The Psychology of Transcending the Here and Now

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People directly experience only themselves here and now but often consider, evaluate, and plan situations that are removed in time or space, that pertain to others' experiences, and that are hypothetical rather than real. People thus transcend the present and mentally traverse temporal distance, spatial distance, social distance, and hypotheticality. We argue that this is made possible by the human capacity for abstract processing of information. We review research showing that there is considerable similarity in the way people mentally traverse different distances, that the process of abstraction underlies traversing different distances, and that this process guides the way people predict, evaluate, and plan near and distant situations.

Our experiences of the world are limited to the self, here and now, yet people, events, and situations that are beyond our immediate experience populate our mind. We plan for the future, remember the past, think about remote locations, take others' perspective, and consider alternatives to reality. In each case, we transcend the present to consider psychologically distant objects. An object is psychologically distant from us to the extent that it is remote in time (future or past) or in space; refers to experiences of others (e.g., relatives, acquaintances, or strangers); and unlikely to occur. But how do we transcend the present, evaluate, and make decisions with respect to psychologically distant objects? And how does increasing distance from objects affect the way we respond to these objects?

The question of how people transcend the present and respond to increasingly more distant objects is central to behavioral and social sciences, because both collective and personal human development is associated with traversing increasingly greater distances. The turning points of human evolution include developing tools, which required planning for the future; making function-specific tools, which required constructing hypothetical alternative scenarios of future events; developing language, which enabled forming larger and more complex social groups and relations; and domestication of animals and plants, which required an extended temporal perspective (1). Human history is associated with expanding horizons—traversing greater spatial distances (e.g., discovering new continents, space travel); forming larger social groups (families versus cities versus states versus global institutions); planning and investing in the more distant future; and reaching farther back into the past. Human development in the first years of life involves acquiring the ability to plan for the more distant future, to consider possibilities that are not present, and to consider the perspective of more distant people [from self-centeredness to acknowledging others, from immediate social environment to larger social groups (2)].

Although evolution, history, and child development have different time scales, we propose that the expanding horizons that all of them entail require and are enabled by the human capacity for abstract mental representation. This hypothesis is based on Construal Level Theory (CLT) of psychological distance (3, 4), which links psychological distance from objects to the mental construal of those objects. In the following, we explain what we mean by mental construal and how it relates to traversing psychological distances. We then describe research findings demonstrating that there is considerable commonality in the way people traverse different dimensions of psychological distance; that similar mental construal processes underlie traversing different distance dimensions; and that these construal processes guide the way people predict, evaluate, and plan psychologically near and distant situations.

Any event or object can be represented at different levels of construal. Lower-level construals are concrete, relatively unstructured, and contextualized representations that include subordinate and incidental features of events. Higher-level construals are abstract, schematic, and decontextualized representations that extract the gist from

**Musée des Beaux Arts**   by W. H. Auden

About suffering they were never wrong,
The Old Masters; how well, they understood
Its human position; how it takes place
While someone else is eating or opening a window or just walking dully along;
....
In Breughel's Icarus, for instance: how everything turns away
Quite leisurely from the disaster; the ploughman may
Have heard the splash, the forsaken cry,
But for him it was not an important failure; the sun shone
As it had to on the white legs disappearing into the green
Water, and the expensive delicate ship that must have seen
Something amazing, a boy falling out of the sky,
had somewhere to get to and sailed calmly on.

Fig. 1. Bruegel the Elder's *Landscape with the Fall of Icarus* represents an intriguing mixture of high-level, abstract features, and low-level, concrete features.

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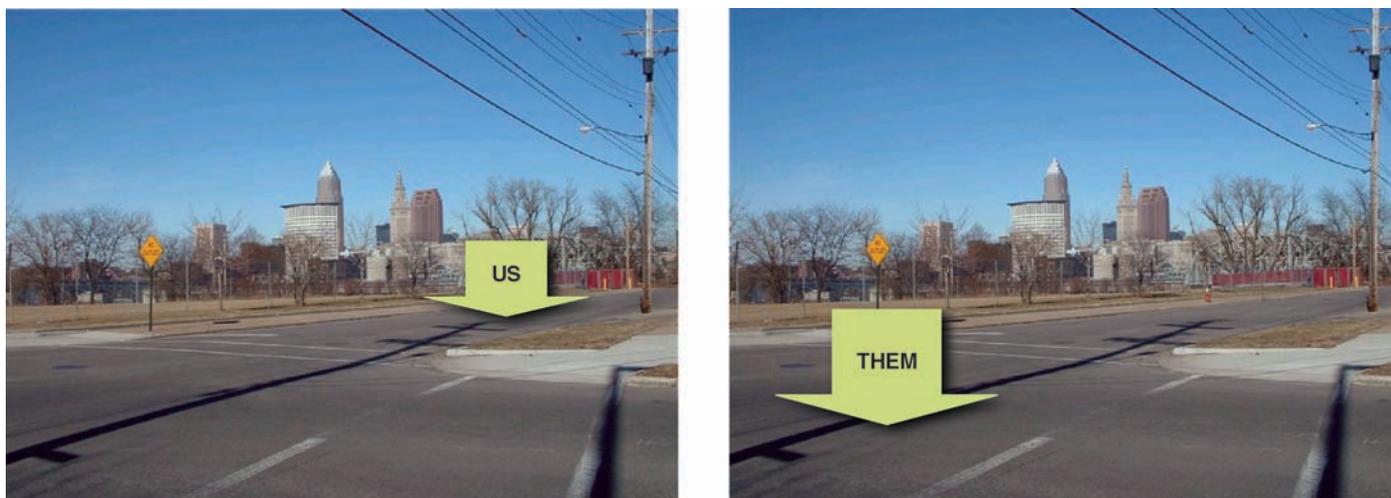
Fig. 2. Two examples of incongruent visual stimuli: a word denoting social proximity, "us," located far from the observer, and a word denoting social remoteness, "them," located near the observer. Because spatial distance is associated with temporal distance, social distance, and hypo-theticality, participants are slower to indicate the location of the arrow and to identify the word on it with incongruent stimuli than with congruent stimuli ["us" located near the observer and "them" located far from the observer (6)].

the available information. They emphasize superordinate, core features of events and omit incidental features that may vary without significantly changing the meaning of events. Consider, for example, children playing basketball in the backyard. A lower-level construal of this activity might include such details as the children's age, the color of the ball, and the temperature outside. A higher-level construal of the same activity might simply be "having fun." The higher-level construal disregards the unique features of the event and entails an implicit decision about which features are central to the event and which are peripheral. For example, the omitted feature "basketball" could have been replaced with a jumping rope, but "having fun" would still apply. Given a different context or goal, however (e.g., "practicing basketball"), the same feature could become central and, therefore, included in a high-level construal. Regardless of the particular construal chosen, construing objects at higher-levels involves omitting features that are perceived as secondary and variable and retaining those aspects that are essential and invariant from the perspective of that high-level construct. At the same time, abstraction links the object to a more general set of objects and adds a new meaning that is not part of its more concrete, lower-level construal (e.g., "having fun" emphasizes the positive valence of "playing basketball outside" and connects it to such activities as "partying.") Bruegel the Elder's *Landscape with the Fall of Icarus* and its interpretation in Auden's poem (Fig. 1) illustrate the tension between central and secondary aspects of a situation. In this painting, the ploughman witnesses the fall of Icarus. However, as he is immersed in the details of his immediate chore, he is oblivious to the significance of the event.

Objects that are more distant on any dimension will be represented at a more abstract, higher

level of construal, because higher-level construals capture those features of objects that remain relatively invariant with increasing distance, and thus enable prediction across distance. Well in advance, the children in our example may have known that they will have fun, but they could not know that they will play basketball outside, possibly because they did not know how cold it would be or whether a ball would be available. Similarly, high-level features tend to change less than low-level features across social distance—most people have fun from time to time, but only specific social groups would play basketball outside.

Construals may also affect perceived distance. Construing an object at a higher level connects it to other objects that span a wider range in time, space, social perspectives, and hypothetical situations and, therefore, brings to mind more distal times, places, people, and alternatives. For example, "having fun" relative to "playing basketball outside" would bring to mind experiences that span wider time and space and pertain to more diverse individuals and to more yet-unexperienced, hypothetical events.

In sum, different dimensions of psychological distance—spatial, temporal, social, and hypotheticality—correspond to different ways in which objects or events can be removed from the self, and farther removed objects are construed at a higher (more abstract) level. Three hypotheses follow from this analysis. (i) As the various dimensions map onto a more fundamental sense of psychological distance, they should be interrelated. (ii) All of the distances should similarly affect and be affected by the level of construal. People would think more abstractly about distant than about near objects, and more abstract construals would lead them to think of more distant objects. (iii) The various distances would have similar effects on prediction, evalu-

ation, and action. We now discuss research bearing on each of these hypotheses.

The Interrelations Among Psychological Distance Dimensions

Try to complete the sentence "A long time ago, in a ____ place." The tendency to complete it with "far away" rather than with "nearby" reflects not only a literary convention but also an automatic tendency of the human mind. Indeed, people use spatial metaphors to represent time in everyday language and reasoning (5). More generally, if psychological distance is reflected in different dimensions, then these dimensions should be mentally associated. Remote locations should bring to mind the distant rather than the near future, other people rather than oneself, and unlikely rather than likely events. Initial support for this hypothesis comes from a set of studies (6) in which participants viewed landscape photographs containing an arrow that was pointing to either a proximal or a distal point on the landscape. Each arrow contained a word denoting either psychological proximity (e.g., tomorrow, we, sure) or psychological remoteness (e.g., year, others, maybe) (Fig. 2). Participants had to respond by pressing one of two keys as quickly and as accurately as possible. In one version of the task, they had to indicate whether the arrow pointed to a proximal or distal location. In another version, they had to identify the word printed in the arrow [Stroop task (7)]. In both versions, participants responded faster to (i.e., processed more efficiently) distance-congruent stimuli (in which the spatially distant arrow contained a word that denoted large temporal distance, large social distance, or low likelihood and the spatially proximal arrow contained words that denoted temporal proximity, social proximity or high likelihood) than to distance-incongruent stimuli (in which spatially distal arrows contained

words denoting proximity and spatially proximal arrows contained words denoting remoteness).

These results suggest that spatial distance, temporal distance, social distance, and hypotheticality have a common meaning—psychological distance—and that people access this meaning spontaneously, even when it is not directly related to their current task. This view is consistent with research in neuroscience. Thinking about the future, remembering the past, and taking another person's perspective activate a common brain network involving the prefrontal cortex and the medial temporal lobe (8–10). Thus, the same neural substrate is activated by different forms of transcending the present.

Psychological Distance and Level of Mental Construal

Our second hypothesis states that more distal objects in any dimension will be construed at a higher level. It may seem intuitive that from far away we see the forest, and, as we get closer, we see trees. It is also intuitive that to see the forest we need to step back, whereas to see the trees we need to get closer. These should apply, however, not only to spatial distance but also to other distance dimensions and not only to visual input, where it might seem a natural constraint of our perceptual system, but also to conceptual abstraction. We do not literally see either tomorrow or next year. Yet, we may think about tomorrow in terms of trees and about next year in terms of the forest. Moreover, thinking of trees may prompt us to think of tomorrow, whereas thinking of the forest may prompt us to think of next year. The link between distance and construal has important implications for perception, categorization, and inference.

Perception. In a series of studies, participants completed what they believed to be sample items of a task that required abstraction of coherent images from fragmented or noisy visual input [the Gestalt Completion Test (11) (Fig. 3)]. Participants' performance improved from 74% correct to 86% correct when they anticipated working on the actual task in the more distant future (12). Performance in the task also improved when participants thought the actual task was less likely to take place (13) and when social distance was enhanced by priming of high social status (14). A psychologically distant perspective thus seems to enable people to see the "big picture" better.

Although abstraction improves the ability to perceive the gestalt in a visual array, it has an opposite ef-

fect when the task requires attention to minute details. Distance should therefore have a detrimental effect on the ability to identify a missing element within a coherent whole. Indeed, participants did worse (57% correct versus 65% correct) on sample items of a task in which they had to find differences between two pictures when they believed they were less likely to complete the task later (13).

Categorization. We examined the effects of temporal distance on category breadth (15) by asking individuals to imagine an event (e.g., a camping trip) occurring in either the near or the distant future. For each event, participants grouped a set of related objects (e.g., tent, ball, snorkel) into as many groups as they deemed appropriate. Consistent with the idea that distance promotes the use of more abstract concepts, participants who thought of a more distant event created fewer, broader groups of objects.

Fig. 3. Items from the Gestalt Completion Test (11). Identifying the pictures (from top-right to bottom left: a boat, a rider on a horse, a rabbit, a baby) requires visual abstraction. Participants were better at identifying pictures that they believed were sample items of a more distant future task (12) or a less likely task (13).

Reduced likelihood and social distance had the same effect (13, 14). For example, objects that pertained to less likely events (e.g., a trip that had a high probability of being cancelled) were grouped into broader categories.

Actions, like objects, may be construed in high-level terms, which link them to a superordinate purpose (why one performs them), or in low-level terms, which link them to subordinate means (how one performs them). Here, too, greater psychological distance promotes higher levels of construal (16): Participants tended to describe more distant future activities (e.g., studying) in high-level terms (e.g., "doing well in school") rather than in low-level terms (e.g., "reading a textbook"). Similar effects emerged when actions were to take place in a spatially distant location (17), when the actions were framed as unlikely to actually take place (13), and when the actor was described as dissimilar to the perceiver (18).

Inference. We can explain others' behavior in terms of abstract dispositions of the actor (traits, values, and attitudes) or in terms of specific situational factors. If someone steps on your foot in an elevator, for example, you might say to yourself, "she is clumsy" or "the elevator is too crowded." In terms of CLT, the former constitutes a high-level construal, whereas the latter constitutes a low-level construal. Social psychological research has shown that various forms of social distance are associated with emphasizing high-level personal dispositions and underweighting low-level situational factors. For example, people's explanation of their own behavior emphasizes concrete situational factors that operate at the moment of action, whereas their explanation of others' behavior emphasizes stable and personal dispositions (19, 20). In a related vein, personal memories that are recalled from a third-person perspective rather than from a first-person perspective (e.g., "try to remember your first day at school, as if you are a kid again" versus "… as if you are now watching the kid you were") tend to employ dispositional (as opposed to situational) terms (21, 22). Similarly, group perception research shows that compared with in-groups, out-groups are described in more abstract terms and believed to possess more global and stable traits [e.g. (23, 24, 25)].

In accordance with the predictions of CLT, research has found

that other psychological distances produce similar effects. Behavior that is expected to occur in the more distant future is more likely to be explained in dispositional rather than in situational terms (*26*). Another study (*27*) extended this finding to spatial distance. Participants drew stronger inferences about others' personality from behaviors that took place in spatially distal, as compared with spatially proximal locations. These finding suggest that we believe that personality is reflected in what people do in distant times and places rather than in proximal ones.

Reciprocal relation between construal level and distance. If high-level construals serve to represent psychologically distant events, then activating high-level construals should lead people to think of events in psychologically more distant situations. For example, if social and temporal remoteness enhance the tendency to think of a person's abstract traits, then thinking of a person's traits should bring to mind socially and temporally remote situations. Indeed, we found that thinking about an activity in high level, "why," terms rather than low level, "how," terms led participants to think of the activity as taking place in more distant points in time (*28*).

The associations between distance and level of construal was also demonstrated with an Implicit Associations Test (*29, 30*). Participants in these studies were presented with words from four categories: high-level construal (e.g., category names such as "drinks"); low-level construal (e.g., exemplar names such as "Coke"); small psychological distance (e.g., socially proximal words such as "ours" or "friend"); and large psychological distance (e.g., socially distant words such as "theirs" or "stranger"). Participants mapped words from these four categories on two responses, pressing either a left key or a right key on the computer keyboard. On congruent trials, high-level stimuli were paired with distant stimuli and low-level stimuli were paired with proximal stimuli, whereas on incongruent trials, high-level stimuli were paired with proximal stimuli and low-level stimuli were paired with distal stimuli. With all four dimensions of psychological distance, participants were faster with congruent than with incongruent pairings, which suggested that they implicitly associated large psychological distances with high-level construal and small psychological distances with low-level construal.

In sum, research shows that as psychological distance increases, construals become more abstract, and as level of abstraction increases, so too do the psychological distances people imagine. These findings suggest that abstract thinking is used to transcend the present and expand one's mental horizon by thinking farther into time and space and considering remote social targets and unlikely possibilities. It is noteworthy that neuropsychological research has shown that the brain is hierarchically organized with higher points in the cortical hierarchy representing increasingly more abstract aspects of stimuli (*31, 32*). For

example, progressively anterior subregions of the prefrontal cortex have been found to be associated with more abstract representations (*33–35*). Possibly, this organization of information in the brain might be related to distance from stimuli, such that activation systematically progresses to higher points in the hierarchy as psychological distance from the stimuli increases.

The Effect of Psychological Distance on Prediction, Evaluation, and Behavior

We make predictions, evaluations, and choices with respect to our construal of objects rather than the objects themselves. These construals depend not only on the actual attributes of the objects, but also on their psychological distance. It follows that distance in time and space, social distance, and probability should similarly affect prediction, evaluation, and behavior inasmuch as they all lead people to rely on higher-level construals.

Psychological distance and prediction. Normatively, distant events should be predicted with less certainty than near events. Because we know less about the more distant future, for example, we should be less confident when making predictions about temporally distal events. According to CLT, however, higher-level construals should actually make people more certain in predicting more distant outcomes. As suggested earlier, the very function of high-level construals is to enable individuals to transcend mentally the "here and now" by forming a structured representation of the invariant features of the available information and projecting it onto distal objects. Consequently, predictions of future experiences would be more schematic than the actual experiences, giving rise to a variety of prediction biases that stem from underweighting contextual and incidental features (*36–38*). In accordance with this reasoning, students were more confident that an experiment would yield theory-confirming results when they expected the experiment to take place in a more distant point in time (*39*). Apparently, when making predictions for the more distant experiment, participants gave more weight to the theory (high-level construal) and less weight to incidental noise factors (low-level construal).

In a study that investigated the effect of spatial distance on the tendency to base predictions on global versus local information (*27*), New York University (NYU) participants viewed a series of graphs depicting information from the years 1999 to 2004 (e.g., average number of photocopies per student). The information was said to pertain to the NYU campus in Manhattan (spatially near condition) or to the NYU campus in Florence, Italy (spatially distant condition). Each graph showed either an upward or a downward trend, with the final year (2004) always deviating from that global trend. Participants estimated the likelihood that the year 2005 would be consistent with the general trend or with the more recent local deviation. In terms

of CLT, global trends convey a high-level construal, whereas deviations, being local exceptions, should receive more weight in low-level construals. Consistent with this reasoning, spatial distance enhanced the tendency to predict on the basis of the global trend rather than on the basis of local deviation.

Psychological distance and evaluation. A common assumption in the behavioral sciences is that the value of an outcome diminishes as temporal distance from the outcome increases (*40–42*)—positive outcomes seem less positive when removed in time (intertemporal discounting). The prediction from CLT, however, is that increased temporal distance, as with any psychological distance, should shift the overall attractiveness of an outcome closer to its high-level construal value and away from its low-level construal value. When the low-level value of an outcome is more positive than its high-level value, temporal discounting would obtain, so that the outcome would be less attractive in the more distant future. When the high-level value of an outcome is more positive, however, the outcome should be more attractive in the distant future.

According to CLT, central, goal-related features of outcomes constitute a high-level construal of these outcomes, whereas peripheral, goal-irrelevant features of outcomes constitute a low-level construal. Distancing an outcome should therefore increase the weight of central features relative to peripheral features. Support for this prediction was found in a study in which participants imagined buying a radio set in order to listen to morning programs either the next day or in one year (*43*). In one version, participants were informed that the sound quality of the radio set was good, but that the built-in clock was relatively useless. In a different version, participants were informed that the sound quality of the radio set was poor, but that the clock turned out to be quite useful. Participants had to rate their satisfaction from the imagined purchase of the radio set. As predicted, thinking about the radio set in the more distant future increased satisfaction when the sound quality was good and the clock was useless, but decreased satisfaction when the sound quality was poor and the clock was good, which indicated that time distance increased the weight of central features and decreased the weight of peripheral features. It seems, then, that people's overriding goals are more likely to guide their choices for psychologically distant than for psychologically near situations.

Desirability concerns involve the value of the action's end state (a high-level construal), whereas feasibility concerns involve the means used to reach the end state (a low-level construal). Therefore, desirability concerns should receive greater weight over feasibility concerns as psychological distance increases. Consistent with this prediction, we found that as temporal distance from an activity (e.g., attending a guest lecture) increased, the attractiveness of the activity depended more on its desirability (e.g.,

how interesting the lecture was) and less on its feasibility (e.g., how convenient the timing of the lecture was) (*16*). As a result, people are more likely to end up overcommitting themselves when planning the distant future than near future, as they would neglect constraints (*16*). Similar results emerged with probability as a psychological distance dimension (*44*). These findings suggest that distance increases the attractiveness of alternatives that are desirable but hard to obtain, but decreases the attractiveness of alternatives that are less desirable but easy to obtain. Extending this effect to the realm of risky choice, we found that people take greater risks (i.e., favoring bets with a low probability of winning a high amount over those that offer a high probability to win a small amount) in decisions about temporally more distant bets (*45*).

Psychological distance and behavior. Like predictions and evaluations, behavior should be increasingly based on high-level construal aspects as psychological distance increases. As outcomes seem more temporally, spatially, or socially remote or unlikely to materialize, actions should be guided more by one's central, global concerns and less by one's secondary, local concerns.

Issues within interpersonal negotiation can differ in their centrality and worth. If negotiators can concede on secondary issues in exchange for getting what they want on high-priority issues, a process called logrolling, they are more likely to maximize both individual and joint outcomes. Because negotiators would be expected to focus more on central concerns and less on peripheral concerns as distance increases, this should lead to more logrolling agreements about more distal situations. In line with this prediction, a study of live negotiation (*46*) found that 91% of dyads with a temporally distant perspective reached a fully logrolling agreement as compared with only 50% of dyads with a temporally near perspective.

Exercising self-control requires acting in line with ones' central, superordinate, and global considerations in the presence of more locally tempting alternatives. Because such considerations naturally relate to high-level construals, psychological distance should facilitate self-control. Indeed, people seem to be better able to choose delayed but valuable outcomes for the distant than for the near future (*47*). As another example, choosing a negative but diagnostic assessment of one's abilities rather than a flattering but non-diagnostic assessment requires prioritizing the long-term benefits of self-improvement over subordinate concerns about feeling good. Consistent with this prediction, participants were more likely to prefer the negative but diagnostic assessment when it was expected in the more distant future (*48*). A recent series of studies (*49*) has directly linked construal level to self-control, showing that forming a high-level construal of situations enhanced self-control (e.g., choosing a delayed reward, enduring painful but valuable diagnostic procedures). In the same vein, research on delay of gratification in children showed that

an abstract representation of the temptation increases delay relative to a more concrete representation (*50*).

In summary, a range of studies suggests that people rely on high-level construals to a greater extent when predicting, evaluating, and taking action with respect to more distant situations. Ironically, the increasing reliance on high-level construals for more distant situations often leads people to make more confident predictions, more polarized evaluations, and clearer choices. This result is counterintuitive if one believes that distant situations should afford less certainty and thus reduce confidence and decisiveness.

Conclusion

Considerable research across the behavioral sciences has examined how people respond to events in the recent versus distant past and the near versus distant future, to spatially near versus far objects, to themselves versus others, and to real versus hypothetical or probable versus improbable events. Without denying the uniqueness of each distinction, we propose that they all constitute dimensions of psychological distance. Their point of origin is one's direct experience of the "here and now." Transcending this point entails constructing mental models of what is not directly experienced, and the farther removed an object is from direct experience, the higher (more abstract) the level of construal of that object. Lower-level construals enable people to be immersed in the rich details of the immediate situation, whereas higher-level construals enable appraisal of the general meaning that might apply across a wide range of alternatives. Consistent with this proposal, the research reviewed in this article suggests that different distance dimensions are mentally associated, that distancing on any of these dimensions is associated with higher levels of construal, and that they have similar effects on prediction, evaluation, and behavior.

References and Notes

1. M. Flinn, D. Geary, C. Ward, *Evol. Hum. Behav.* **26**, 10 (2005).
2. T. Suddendorf, M. C. Corballis, *Behav. Brain Sci.* **30**, 335 (2007).
3. N. Liberman, Y. Trope, E. Stephan, in *Social Psychology: A Handbook of Basic Principles*, E. T. Higgins, A. W. Kruglanski, Eds. (Guilford, New York, 2007), pp. 353–381.
4. Y. Trope, N. Liberman, *Psychol. Rev.* **110**, 403 (2003).
5. D. Casasanto, L. Boroditsky, *Cognition* **106**, 579 (2008).
6. Y. Bar-Anan, N. Liberman, Y. Trope, D. Algom, *J. Exp. Psychol. Gen.* **136**, 610 (2007).
7. R. Stroop, *J. Exp. Psychol.* **18**, 643 (1935).
8. D. R. Addis, D. L. Schacter, *Hippocampus* **18**, 227 (2008).
9. R. L. Buckner, D. C. Carroll, *Trends Cogn. Sci.* **11**, 49 (2007).
10. D. L. Schacter, D. R. Addis, R. B. Buckner, *Nat. Rev. Neurosci.* **8**, 657 (2007).
11. R. B. Ekstrom, J. W. French, H. H. Harman, D. Dermen, *Manual for Kit of Factor-Referenced Cognitive Tests* (Educational Testing Service, Princeton, NJ, 1976).
12. J. Förster, R. S. Friedman, N. Liberman, *J. Pers. Soc. Psychol.* **87**, 177 (2004).
13. C. J. Wakslak, Y. Trope, N. Liberman, R. Alony, *J. Exp. Psychol. Gen.* **135**, 641 (2006).
14. P. K. Smith, Y. Trope, *J. Pers. Soc. Psychol.* **90**, 578 (2006).
15. N. Liberman, M. C. Sagristano, Y. Trope, *J. Exp. Soc. Psychol.* **38**, 523 (2002).
16. N. Liberman, Y. Trope, *J. Pers. Soc. Psychol.* **75**, 5 (1998).
17. K. Fujita, M. D. Henderson, J. Eng, Y. Trope, N. Liberman, *Psychol. Sci.* **17**, 278 (2006).
18. I. Liviatan, Y. Trope, N. Liberman, *J. Exp. Soc. Psychol.* **44**, 1256 (2008).
19. E. E. Jones, R. E. Nisbett, in *Attribution: Perceiving the Causes of Behavior*, E. E. Jones *et al.*, Eds. (General Learning Press, Morristown, NJ, 1972), pp. 79–94.
20. D. T. Gilbert, E. C. Pinel, T. D. Wilson, S. J. Blumberg, T. P. Wheatley, *J. Pers. Soc. Psychol.* **75**, 617 (1998).
21. M. G. Frank, T. Gilovich, *J. Pers. Soc. Psychol.* **57**, 399 (1989).
22. G. Nigro, U. Neisser, *Cognit. Psychol.* **15**, 467 (1983).
23. K. Fiedler, G. R. Semin, C. Finkenauer, I. Berkel, *Pers. Soc. Psychol. Bull.* **21**, 525 (1995).
24. B. Park, C. M. Judd, *J. Pers. Soc. Psychol.* **59**, 173 (1990).
25. P. W. Linville, G. W. Fischer, C. Yoon, *J. Pers. Soc. Psychol.* **70**, 421 (1996).
26. S. Nussbaum, Y. Trope, N. Liberman, *J. Pers. Soc. Psychol.* **84**, 485 (2003).
27. M. D. Henderson, K. F. Fujita, Y. Trope, N. Liberman, *J. Pers. Soc. Psychol.* **91**, 845 (2006).
28. N. Liberman, Y. Trope, S. M. McCrae, S. J. Sherman, *J. Exp. Soc. Psychol.* **43**, 143 (2007).
29. A. G. Greenwald *et al.*, *Psychol. Rev.* **109**, 3 (2002).
30. Y. Bar-Anan, N. Liberman, Y. Trope, *J. Exp. Psychol. Gen.* **135**, 609 (2006).
31. K. Grill-Spector, R. Malach, *Annu. Rev. Neurosci.* **27**, 649 (2004).
32. M. D. Lieberman, R. Gaunt, D. T. Gilbert, Y. Trope, in *Advances in Experimental Social Psychology*, M. Zanna, Ed. (Academic Press, New York, 2002), vol. 34, pp. 200–249.
33. D. Badre, M. J. D'Esposito, *J. Cogn. Neurosci.* **19**, 2082 (2007).
34. E. Koechlin, C. Summerfield, *Trends Cogn. Sci.* **11**, 229 (2007).
35. N. Ramnani, A. M. Owen, *Nat. Rev. Neurosci.* **5**, 184 (2004).
36. D. T. Gilbert, T. D. Wilson, *Science* **317**, 1351 (2007).
37. T. D. Wilson, D. T. Gilbert, in *Advances in Experimental Social Psychology*, P. Mark, Ed. (Elsevier Academic Press, San Diego, CA, 2003), vol. 35, pp. 345–411.
38. D. Kahneman, A. B. Krueger, D. Shkade, N. Schwarz, A. A. Stone, *Science* **312**, 1908 (2006).
39. S. Nussbaum, N. Liberman, Y. Trope, *J. Exp. Psychol. Gen.* **135**, 152 (2006).
40. G. Ainslie, *Psychol. Bull.* **82**, 463 (1975).
41. T. Schelling, *Am. Econ. Rev.* **74**, 1 (1984).
42. T. O'Donoghue, M. Rabin, *J. Behav. Decis. Making* **13**, 233 (2000).
43. Y. Trope, N. Liberman, *J. Pers. Soc. Psychol.* **79**, 876 (2000).
44. A. Todorov, A. Goren, Y. Trope, *J. Exp. Soc. Psychol.* **43**, 473 (2007).
45. M. Sagristano, Y. Trope, N. Liberman, *J. Exp. Psychol. Gen.* **131**, 364 (2002).
46. M. D. Henderson, Y. Trope, P. J. Carnevale, *J. Pers. Soc. Psychol.* **91**, 712 (2006).
47. D. Read, G. Loewenstein, R. Baumeister, Eds., *Time and Decision* (Russell Sage Foundation, New York, 2003).
48. A. L. Freitas, P. Salovey, N. Liberman, *J. Pers. Soc. Psychol.* **80**, 410 (2001).
49. K. Fujita, Y. Trope, N. Liberman, M. Levin-Sagi, *J. Pers. Soc. Psychol.* **90**, 351 (2006).
50. W. Mischel, Y. Shoda, M. L. Rodriguez, *Science* **244**, 933 (1989).
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