation, as we found no difference between the distant constrained and unconstrained groups in their likelihood to make an essay-consistent attitude inference. Moreover, results from a pilot study revealed that students do not in fact hold different stereotypes about NYU students on the different campuses in their endorsement of comprehensive examinations.[3]

The results from this study are consistent with the Nussbaum et al. (2003) findings that the correspondence bias is manifested more when predicting people's distant future rather than near future behavior. Together, these findings suggest that judgments about spatially or temporally distant behavior are based on higher level construals of the behavior in terms of global dispositional qualities of the actor. The parallel in the effects of spatial and temporal distance on the correspondence bias, moreover, supports the more general notion that both types of distances constitute instances of psychological distance and that their similar effects on construal and prediction are attributable to this basic similarity between all types of psychological distance.

One specific implication of these results might be that people may think that another's true character is likely to be expressed in

[3] Fifty-two participants were asked to estimate the likelihood that NYU students would endorse senior comprehensive examinations. Half of the participants were asked about students attending NYU's New York campus (spatially near condition), whereas the other half were asked about students attending NYU's Florence, Italy campus (spatially distant condition). Participants were specifically asked, "How likely are students in New York City, attending NYU's Washington Square campus [in Florence, Italy attending NYU's Study Abroad Program] to be in favor of instituting senior comprehensive examinations at NYU?" and "How likely are students in New York City, attending NYU's Washington Square campus [in Florence, Italy attending NYU's Study Abroad Program] to be opposed to instituting senior comprehensive examinations at NYU?" (reverse scored). Participants responded on a 7-point scale, anchored at 1 (*not at all likely*) and 7 (*extremely likely*). The responses were averaged to form a single index of endorsement ($r = .82$). As expected, participants in the spatially near condition ($M = 2.60$) did not differ significantly from participants in the spatially distant condition ($M = 2.56$) in their estimate of students' endorsement of senior comprehensive examinations.

Table 1
Likelihood Ratings by Spatial Distance (Study 3)

Typical event	Near		Distant	
	M	*SD*	*M*	*SD*
Number of inches of rainfall on campus has been 4.11 to 4.69 per month, with an average monthly rainfall of 4.40				
Likelihood that the rainfall will be at least 4.11	7.00	1.69	7.20	1.32
Number of visits to health center per student has been .39 to .51, with an average of .45				
Likelihood that the number of visits will be no greater than .50 visits	5.92	1.77	6.48	1.90
Number of pages of photocopied documents per student per class has been 72 to 112, with an average of 92				
Likelihood that students will receive no more than 109 pages	4.63	1.88	5.96	1.95
Number of reported hours of sleep per student per night has been 6.3 to 7.1, with an average of 6.7				
Likelihood that students will sleep more than 6.2 hr	5.96	2.24	6.72	1.65

Note. Numbers indicate the likelihood that events would happen the next semester (Fall 2005). Typicality of events was manipulated within-participant. Contact the authors for the exact wording of the scenarios.

distant places. This may underlie the romantic attitude about traveling. Indeed, many people plan vacations with significant others with the intent of discovering the true nature of themselves and those they travel with. Having this construal in mind, romantic partners, for example, may travel to remote places hoping to discover their partner's true self, only to find that their partner is the same as in everyday life.

Study 3: Spatial Distance and Predictions for Typical and Atypical Events

Higher level construals by definition impose one of a few possible alternative interpretations of information about events. Because inconsistent or irrelevant information about events is omitted or assimilated into such construals, judgments based on higher level construals are less ambiguous and more prototypical than judgments based on lower level construals. Therefore, when information is provided about the central tendency of an event's category, predictions about whether spatially distant events will occur should be more affected by whether the events resemble the central tendency of the category than predictions about spatially near events. On the basis of this reasoning, we designed this study to test the hypothesis that as spatial distance from an event is increased, individuals will predict that typical events are more likely and atypical events are less likely.

Method

Participants. A sample of 49 students (37 women, 11 men) at NYU participated in partial fulfillment of a course requirement; 1 participant failed to indicate his or her gender. They were randomly assigned to condition, with 24 participants in the spatially near condition and 25 participants in the spatially distant condition.

Materials and procedures. Participants were tested in groups of 1 to 4 in a study ostensibly about NYU campuses. Participants were presented with eight scenarios describing the central tendency for various events' categories (e.g., "Students report sleeping an average of 6.3 to 7.1 hours a night while studying at the NYU campus in Manhattan [Florence] during the fall semester, averaging 6.7 hours per night.").[4] The events were described as located at "the NYU campus in Manhattan" (spatially near condition) or "the NYU campus in Florence, Italy" (spatially distant condition). Half of the scenarios asked participants to estimate the likelihood that a typical event (i.e., an event that occurs within the stated range) would happen next year (see Table 1), while the other half asked participants to estimate the likelihood that an atypical event (i.e., an event that occurs outside of the stated range) would happen next year (see Table 2). In the example above, participants were asked to estimate the likelihood that "students will sleep greater than 6.2 hours per night while studying during the Fall 2005 semester at the NYU campus in Manhattan [Florence]." Participants responded on a 9-point scale, anchored at 1 (*not at all likely*) and 9 (*extremely likely*). The order of the scenarios was randomly determined and fixed across all participants. Afterward, participants were debriefed and dismissed.

Results and Discussion

To test the effects of spatial distance on judgments that typical and atypical events would occur in the future, we averaged participants' likelihood ratings together for each within-participant condition (scenarios that asked about typical vs. atypical events). Participants' likelihood ratings were analyzed using a 2 (spatial distance: near vs. distant) × 2 (type of event: typical vs. atypical) repeated measures ANOVA, with the first factor a between-participants variable and the last factor a within-participant variable. Although there was no main effect of spatial distance ($F < 1$), there was a significant main effect of type of event, $F(1, 47) = 75.27$, $p < .001$, with participants estimating a greater likelihood that typical ($M = 6.24$) rather than atypical events ($M = 3.69$) would occur. It is important to note that analyses did reveal a significant Spatial Distance × Type of Event interaction effect, $F(1, 47) = 5.62$, $p < .05$ (see Figure 2). Specific comparisons revealed, as expected, that the predicted likelihoods that typical events would occur were higher for spatially distant locations ($M = 6.59$) than spatially near locations ($M = 5.88$), $t(47) = 2.13$, $p < .05$, $d = .62$. Also as expected, the predicted likelihoods that atypical events would occur were lower for spatially distant locations ($M = 3.36$) than spatially near locations ($M = 4.03$), $t(47) = 1.78$, $p = .08$, $d = .52$.[5]

[4] Materials can be obtained from the authors.

[5] We reran the analyses after standardizing the likelihood rating for each event so that scores reflected the degree to which the participants' predicted likelihood for an activity deviated from the mean predicted likelihood for that activity by all participants. As expected, results still yielded a significant Spatial Distance × Type of Event interaction effect, $F(1, 47) = 5.38$, $p < .05$.

Table 2
Likelihood Ratings by Spatial Distance (Study 3)

Atypical events	Near		Distant	
	M	*SD*	*M*	*SD*
Number of degrees in °F on campus has been 51 to 59, with an average of 55				
Likelihood that the temperature will be no greater than 49°F	3.25	2.23	3.48	1.78
Ratio of women to men on campus has been .47 to .52, with an average of .49				
Likelihood that ratio will exceed .53	5.25	2.11	3.92	1.68
Number of hours of daylight on campus per day has been 13.8 to 14.6, with an average of 14.2				
Likelihood that the length of daylight will be more than 14.7	3.29	2.18	2.48	1.96
Number of inches of snowfall on campus has been 1.9 to 2.7 per month, with an average of 2.3				
Likelihood that the snowfall will be less than 1.9	4.33	2.09	3.56	1.53

Note. Numbers indicate the likelihood that events would happen the next semester (Fall 2005). Typicality of events was manipulated within-participant. Contact the authors for the exact wording of the scenarios.

One potential alternative explanation for the present findings might be that the base rates for what we presented as typical and atypical events were perceived to be different in the spatially near and distant conditions. For example, it is plausible that students believed that the base rate for the women-to-men ratio was smaller on NYU's Florence campus and thus judged the likelihood of women outnumbering men on the Florence campus to be less likely. It is important to note, however, that we essentially provided base-rate information when we presented them with the central tendency information for atypical and typical events. This information was held constant across the two distance conditions. Nevertheless, it is still possible that the plausibility of this central tendency information differed between the two locations. To address this alternative explanation, we conducted a pilot study to examine whether students judged the different events described in Study 3 as more or less likely to happen in Italy versus New York. Thirty-one participants judged the average level of the events on NYU's New York campus (spatially near condition), whereas another 31 participants judged the average level of the events on NYU's Florence campus (spatially distant condition). For example, participants were asked, "How likely is it that the female to male ratio of students during the fall semester at the NYU campus in Manhattan [Florence, Italy] is .49?" and "How likely is it that the average number of visits to the health center by each student during the fall semester at the NYU campus in Manhattan [Florence, Italy] is .45 visits?" (see Tables 1 and 2 for a complete list of events). Participants responded on a 7-point scale, anchored at 1 (*not at all likely*) and 7 (*extremely likely*). As expected, results revealed no systematic differences across the typical and atypical events between the spatially near and distant conditions; participants in the spatially near condition did not significantly differ from participants in the spatially distant condition in their estimated likelihoods for any of the events presented in Study 3.

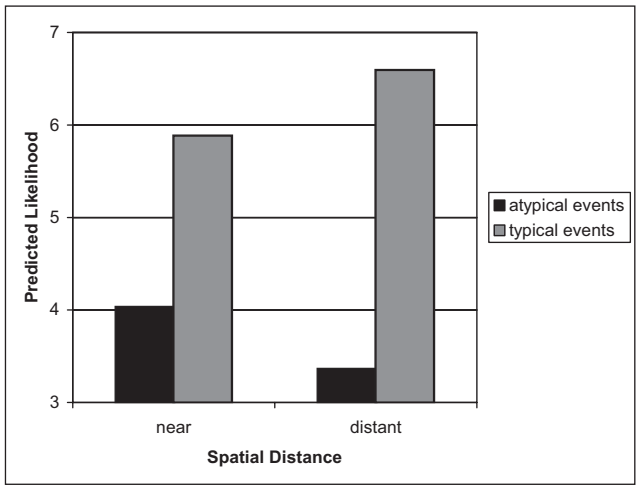

Figure 2. Predictions for events as a function of spatial distance and typicality of events (Study 3)

The present results add support to the idea that judgments about more spatially distant events are based on higher level construals of those events. We assumed that values that are representative of a distribution (those that are close to the mean) constitute a high-level construal of the distribution. We therefore hypothesized, and the results actually showed, that these values would be predicted with greater confidence for spatially remote locations than spatially proximal locations. Atypical events, on the other hand, were predicted to occur in proximal locations more than in spatially remote locations. These findings have implications for how people decide between devoting their limited resources toward preparing for likely and unlikely events. For example, individuals can be expected to make plans for events that take place at spatially distant locations that anticipate common or ordinary events, but they are not expected to plan for rare or unusual events (e.g., finance experts prepare more for unlikely market fluctuations in local markets). Although Murphy's Law states, "If anything can go wrong, it will," the results from this study suggest that individuals rely less on this adage when making predictions for spatially distant events.

Study 4: Spatial Distance and Extrapolations Based on Trends Versus Deviations

The previous study examined static situations in which the data participants based their predictions on did not show any trends or developments over time. In the present study we sought to extend our logic to dynamic situations, in which participants make inferences based on trends. Specifically, we examined the effect of spatial distance on people's readiness to extrapolate from general trends as opposed to local information (deviations). Consider, for

example, an individual who has a history of behaving a certain way and then on one occasion deviates from her usual course of action. Does the perceived spatial distance from that person affect the weight that is placed on the deviant behavior when predicting how she will act in the future? More generally, when individuals have knowledge about the general history of any event and they encounter a specific case that is inconsistent with that history, how much weight are they likely to place on the specific case? In terms of CLT, general trends convey a high-level, abstract rule about how the future will manifest itself, whereas deviations from trends represent a low-level, concrete exception to the rule. Consequently, when information is provided about a general trend surrounding an event and a specific case that deviates from that trend, extrapolations for spatially distant rather than near events should be based more on the general trend than on the local deviation.

In the current study, we presented participants with a series of graphs, each showing an upward or downward trend of cases charted over several years for various events related to an academic year (e.g., average photocopies per student per class). On each of the graphs, the final case that was presented for the last academic year always deviated from the overall trend of cases from the previous academic years. That is, the last and most recent case of a generally upward graph would deviate in the downward direction, and vice-versa for a generally downward graph (see Figure 3 for examples). Participants were asked to extrapolate whether the case for the next academic year would be consistent with the general trend or consistent with the specific case that deviated from the trend. We tested the hypothesis that as spatial distance from an event is increased, individuals would be more likely to extrapolate for the next academic year from a general trend relative to a specific case that deviates from the general trend.

Method

Participants. A sample of 58 students (42 women, 16 men) at New York University participated for $10 or in partial fulfillment of a course requirement. They were randomly assigned to condition, with equal numbers in each condition.

Materials and procedures. Participants were tested in groups of 1 to 10 in a study on predictions. Participants were presented with six graphs depicting information about several events that took place at NYU from 1999 to 2004 (e.g., "students' reported satisfaction with food quality").[6] The events were described as occurring at "the NYU campus in Manhattan" (spatially near condition) or "the NYU campus in Florence, Italy" (spatially distant condition). Half of the graphs depicted an upward trend of cases for 1999–2003, and the other half depicted a downward trend of cases for 1999–2003. For the graphs that depicted an upward trend of cases, the last case for 2004 deviated downward. For the graphs that depicted a downward trend of cases, the last case for 2004 deviated upward (see Figure 3 for examples). Participants were asked to estimate the likelihood that cases for 2005 would go up from the previous year as well as the likelihood that cases would go down from the previous year. In the example above, participants were asked, "How likely will the graph continue to Point A?" and "How likely will the graph continue to Point B?" Participants responded on a 6-point scale, anchored at 1 (*very unlikely*) and 6 (*very likely*). We created two random orders of the graphs, included order as a factor for the analyses, and controlled for order in the analyses; the pattern of results was unchanged in all cases. Thus, the order of the graphs is not discussed further. Afterward, participants were debriefed and dismissed.

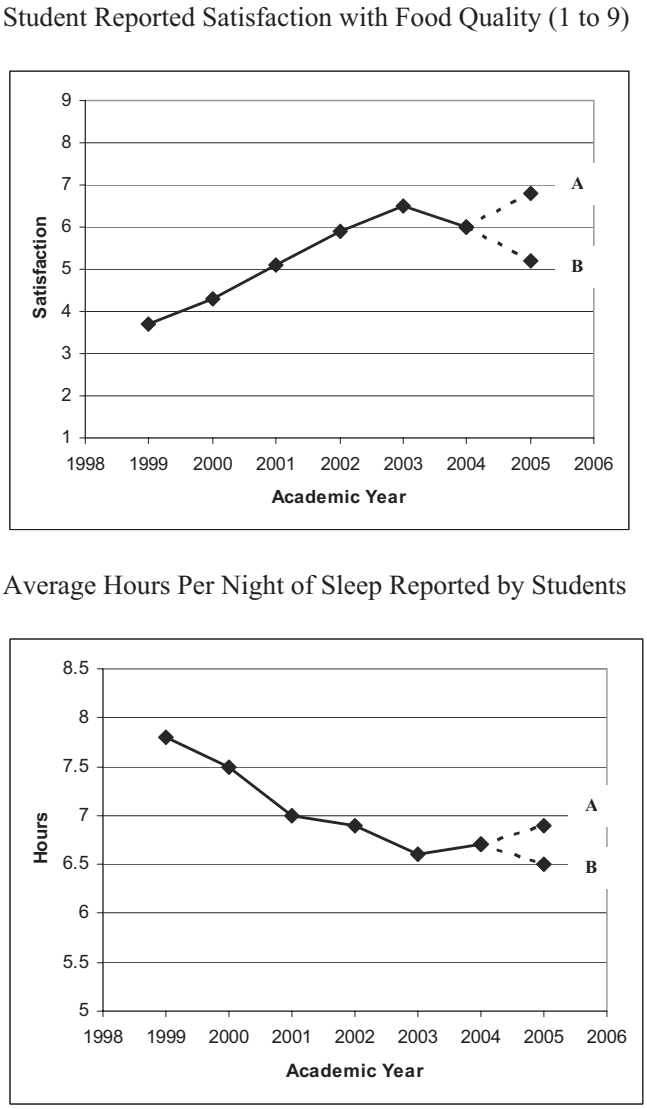

Figure 3. Examples of graphs that were used to depict an upward or downward trend of cases for 1999–2004 (Study 4)

Results and Discussion

In this study, we asked participants to estimate whether the level of an event would continue up or down on a graph (see Figure 3 for examples). For every graph that depicted a general upward trend, we averaged across participants' estimated likelihoods that the next point on the graph would go up, yielding an index of participants' extrapolations based on upward trends. For these same generally upward graphs, we also averaged across participants' estimated likelihoods that the next point would go down, yielding an index of participants' extrapolations based on deviations from upward trends. The same was done for downward graphs. That is, for every generally downward graph, we averaged across participants' estimated likelihoods that the next point on the

[6] Materials can be obtained from the authors.

Table 3
Likelihood Ratings by Spatial Distance (Study 4)

	Near				Distant			
	Trend		Deviation		Trend		Deviation	
Graph	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Upward trend								
Student satisfaction with food	3.62	1.01	4.03	0.78	4.21	1.11	3.21	1.32
Average no. of photocopies	3.48	1.43	4.24	0.79	3.62	1.21	3.93	1.13
Average class attendance	3.52	1.09	4.03	0.82	3.93	0.88	3.72	1.10
Downward trend								
Medical office visits	3.52	0.99	4.07	0.80	4.00	1.10	3.41	1.15
Acceptance rates	4.59	1.05	3.00	1.22	3.97	1.40	3.31	1.20
Average hr per night of sleep	4.00	1.07	3.45	0.87	4.28	0.92	3.24	0.95

Note. Numbers in the trend column indicate the likelihood that the graph would continue in direction suggested by the trend, and numbers under the deviation column indicate the likelihood that the graph would continue in the direction suggested by the case that deviated from the trend. The type of trend for the graphs was manipulated within-participant. Upward trends refer to graphs that depicted an incline in the rates from 1999–2003 with a decline in the rate for 2004. Downward trends refer to graphs that depicted a decline in the rates from 1999–2003 with an incline in the rate for 2004.

graph would go down (an index of participants' extrapolations based on downward trends) and up (an index of participants' extrapolations based on deviations from downward trends; see Table 3 for extrapolations for each graph).

To test the effects of spatial distance on extrapolations, we analyzed participants' extrapolations using a 2 (spatial distance: near vs. distant) × 2 (basis of extrapolations: trend vs. deviation) × 2 (type of trend: upward vs. downward) repeated measures ANOVA, with the first factor a between-participants variable and the last two factors within-participant variables. Results showed no main effects of spatial distance ($F < 1$) or the type of trend, $F(1,56) = 2.25$, $p = .14$. A main effect of the basis of extrapolations, $F(1, 56) = 3.48$, $p = .07$, did emerge, with participants evidencing a greater likelihood of extrapolating from general trends ($M = 3.89$) than from deviations from general trends ($M = 3.64$). Results also revealed a Basis of Extrapolations × Type of Trend effect, $F(1, 56) = 15.24$, $p < .001$. Specific comparisons revealed that although participants were more likely to extrapolate on the basis of downward trends ($M = 4.06$) than on deviations from downward trends ($M = 3.41$), $t(57) = 3.68$, $p < .001$, $d = .97$, they were equally likely to extrapolate based on upward trends ($M = 3.73$) and deviations from upward trends ($M = 3.86$), $t < 1$. It is important to note that, as expected, the Spatial Distance × Basis of Extrapolation effect also emerged, $F(1, 56) = 3.97$, $p = .05$, which was not qualified by the three-way interaction, $F(1, 56) = 2.53$, $p = .12$.

In order to further examine the Spatial Distance × Basis of Extrapolation effect, we averaged across participants' extrapolations on the basis of upward and downward trends, yielding an index of participants' extrapolations based on general trends and across participants' extrapolations on the basis of deviations from upward and downward trends, yielding an index of participants' extrapolations based on deviations. As can be seen in Figure 4, specific comparisons revealed that participants in the spatially distant condition were less likely to extrapolate on the basis of deviations from general trends ($M = 3.47$) than were participants in the spatially near condition ($M = 3.80$), $t(56) = 2.43$, $p < .05$, $d = .92$; no differences emerged in their likelihood to extrapolate on the basis of general trends, ($M = 4.00$ vs. $M = 3.79$), $t(56) = 1.22$, $p = .23$, $d = .33$. Results also showed that participants in the spatially distant condition were more likely to extrapolate on the basis of general trends than on deviations from general trends, $t(28) = 2.47$, $p < .05$, $d = .94$, whereas participants in the spatially near condition failed to show any difference in their extrapolations on the basis of general trends and deviations from general trends.[7] Consistent with our hypothesis, these results demonstrate that individuals rely more on general trends and less on local deviations from those trends when making predictions about relatively distant locations.

The results from this study complement the findings from the previous study, as both highlight how individuals are more likely to rely on global information (in this case, information about general trends) when making predictions for events that occur in spatially distant locations. Study 3 demonstrated people's tendency to rely on global information when making predictions in static situations, whereas Study 4 demonstrated people's tendency to rely on global information when making predictions in dynamic situations. An interesting implication of these studies is that when individuals (e.g., U.S.-affiliated stock brokers) make decisions (e.g., investments) based on information about spatially near events (e.g., the stock market on Wall Street) rather than distant events (e.g., the stock market in Tokyo), they will be more likely to exaggerate the significance of small departures from general data patterns. When individuals are faced with an unusual deviation (e.g., rejection of a paper) from how events have typically unfolded in the past (e.g., a positive trend in one's career), the question is always whether this atypical case is a turning point or

[7] We reran the analyses after standardizing the extrapolations for each graph so that extrapolations reflected the degree to which the participants' extrapolations for a graph deviated from the mean extrapolation for that graph by all participants. As expected, results still yielded a significant Spatial Distance × Basis of Extrapolation interaction effect, $F(1, 56) = 4.66$, $p < .05$.

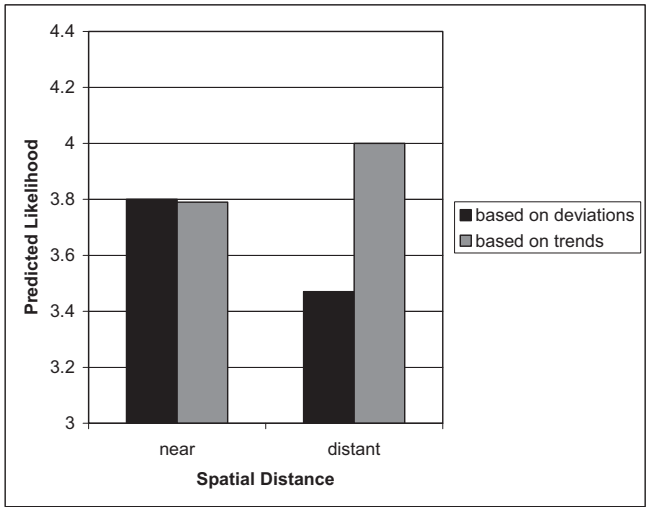

Figure 4. Extrapolations on the basis of general trends versus deviations from trends as a function of spatial distance (Study 4)

a fluctuation. The current findings have the potential to offer insights into how people respond to information that is unexpected or unforeseen given what they know about the past (e.g., freak weather events, spurts or collapses in financial market), as individuals appear to assign less weight to such information when forming judgments for spatially distant events. For example, these results suggest that as individuals (e.g., those with a history of infidelity) attempt to make drastic, personal changes (e.g., become more monogamous), those who are spatially distant rather than close who learn about such attempts are less likely to perceive any actual dispositional change (e.g., see Libby, Eibach, & Gilovich, 2005, for related findings).

General Discussion

According to CLT, as individuals become more psychologically removed from events, their construal of events moves to a higher level. High-level construals structure the information about events in terms of abstract, global features that convey the essence of the event. As events become more psychologically close, individuals' construal of events moves to a lower level. These construals are less structured and represent the available information about an event in terms of specific, local features. The spatial distance from events is thought to operate as a fundamental distance dimension through which individuals' construal of events will move to higher or lower levels. In the current set of studies, we examined the extent to which increased spatial distance from events fostered greater reliance on high-level construals during judgment and prediction. Specifically, we showed that participants structured behaviors into broader units (Study 1) and increasingly attributed behavior to global dispositions rather than specific situational constraints (Study 2) when those behaviors were spatially distant rather than near. Moreover, we demonstrated that participants expected events that were prototypical and closer to the general case to be more likely when events were more spatially distant (Study 3). Finally, we demonstrated that participants were less likely to extrapolate from specific cases that deviated from general trends when making predictions about more spatially distant events (Study 4). Together, these results support CLT's assertion that judgments regarding experiences in distant locations are based more on global, abstract representations than judgments about the same experiences in near locations.

It is important to address the possibility that participants in our studies may have perceived the near location as more self-relevant and, therefore, engaged in more effortful processing while forming judgments for spatially near experiences. One might argue, for example, that the greater unitization (Study 1) that was expressed for spatially near behavior required more effort. It is thus possible that high self-relevance might have enhanced the tendency to engage in more systematic, effortful (as opposed to heuristic, low-effort) processing (see Chen & Chaiken, 1999; Todorov, Chaiken, & Henderson, 2002) and that such a difference in processing explains the results obtained. However, several aspects of our results argue against this interpretation. First, in Study 1, no differences were found between conditions in the perceived difficulty of processing information about the social event. Second, in Studies 2 through 4, we took care to ensure that self-relevance was equal across the spatial distance conditions by holding participants' school affiliation with the specified location constant across conditions. Third, regarding Study 3, there is no a priori reason to suspect that more effortful processing in the spatially near condition (if it even occurred) would reduce the utilization of information about the central tendency of a distribution. Last, the results from Study 4 cannot be accounted for by differences in effort as there is no a priori reason (similar to Study 3) to suspect that more systematic processing in the near condition would lead to more weight on instances that deviate from general trends when making predictions of future behavior. It is important to note that we do acknowledge that it is difficult to completely rule out this alternative explanation. However, given the consistency of results with CLT's framework as well as the recent empirical work that has shown that experiences that occur at ostensibly spatially distant locations are construed at a higher level than spatially near experiences (Fujita, Henderson, et al., 2006), a construal level explanation seems to be the most consistent and parsimonious one available for the current findings. Nevertheless, it remains for future researchers to assess the exact role that construal level plays in the effects of spatial distance on social judgment.

Our purpose in the present article was to demonstrate that several judgments that have been deemed as important for social reasoning and functioning are more likely to be based on high-level construals for spatially distant rather than near events. Overall, the current results show that increasing the reported spatial distance of an event increases the impact of high-level information (i.e., central tendencies, general trends, dispositional characteristics) and decreases the impact of low-level information (i.e., incidental details, irregular outcomes, situation-specific task characteristics) on social judgment and decision-making.

Evaluation

The implications of spatial construal for evaluation and choice also deserve attention. Previous CLT work has already demonstrated that the perceived value of objects and activities derives from their construal (Fujita, Trope, Liberman, & Levi-Sagi, 2006;

Liberman & Trope, 1998; Trope & Liberman, 2000). Individuals frequently form evaluations of objects and activities that differ in the valence associated with their high-level, central features and low-level, peripheral features. When the value of high-level features (e.g., quality of music bands) of an object or activity (e.g., music concert) is different from the value of its low-level features (e.g., quality of available food), then changing the level of representation of the target object or activity results in a corresponding change in its perceived value. By forming evaluations about spatially distant objects and activities that are based on high-level, central information and evaluations about spatially near objects and activities that are based on low-level, peripheral information, individuals' evaluations can be expected to differ as a function of the amount of perceived spatial distance from objects and activities. Specifically, the findings from the present studies suggest that when individuals form evaluations and make choices for spatially distant rather than near objects and activities, they will give more weight to high-level concerns over low-level concerns when expressing their evaluations and preferences. Indeed, previous research has shown that individuals give more weight to their abstract ideals, values, and desirability concerns for temporally distant activities (Liberman & Trope, 1998; Liberman et al., in press; Pennington & Roese, 2003), suggesting that a similar focus will occur for spatially distant activities. This framework, for example, might account for why individuals (e.g., early European settlers) who plan to move to remote locations (e.g., the New World) often have visions of a utopia. Moreover, this framework might account for why organizations (e.g., the U.S. government, Al Qaeda) frequently make plans for distant locations (e.g., the Middle East, the United States) that center on establishing their preferred ideological systems.

Psychological Distance

According to CLT (see Liberman, et al., in press; Trope & Liberman, 2003), space is just one of many psychological distance dimensions that influence the way individuals construe information when forming judgments about experiences. CLT posits that the same general principles that apply to spatial distance should also hold for other distance dimensions, including social distance. Future research should explore, for example, whether having individuals adopt a third-person rather than first-person perspective for another increases the impact of high-level information (e.g., typical behaviors, behaviors that convey a general pattern) and decreases the impact of low-level information (i.e., irregular behaviors, deviant behaviors) when forming judgments and evaluations about another. Furthermore, future research should also explore whether individuals put more weight on high-level information when forming judgments and evaluations of others and more weight on low-level information when forming judgments and evaluations of themselves. Indeed, Libby and Eibach (2004) and Fiedler, Semin, Finkenauer, and Berkel (1995) have reported effects that are consistent with these predictions.

Conclusion

The four studies reported here suggest that increasing the reported spatial distance from events increases people's propensity to rely on abstract, global, general information when forming judgments and decisions in regard to those events. Unlike temporal distance, spatial distance from objects and events has received little, if any, attention in research on judgment and decision-making. As humans' geographical and spatial horizons expand, it becomes increasingly important to study how humans transcend not only the "now" but also the "here." We hope the present research is a step in this direction.

References

Berti, A., & Fassinetti, F. (2000). When far becomes near: Remapping of space by tool use. *Journal of Cognitive Neuroscience, 12,* 415–420.

Bryant, D. J., & Tversky, B. (1999). Mental representations of spatial relations from diagrams and models. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 25,* 137–156.

Chase, W. G., & Simon, H. A. (1973). Perception and chess. *Cognitive Psychology, 4,* 55–81.

Chen, S., & Chaiken, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 73–96). New York: Guilford Press.

Cohen, C. E., & Ebbesen, E. B. (1979). Observational goals and schema activation: A theoretical framework for behavior perception. *Journal of Experimental Social Psychology, 15,* 305–329.

Fiedler, K., Semin, G. R., Finkenauer, C., & Berkel, I. (1995). Actor-observer bias in close relationships: The role of self-knowledge and self-related language. *Personality and Social Psychology Bulletin, 21,* 525–538.

Fujita, K., Henderson, M. D., Eng, J., Trope, Y., & Liberman, N. (2006). Spatial distance and mental construal of social events. *Psychological Science, 17,* 278–282.

Fujita, K., Trope, Y., Liberman, N., & Levi-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology, 90,* 351–367.

Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin, 117,* 21–38.

Gilovich, T., & Medvec, V. H. (1995). The experience of regret: What, when, and why. *Psychological Review, 102,* 379–395.

Halligan, P. W., Fink, G. R., Marshall, J. C., & Vallar, G. (2003). Spatial cognition: Evidence from visual neglect. *Trends in Cognitive Science, 7,* 125–133.

Heider, F., & Simmel, M. (1944). An experimental study of apparent behavior. *American Journal of Psychology, 57,* 243–249.

Henderson, M. D., Trope, Y., & Carnevale, P. J. (in press). Negotiation from a near and distant time perspective. *Journal of Personality and Social Psychology.*

Huttenlocher, J., Hedges, L. V., & Duncan, S. (1991). Categories and particulars: Prototype effects in estimating spatial location. *Psychological Review, 98,* 352–376.

Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology, 3,* 1–24.

Keren, G., & Roelofsma, P. (1995). Immediacy and certainty in intertemporal choice. *Organizational Behavior & Human Decision Processes, 63,* 287–297.

Klin, A. (2000). Attributing social meaning to ambiguous visual stimuli in higher-functioning autism and Asperger syndrome: The social attribution task. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 41,* 831–846.

Kudadjie-Gyamfi, E., & Rachlin, H. (1995). Temporal patterning in choice among delayed outcomes. *Organizational Behavior & Human Decision Processes, 65,* 61–67.

Lassiter, G. D., Geers, A. L., Apple, K. J., & Beers, M. J. (2000). Observational goals and behavior unitization: A reexamination. *Journal of Experimental Social Psychology, 36,* 649–659.

Lassiter, G. D., & Stone, J. I. (1984). Affective consequences of variation

in behavior perception: When liking is in the level of analysis. *Personality and Social Psychology Bulletin, 10,* 253–259.

Lassiter, G. D., Stone, J. I., & Rogers, S. L. (1988). Memorial consequences of variation in behavior perception. *Journal of Experimental Social Psychology, 24,* 222–239.

Libby, L. K., & Eibach, R. P. (2004). *Seeing meaning in action: Imagery perspective and action identification.* Unpublished data.

Libby, L. K., Eibach, R. P., & Gilovich, T. (2005). Here's looking at me: The effect of memory perspective on assessments of personal change. *Journal of Personality and Social Psychology, 88,* 50–62.

Liberman, N., Sagristano, M., & Trope, Y. (2002). The effect of temporal distance on level of mental construal. *Journal of Experimental Social Psychology, 38,* 523–534.

Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology, 75,* 5–18.

Liberman, N., Trope, Y., & Stephan, E. (in press). Psychological distance. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles (Vol.* 2). New York: Guilford Press.

Markus, H., Smith, J., & Moreland, R. L. (1985). Role of the self-concept in the perception of others. *Journal of Personality and Social Psychology, 48,* 1494–1512.

Massad, C. M., Hubbard, M., & Newtson, D. (1979). Selective perception of events. *Journal of Experimental Social Psychology, 15,* 513–532.

McNamara, T. (1986). Mental representations of spatial relations. *Cognitive Psychology, 18,* 87–121.

Newtson, D. (1973). Attribution and the unit of perception of ongoing behavior. *Journal of Personality and Social Psychology, 28,* 28–38.

Newtson, D., & Engquist, G. (1976). The perceptual organization of ongoing behavior. *Journal of Experimental Social Psychology, 12,* 847–862.

Nussbaum, S., Trope, Y., & Liberman, N. (2003). Creeping dispositionism: The temporal dynamics of behavior prediction. *Journal of Personality and Social Psychology, 84,* 485–497.

Pennington, G. L., & Roese, N. J. (2003). Regulatory focus and temporal distance. *Journal of Experimental Social Psychology, 39,* 563–576.

Rachlin, H. (1995). The value of temporal patterns in behavior. *Current Directions in Psychological Science, 4,* 188–192.

Reitman, J. (1976). Skilled perception in GO: Deducing memory structures from inter-response times. *Cognitive Psychology, 8,* 336–356.

Rosch, E. (1975). Cognitive representations of semantic categories. *Journal of Experimental Psychology: General, 104,* 192–223.

Rosch, E., & Lloyd, B. B. (1978). *Cognition and categorization.* Hillsdale, NJ: Erlbaum.

Rosch, E., Mervis, C., Gray, W., Johnson, D., & Boyes-Braem, P. (1976). Basic objects in natural categories. *Cognitive Psychology, 8,* 382–439.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review, 96,* 341–357.

Ross, M., & Wilson, A. E. (2002). It feels like yesterday: Self-esteem, valence of personal past experiences, and judgments of subjective distance. *Journal of Personality and Social Psychology, 82,* 792–803.

Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology, 54,* 558–568.

Sherman, S. J., Zehner, K. S., Johnson, J., & Hirt, E. R. (1983). Social explanation: The role of timing, set, and recall on subjective likelihood estimates. *Journal of Personality and Social Psychology, 44,* 1127–1143.

Todorov, A., Chaiken, S., & Henderson, M. D., (2002). The heuristic-systematic model of social information processing. In J. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp. 195–211). Thousand Oaks, CA: Sage.

Trope, Y., & Liberman, N. (2000). Temporal construal and time-dependent changes in preference. *Journal of Personality and Social Psychology, 79,* 876–889.

Trope. Y., & Liberman, N. (2003). Temporal construal. *Psychological Review, 110,* 403–421.

Tversky, B. (1981). Distortions in memory for maps. *Cognitive Psychology, 13,* 407–433.

Tversky, B. (2003). Structures of mental spaces: How people think about space. *Environment and Behavior, 35,* 66–80.

Tversky, B. (2005). Functional significance of visuospatial representations. In P. Shah & A. Miyake (Eds.), *Handbook of higher-level visuospatial thinking* (pp. 1–70). Cambridge, England: Cambridge University Press.

Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review, 94,* 3–15.

Wilder, D. (1978a). Effects of predictability on units of perception and attribution. *Personality and Social Psychology Bulletin, 4,* 281–284.

Wilder, D. (1978b). Predictability of behaviors, goals, and unit of perception. *Personality and Social Psychology Bulletin, 4,* 604–607.

Wilson, T. D., Wheatley, T., Meyers, J. M., Gilbert, D. T., & Axsom, D. (2000). Focalism: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology, 78,* 821–836.

Zauberman, G., & Lynch, J. G., Jr. (2005). Resource slack and propensity to discount delayed investments of time versus money. *Journal of Experimental Psychology: General, 134,* 23–37.

Received November 2, 2005
Revision received February 20, 2006
Accepted March 6, 2006 ■