The Tripartite Foundations of Temporal Psychological Distance: Metaphors, Ecology, and Teleology

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Abstract

What is psychological distance? Why do events sometimes seem “close” yet other times seem “ages away?” We propose a tripartite model of the foundations of psychological distance in which: (a) people use spatial distance as a metaphor for psychological distance; (b) the ecology of subjective experiences that coincide with changes in objective distance define, and hence, influence psychological distance; (c) psychological distance is shaped in the service of people’s ultimate goals, or teleological considerations, of successfully navigating through time. This model implies that the subjective experiences that are typically associated with reductions in objective temporal distance should reduce temporal psychological distance—the subjective sense of how close or far away events are. We review evidence indicating that emotional arousal, attention, fluency, and motivational considerations all reduce psychological distance. This model also implies a temporal asymmetry in which people prioritize thinking about the future, which approaches in time, over thinking about the past, which recedes in time. Consequently, the future is psychologically closer than the past, people attend more to the future than to the past, and people feel more emotionally aroused about the future than about the past. These findings help advance understanding of psychological distance as a distinct psychological construct.

On September 11, 2012, Michael Tomberlin, a United States military soldier stationed in Afghanistan, wrote, “We may be 11 years removed and on the other side of the world, but in many ways the soldiers serving here are closer to the tragedy of 9-11 than most anyone else in the world.” At that time, September 11, 2001, was obviously 11 years in the past for everybody, so what did Mr Tomberlin mean that the soldiers were “closer” than anyone else? More generally, what do people mean when they characterize life events as “close” or “far away” in time? Why does a traumatic event seem “just like yesterday” for some people, but seem like a “lifetime ago” for other people? Why does a major upcoming public presentation sometimes seem, to the presenter, to be “just around the corner” and other times seem “ages away?”

Psychological distance is the sense of how close or far objects are from the present, immediately experienced self, and it can profoundly influence important behaviors. People are more willing to forgive past transgressions when those transgressions are psychologically distant than when they are psychologically close (Wohl & McGrath, 2007). People are more motivated to prepare for upcoming examinations that are psychologically close than those that are psychologically distant (Peetz, Wilson, & Strahan, 2009). People glean greater enjoyment from daily life when a looming life transition, such as college graduation, is psychologically close (Kurtz, 2008). People value future outcomes less when those outcomes have greater psychological distance, independent of the outcomes’ objective distance (Kim & Zauberman, 2009). And reducing psychological distance can reduce the gap between people’s intentions and behaviors (Peetz, Buehler, & Wilson, 2010).
We regard psychological distance as a distinct psychological construct that is shaped by the naturally occurring associations between objective temporal distance, people’s subjective experiences, and people’s goals as they navigate through time toward successful outcomes. Consider an individual who is to deliver a major public address at a professional conference in six months. As the date approaches, the speaker will think more frequently about the presentation, will feel more excited and anxious about the presentation, and will more easily imagine what the presentation will be like. These experiences will make the presentation psychologically closer. And because the presentation is psychologically closer, the presenter will more carefully and fully prepare to deliver a great presentation.

Our thesis is that these experiences (of attention, emotion, and fluency) and ultimate goals (of delivering a good presentation) shape psychological distance. If, for example, on a Monday, the speaker happens to feel more anxious and preoccupied with the presentation, it will be psychologically closer than it is on the following Wednesday, when the speaker happens to feel less anxious and is preoccupied with other tasks. These naturally occurring associations between subjective experiences and objective temporal distance constitute the ecology of psychological distance. That changes in psychological distance serve the goal of delivering a good presentation constitutes the teleology, or ultimate purpose, of psychological distance.

We outline a tripartite framework of the foundations of psychological distance. First, we suggest that the metaphorical language of spatial distance helps people understand psychological distance, as when referring to a psychologically close future event as “looming” or “just around the corner” – both phrases that are fundamentally rooted in spatial relations. Second, we suggest that the ecology of everyday experience – that is, the subjective experiences that naturally co-occur with changes in objective distance – defines and shapes psychological distance. Finally, we suggest that teleological considerations – that is, people’s ultimate purpose of navigating through time – define and shape psychological distance.

The Construct of Psychological Distance

The notion that psychological distance is a distinct construct is among Kurt Lewin’s enduring contributions to psychology (Lewin, 1938, 1951). Psychological distance is integral to the concept of “life space; i.e., the person and the psychological environment as it exists for him.” Life space is the subjective mapping of the self in relation to one’s goals, motives, and beliefs regarding other objects in space and time. In Lewinian life space, psychological distance represents the separation between the self and other objects.

Psychological distance (e.g., how close a public presentation seems from the present moment) is distinct from perceived objective distance (in how many days one perceives the presentation will occur), which is distinct from actual objective distance (in how many days the presentation will actually occur). Even as they are interrelated, these three constructs are empirically and theoretically distinguishable. With a looming deadline, next month’s presentation can seem psychologically closer when one considers all of the intervening tasks between now and then (Jiga-Boy, Clark, & Semin, 2010).

Our conceptualization of psychological distance is distinct from construal level theory (CLT), which is perhaps the most prominent modern psychological framework for understanding how people react to changes in objective distance (Trope & Liberman, 2003, 2010a, 2010b). CLT describes how changes in objective distance influence people’s mental representation, or construal, of events. Because mental abstraction is a critical tool that allows people to reason beyond their direct, immediate experience, greater objective distances are associated with more abstract, higher levels of construal. For example, when a public presentation will occur in one year, a speaker may construe it in terms of its abstract, central meaning of conveying knowledge to
other scholars, whereas when it will occur in one week, the speaker may construe the presenta-
tion in terms of its concrete, peripheral details such as standing behind a lectern and struggling
not to appear nervous.

Our framework of psychological distance differs from CLT in two important ways. First, in
CLT, “distance” refers either to changes in objective distance as an independent variable
(whether an event will occur in the near or far future) or as perceptions of objective distance
as a dependent variable (when people perceive an event will occur). We regard psychological
distance as a distinct sense of separation between the self and other events in Lewinian life space,
not as a perception of objective distance. Second, CLT is primarily concerned with changes in
the level at which people mentally represent events—that is, their construal level—as an out-
come, rather than the sense of how close or far events are. Although CLT explains how mental
representations respond to changes in objective distance, CLT is not a theory of psychological
distance as a distinct construct.

Metaphors, Ecology, and Teleology of Psychological Distance

Our thesis is that psychological distance rests on a conceptual tripod of spatial metaphors (pro-
viding the language of psychological distance), ecology (reflecting the naturally occurring asso-
ciations between subjective experience and objective distance), and teleology (reflecting the
ultimate purpose of accomplishing goals by making them psychologically close or far). These
three foundations explain what defines and what influences psychological distance.

Spatial metaphors

Lewin called it life space for a reason. Psychological distance, like time more generally, is an ab-
straction. Time is not experienced directly, which makes the very notion difficult to learn about
and to comprehend. To conceptualize time, people build upon mental representations of their
direct experiences with space. Spatial relationships are among the earliest concepts acquired in
human development (Leslie, 1982; Mandler, 1992) and provide the scaffolding upon which many
abstract concepts are built (Boroditsky, 2000; Gentner, 2001; Williams & Bargh, 2008). For
example, the idea that there is an “arrow of time” implies a spatial relationship. Most lan-
guages that have been studied represent the future as “ahead” and the past as “behind” (Casasanto,
Fotakopoulou, & Boroditsky, 2010).

The idea that spatial relations are the metaphorical foundation of temporal psychological dis-
tance implies that movement through space should influence perceived movement through
time (Casasanto & Boroditsky, 2008). Indeed, activating spatial concepts such as “up” and “for-
ward” reduce perceived temporal distance (Boroditsky, 2000). And people tend to lean forward
when thinking about future events, whereas they lean backward when thinking about past
events (Miles, Nind, & Macrae, 2010).

We suggest that psychological distance in time, like perception of objective time, is grounded
in spatial metaphor. To say that an upcoming presentation feels “just around the corner” does
not usually mean, literally, that the presentation is just around the corner (except maybe when
one is asking for directions to one’s presentation room within the conference center). Instead,
metaphors of spatial distance provide the language of psychological distance.

A recent study illustrates this interconnection between psychological distance and spatial met-
aphor. Participants wrote the name of various events (such as “My midterm exam,” “My final exam,”
and “My graduation”) on large pieces of paper that were taped to a wall (Travers, 2015). Participants in two spatial movement conditions then either walked backward and away
from the posters or forward and toward the posters. When participants walked away from the
posters, they reported that the relevant event was more psychologically distant than when
participants stood at the same, but stationary, distance from the posters. And when participants walked toward the posters, they reported that the relevant event was less psychologically distant than when they stood at the same, but stationary, distance from the posters. Spatial movement thus shapes psychological distance.

Ecology

Moving through time in everyday life is accompanied by a natural ebb and flow of subjective experiences. Presentations that are in one week arouse more intense emotions than do presentations that are one year in the future. Tomorrow’s job interview is more easily imagined than next month’s job interview. People attend more to this weekend’s dinner party than to next summer’s dinner party.

We suggest that the natural association between subjective experience and temporal distance defines and influences psychological distance. When people in one study were asked what they meant when referring to events as “close” rather than “far away,” many explained that “close” events are associated with relatively intense subjective experiences such as emotional arousal and immersion (Van Boven, Kane, McGraw, & Dale, 2010). This ecological view implies a simple prediction: If psychological distance is defined by the experiences that typically co-occur with changes in objective distance, then influencing those experiences should influence psychological distance.

Teleology

Navigating successfully through time requires organisms to pursue actions that promote good outcomes (e.g., delivering captivating presentations) and avoid actions that undermine good outcomes (e.g., delivering boring presentations). Beyond simple ecological associations, we suggest that psychological distance is shaped by people’s ultimate goals. In Lewinian life space, people’s definition of the field at a given time included past and future goals, obstacles, channels, and other psychologically relevant objects in relation to the present self. The psychological distance of an upcoming presentation is shaped not only by how intensely people feel about the presentation but also by the barriers they face in successfully preparing the presentation, and by the looming deadline and intervening tasks (such as grading student papers) that reduce the available resources to prepare the presentation.

One purpose of mental time travel is to facilitate the successful navigation through time. Some have suggested that mental time travel differentiates human cognition from other animal cognition, and may have facilitated the success of homo sapiens (Buckner & Carroll, 2007; Gilbert & Wilson, 2007; Suddendorf, Addis, & Corballis, 2009). Like mental time travel, we suggest that psychological distance serves to facilitate successful outcomes; partly by acting as a gauge of how close or far one is from one’s ultimate goals – by signaling whether the path to success is clear or is blocked by obstacles.

Summary

The construct of psychological distance can be understood through the tripartite influences of spatial metaphors, ecology, and teleology. Figure 1 represents our conceptualization of the associative and teleological framework of psychological distance. The figure portrays five sets constructs: objective distance, subjective experience, psychological distance, psychological outcomes, and direction. The figure is comprehensive in its representation of distance dimensionality (in time, space, probability, and social connection) even though our focus here is on the temporal dimension. Arrows represent the direction of associations and influence between the constructs.
The figure conveys three important points. First, the pattern of connections conveys an associative network within which psychological distance is embedded, both affecting and affected by other constructs within the network. This associative view differs from propositional models in which psychological distance results from a series of inferences based on logical propositions. An associative view implies, rather, that psychological distance is influenced by the activation or suppression of associated experiences.

Second, the figure conveys the important teleological idea that people are not only sensitive to the absolute distance between the present self and other psychologically relevant objects, they are also sensitive to the direction of distance and whether distance is increasing or decreasing. The direction of distance implies, among other things, that people are oriented to the future (to which distance is continually decreasing) more than to the past (to which distance is continually increasing).

Finally, the figure conveys that objective distance only influences psychological outcomes indirectly, through its impact on subjective experiences and psychological distance. On reflection, this must be true: Objective distance cannot directly influence psychological and behavioral outcomes without influencing mediating psychological processes. Indeed, the research reviewed earlier showed that changes in psychological distance, independent of changes in objective distance, influenced psychological outcomes.

Subjective Experience Shapes Psychological Distance

An important source of evidence for our tripartite model of psychological temporal distance comes from studies demonstrating that changes in subjective experience influence psychological distance. These experiences reflect both the natural ecology of people moving through time, and the teleological considerations of people approaching events in time.

Emotion

Emotion is for doing (Frijda, 2006; Keltner & Gross, 1999; Lazarus, 1991). Emotional arousal about events increases as those events become closer in time and as individuals prepare to cope with them. People feel more emotionally aroused when self-relevant events are objectively
close than when they are objectively far away (Ainslie, 1975; Loewenstein, 1996; McClure, Laibson, Loewenstein, & Cohen, 2004; Metcalfe & Mischel, 1999; Van Boven, Loewenstein, Welch, & Dunning, 2012).

Increased emotional arousal should therefore be associated with reduced psychological distance for both ecological reasons and for teleological reasons. Delivering a major public presentation in a few days is more emotionally arousing than delivering a public presentation in a few months, and this increased emotional arousal helps people to better prepare for the presentation. The relationship between emotional arousal and psychological distance should also be bidirectional: Changes in emotional arousal should affect psychological distance, changes in psychological distance should affect emotional arousal, and both of these effects should be independent of when the events will actually occur. Previous research supports both predictions.

Directly increasing psychological distance reduces emotional intensity (Ayduk & Kross, 2008; Kross & Ayduk, 2008; Kross, Ayduk, & Michel, 2005). In one experiment, participants recalled an instance when they felt overwhelming anger and hostility (Kross et al., 2005). Some participants recalled the instance from a self-immersed perspective (e.g., “relive the situation as if it were happening to you all over again”), whereas others recalled the instance from a self-distanced perspective (e.g., “take a few steps back and move away from your experience”). When considering why they felt angry in that instance, self-distanced participants experienced less anger. In other studies that also implicate the spatial metaphorical language of psychological distance, participants were shown emotionally evocative images and asked to envision the images shrinking and moving away from them or increasing and moving toward them (Davis, Gross, & Ochsner, 2011; Mühlberger, Neumann, Wieser, & Pauli, 2008). Participants experienced less emotional arousal when imagining shrinking, receding images than when imagining increasing, approaching images.

Other studies have found that intensifying emotions reduces psychological distance (Van Boven et al., 2010). In one experiment, some people were assigned to the highly evocative role of performer, who would dance to the Devo song “Whip It!” in front of an audience for one minute, in exactly 15 minutes form the present. Other people were assigned to the less emotionally evocative role of observer, whose task was simply to watch the performers dance. At each of three increasingly smaller distances (15 minutes, 6 minutes, 1 minute), performers reported that the dancing was less psychologically distant than did observers, and the greater emotional intensity among performers than among observers statistically mediated the difference between performers and observers. Together, these results indicate that psychological distance reduces emotional intensity, and that emotional intensity reduces psychological distance.

Attention

Like emotion, attention directs and prepares people for action. Gibson (1977) suggested that people attend to objects in their environment according to the actions those objects afford (Garrido-Vásquez & Schubö, 2014; Handy, Grafton, Shroff, Ketay, & Gazzaniga, 2003). Because nearby objects afford greater action than distal objects, people attend more to objects that are close in space than to objects that are far away in space. Generalizing from spatial distance to temporal distance, people are also likely to attend to events that are close in time more than to events that are distant in time. Attention to approaching events would benefit coping with those events, thus serving people’s ultimate goals. Given the association between temporal proximity and attention, we expect that increased attention should reduce psychological distance.

Although the predicted connection between attention and psychological distance has not been empirically tested, there is indirect evidence that attention reduces psychological distance, given that attention is intricately linked with emotion. Emotional objects attract and hold
attention (Anderson, 2005; Armony & Dolan, 2002; Bradley et al., 1997; Derryberry, 1993; Derryberry & Tucker, 1994; Eastwood, Smilek, & Merikle, 2001; Fox, Russo, & Bowles, 2001; Fox, Russo, & Dutton, 2002; Ohman, Flykt, & Estevens, 2001). As people approach events in time, the emotional arousal associated with the approaching events should also draw attention to those events. This increased attention, in turn, is likely to further intensify emotional reactions (Mrkva, Westfall, & Van Boven, 2014; Westfall & Van Boven, 2013). Increased emotion can thus increase attention, and increased attention can increase emotion, both of which should strengthen an association between attention and psychological distance.

There is also evidence that the manner in which people attend reduces psychological distance. When people attend to events in an immersive, first person, “inside” perspective, those events are psychologically closer than when they attend to events in an external, third person, “outside” perspective. Previous research established that people tend to recall distant past events from a third-person external visual perspective, rather than a first-person immersed visual perspective (Eibach, Libby, & Gilovich, 2003; Frank & Gilovich, 1989; Nigro & Neisser, 1983). People also regard their future selves as though they were people other than the present self (Pronin, Olivola, & Kennedy, 2008). Given this association between visual perspective and objective distance, it is not surprising that autobiographical events are psychologically closer when recalled from a first-person rather than third-person perspectives (Eibach et al., 2003).

Fluency

Engaging in mental time travel not only arouses experiences such as emotion and attention, people also have experiences associated with the act of mental time travel itself. In particular, engaging in mental time travel can itself feel easy or difficult. Fluency is the experience of ease or difficulty associated with mental activity (Alter & Oppenheimer, 2009). Fluency is associated with nearly every form of mental activity, including vision (Reber & Schwarz, 1999), hearing (Heyduk, 1975), information encoding (Hertzog, Dunlosky, Robinson, & Kidder, 2003), memory (Schwarz et al., 1991; Tversky & Kahneman, 1973), reading (Alter & Oppenheimer, 2008; Whittlesea, 1993), and reasoning (Day & Gentner, 2007). Even the act of mental simulation – that is, the act of imagining what an event will be like – can be fluent or disfluent (Petrova & Cialdini, 2005; Risen & Critcher, 2011; Sherman, Cialdini, Schwartzman, & Reynolds, 1985).

Fluency influences judgment partly because fluency is often an ecologically valid cue about the object being judged. Objects that are easy to recall typically occur more frequently than objects that are difficult to recall, which is why people often use the ease with which instances can be brought to mind as a cue to the frequency of the category of those instances (Tversky & Kahneman, 1973). People who are more easily recognized tend to be more famous than people who are less easily recognized, which is why people use fluency to judge fame (Hertwig, Herzog, Schoeler, & Reimer, 2008).

Fluency is also an ecologically valid cue to objective distance. As events become closer in time, they often become easier to imagine. Just as easily perceiving the details of snow-capped peaks is often a valid cue to those peaks’ physical proximity, easily imagining the details of an upcoming vacation is often a valid cue to the vacation’s temporal proximity (Trope & Liberman, 2003). The ecological association between fluency and objective distance may emerge because people more frequently attend to and imagine temporally proximal events, and attention frequency increases fluency (Reder, 1987; Reder & Ritter, 1992). Given the ecological association between fluency and objective distance, fluently simulated events should be less psychologically distant.

We recently conducted a series of studies that support this prediction (Travers & Van Boven, 2015). In one experiment, we asked people to write either short or long descriptions of what
they did last Christmas. Writing descriptions of events should make them easier to imagine, much like reading descriptions of events makes them easier to imagine (Broemer, 2004; Garry, Manning, Loftus, & Sherman, 1996; Mandel, Petrova, & Cialdini, 2006; Sherman et al., 1985). However, writing overly long descriptions actually makes events more difficult to imagine (Schwarz & Vaughn, 2002; Schwarz et al., 1991). Accordingly, participants who wrote short descriptions reported that Christmas was psychologically closer than people who wrote long descriptions. This finding suggests that the ease associated with mentally simulating a holiday, and not the amount of information associated with imagining a holiday, reduced its psychological distance.

Motivation

One implication of the teleological foundation of psychological distance is that people may strategically manage psychological distance in the service of maintaining favorable self-views. We have so far discussed temporal psychological distance as the sense of separation between the immediately experienced “here and now” and events in the past or future. People’s sense of self—their understanding of who they are or how good they are—is also temporally extended. Despite the slogan to live “just for today,” even the most Zen person recognizes that the person they were yesterday and the person they will be tomorrow are both intricately connected to the person they are today (Peetz & Wilson, 2008). When one considers the portion of the self that delivers public presentations, yesterday’s magnificent performance is a part of the person who one is today—and yesterday’s performance reflects favorably on that present self. Yet, as temporal distance increases, the connections between the present self and the temporally extended self become tenuous. The person who one is today overlaps with the person one was yesterday more than it overlaps with the person one was ten years ago.

Because people are strongly motivated to maintain a sense of the self as a worthy, good person, they use psychological distance to strategically manage their self-appraisals (Peetz & Wilson, 2008). University students who contemplated a successful past high school event reported their time in high school to be less psychologically distance than did university students who contemplated an unsuccessful high school event (Ross & Wilson, 2002). People who attributed a past positive life event to internal factors felt subjectively closer to that event than did people who attributed the event to external factors (Haddock, 2004). Under conditions of self-threat, Germans (but not Canadians) reported greater psychological distance to the Holocaust, which might otherwise impugn German self-integrity more than Canadian self-integrity (Peetz, Gunn, & Wilson, 2010). People thus manage the psychological distance to past selves in a way that allows them to maintain favorable self-appraisals of the present self.

Prioritizing Prospection

The mind is a powerful time machine capable of mentally traveling both forward and backward from the present. People can look back to past presentations and look forward to future presentations. Yet, retrospection and prospection are not equal. As mentioned earlier, objective distance in time has a direction such that people are typically more oriented toward the future than the past, and this prioritization of prospection in mental time travel creates an asymmetry between looking forward and looking backward (Caruso & Van Boven, 2015). People attend more to the future than to the past (Baumeister, Hofmann, & Vohs, 2015; Hofmann, Vohs, & Baumeister, 2012; Jason, Schade, Furo, Reichler, & Brickman, 1989; Smallwood, Nind, & O’Connor, 2009; Smallwood et al., 2011). Compared with retrospection, prospection is associated with more prototypical thought (Kane, Van Boven, & McGraw, 2012; Van Boven, 2015). Social and Personality Psychology Compass 9/11 (2015): 593–605, 10.1111/spc3.12207
Kane, & McGraw, 2009), heightened value of outcomes (Caruso, Gilbert, & Wilson, 2008), and more stringent moral intuitions (Caruso, 2010).

Although there is much that distinguishes the ecology of the past and the future, we have argued that three temporal asymmetries contribute to the prioritization of prospection (Caruso & Van Boven, 2015). First, as we have discussed, time seems to move in a particular direction toward the future, contributing to a general orientation to the future. Second, people typically know more about the past than the future, contributing to greater uncertainty about the future. Finally, people can affect the future but not the past, contributing to greater control over the future. These three differences—direction, uncertainty, and control—can directly reduce psychological distance and can intensify the phenomenology of emotion, attention, fluency, and motivation, all of which indirectly reduce psychological distance.

We have found that people systematically report that future events are less psychologically distant than past events (Caruso, Van Boven, Chin, & Ward, 2013). Because psychological distance is shaped by metaphors of physical space, we also found that experimentally manipulating (virtual) spatial movement in a forward or backward direction moderates the psychological distance of future versus past events (Caruso et al., 2013). When people experience themselves moving backward in virtual space, they no longer report that the future is less psychologically distant than the past.

People also experience more intense emotions about the future than the past (D’Argembeau & Van der Linden, 2004; Van Boven & Ashworth, 2007). As we have seen, emotional arousal reduces psychological distance. Finally, because people’s mental representation of the future is more prototypical than their mental representation of the past, imagining the future feels easier than imagining the past (Kane et al., 2012; Van Boven et al., 2009), and as we have reviewed, the experience of fluency reduces psychological distance.

The prioritization of prospection reflects the teleological factors that shape psychological distance. People’s psychological systems are more prepared to act on what lies ahead than on what lies behind (Seligman, Railton, Baumeister, & Sripada, 2013). The perception that the future is uncertain and within one’s control is essential for thinking and behaving in ways that prepare them to act and to realize their desires (Horwich, 1989, p. 197). As a result, this prospective orientation reduces distance to the future and increases the intensity of experiences such as emotion that reduce psychological distance.

Conclusion

Although psychological distance is foundational to psychological science, it has seldom been regarded as a distinct construct to be directly explained. Research focusing on the consequences of changes in objective distance, most prominently typified by construal level theory, has provided limited purchase on understanding what makes events seem close or far in psychological space. This review helps fill that void by providing a tripartite model of the foundations of psychological distance through spatial metaphors (which provide the language for thinking about psychological distance), ecological factors (which build the naturally occurring associations between subjective experience and psychological distance), and teleological factors (which form the functional considerations of psychological distance).

When Mr Tomberlin wrote that the 9–11 attacks were “closer” to the U.S. soldiers stationed in Afghanistan than to the general public, we suspect that ordinary readers understood what he meant. But social psychologists did not have the empirical and theoretical underpinnings to explain precisely what it meant to be “close.”

Sometimes that’s how social psychological science works. Ordinary people’s psychological experience sheds light on something that social psychologists thought we understood. By
realizing the separation between ordinary people’s knowledge of their own experience and the scientific understanding of that experience, our path of empirical examination is clear – a path on which we hope to have traveled some distance.

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**Short Biographies**

Leaf Van Boven is a Professor in the Department of Psychology and Neuroscience at the University of Colorado Boulder. He received his PhD in Social Psychology from Cornell University in 2000, and his Bachelor of Science in Psychology from the University of Washington, Seattle, in 1995. Professor Van Boven is a Fellow of the Institute for Cognitive Science and of the Center for the American West. He is an Associate Editor at the Journal of Personality and Social Psychology and Psychological Science. Van Boven is the Director of the Center for Research on Judgment and Policy, and he is the Director of the Emotion, Decision, Judgment, and Intuition (EDJI) lab. Professor Van Boven seeks to improve the quality of people’s everyday lives by understanding the interrelations between emotion, judgment, and decision-making, with a particular focus on how these processes post barriers to people’s economic, physical, and psychological well-being.

Eugene M. Caruso is an Associate Professor of Behavioral Science and Willard Graham Faculty Scholar at The University of Chicago Booth School of Business. He received his PhD in Social Psychology from Harvard University in 2007, and his undergraduate degree in Psychology from Princeton University in 1998. His research aims to understand the abilities that enable people to transcend their present circumstances to consider situations and perspectives different from their current one across two broad areas: temporal perspective taking (understanding other times) and social perspective taking (understanding other minds). His work explores the basic psychological processes that guide these types of judgments, with a particular focus on the moral and ethical consequences that result when people consider times other than the present and people other than the self.

**Note**

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