

## The Role of Feasibility and Desirability Considerations in Near and Distant Future Decisions: A Test of Temporal Construal Theory

Nira Liberman  
Columbia University

Yaacov Trope  
New York University and Tel-Aviv University

Temporal construal theory states that distant future situations are construed on a higher level (i.e., using more abstract and central features) than near future situations. Accordingly, the theory suggests that the value associated with the high-level construal is enhanced over delay and that the value associated with the low-level construal is discounted over delay. In goal-directed activities, desirability of the activity's end state represents a high-level construal, whereas the feasibility of attaining this end state represents a low-level construal. Study 1 found that distant future activities were construed on a higher level than near future activities. Studies 2 and 3 showed that decisions regarding distant future activities, compared with decisions regarding near future activities, were more influenced by the desirability of the end state and less influenced by the feasibility of attaining the end state. Study 4 presented students with a real-life choice of academic assignments varying in difficulty (feasibility) and interest (desirability). In choosing a distant future assignment, students placed relatively more weight on the assignment's interest, whereas in choosing a near future assignment, they placed relatively more weight on difficulty. Study 5 found that distant future plans, compared with near future plans, were related to desirability of activities rather than to time constraints.

In everyday life, people judge and make decisions about events that will take place either in the relatively near future or in the distant future. For example, one may need to decide whether to take a vacation, give a lecture, or attend a conference a few months in advance or just a few days in advance. This article addresses the question of how temporal distance from an event affects people's decisions regarding that event. We argue that distant future events are construed on a higher level (i.e., by using more central and abstract features of the event) than near future events. Therefore, decisions regarding distant future events are likely to be based on relatively central and abstract features of events, whereas decisions regarding near future events are likely to be based on more incidental and concrete features of events. We report a series of five studies that tested this hypothesis in a variety of decision situations.

### Time-Dependent Changes in Value and Expectancies

Past research on the psychological effects of temporal distance has been mainly concerned with time-dependent changes

in value of outcomes. This issue has been investigated in a number of areas, including behavioral decision making (e.g., Loewenstein, 1987; Thaler, 1992), learning theory (e.g., Ainslie, 1975; Ainslie & Haslam, 1992), delay of gratification (e.g., Mischel, 1974; Mischel, Gruesec, & Masters, 1969), and self-control (e.g., Baumeister & Heatherton, 1996; Rachlin, 1995). It has been typically assumed that the value of outcomes is discounted or diminished over time. Indeed, a considerable amount of research has shown that people often prefer an immediate reward over a delayed one, even when the delayed reward is somewhat larger (e.g., Ainslie & Haslam, 1992; Mischel, Shoda, & Rodriguez, 1989). However, researchers have also found marked variation in rate of time discounting (e.g., Rachlin & Raineri, 1992) and even reversals of discounting, namely, instances in which value undergoes augmentation rather than discounting with temporal distance (e.g., Elster & Loewenstein, 1992; Loewenstein, 1987).

A number of hypotheses having to do with the magnitude and type of value have been proposed as explanations of variations in rate of time discounting. For example, research in economics and decision making has shown that small rewards are discounted over delay more than large rewards (Benzion, Rappoport, & Yagil, 1989; Klein-Burhans, 1995; Thaler, 1992). Conflict models researchers (Lewin, 1951; Miller, 1944) have suggested that negative outcomes undergo steeper discounting than positive outcomes. Research on delay of gratification and self-control has shown that affect-based responses, such as responses to primary rewards and addictive substances, undergo steeper discounting than cognitive-based responses (Mischel, Shoda, & Rodriguez, 1989; Vallacher, 1993). To account for discounting

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Nira Liberman, Department of Psychology, Columbia University; Yaacov Trope, Department of Psychology, New York University, and Department of Psychology, Tel-Aviv University.

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Correspondence concerning this article should be addressed to Nira Liberman, Department of Psychology, Schermerhorn Hall, Columbia University, New York, New York 10027, or to Yaacov Trope, Department of Psychology, Washington Place 6, 7th floor, New York, New York 10003. Electronic mail may be sent to [liberman@psych.columbia.edu](mailto:liberman@psych.columbia.edu) or to [trope@xp.psych.nyu.edu](mailto:trope@xp.psych.nyu.edu).

reversals, it has been suggested that people consume expectations so that savoring a positive outcome adds positive value to a delayed positive event, and dreading a negative event adds negative value to a delayed negative event (Elster & Loewenstein, 1992; Loewenstein, 1987). However, this account does not specify the conditions that determine whether or not expectancies will be consumed. Thus, although research on time discounting has identified specific factors that influence time-dependent changes in value, it remains unclear how these factors combine and what the general mechanism is that determines whether value will be discounted or augmented over time delay and at what rate.

The amount of research relating outcome expectancies to temporal distance is small, but it suggests that individuals tend to be more optimistic and confident about distant future than near future outcomes. Nisan (1972) showed that individuals, particularly those who are success rather than failure oriented, expected to perform better on a distant future task than on a near future task. More recent, Gilovich, Kerr, and Medvec (1993) reported a series of studies showing that individuals have higher performance expectancies for distant compared with near future tasks, a phenomenon they labeled *cold feet*. For example, students expected to receive higher grades on an introductory psychology final exam at the beginning of the semester than later in the semester, to better handle an increase in course load in the future than in the present, and to perform better on a variety of tasks (memory, reaction time, and recruiting other students for an experiment) when the tasks had to be performed in the distant future rather than in the near future. Gilovich et al.'s explanation of the cold feet phenomenon suggests that individuals feel more accountable for near future compared with distant future outcomes. Accountability, in turn, enhances the salience of difficult aspects of near future tasks compared with distant future tasks.

Related to the Nisan and Gilovich et al. studies is research on time planning and overconfidence. Buhler, Griffin, and Ross (1994) showed that people systematically underestimate task completion times, thus committing what has been termed the *planning fallacy* (Kahneman & Tversky, 1979). Buhler et al. (1994) proposed that the planning fallacy results from individuals' tendency to make predictions by constructing coherent scenarios of future task performance (see also Kahneman & Lovallo, 1991). By their very nature, these scenarios fail to incorporate factors unrelated to the task, and therefore in estimating completion time the effect of such factors is undermined. For example, a visit of the in-laws is not part of the scenario of writing a paper, and therefore would not be taken into account in estimating the paper's completion time, even if known in advance. A similar idea has been proposed by researchers of individuals' overconfidence in predicting their own and others' behavior (Dunning, Griffin, Milojkovic, & Ross, 1990; Griffin, Dunning, & Ross, 1990; Vallone, Griffin, Lin, & Ross, 1990). According to these researchers, overconfident predictions result from individuals' tendency to base their predictions on abstract models that underestimate the effect of contextual influences on the target person (Griffin & Ross, 1991).

#### Temporal Construal

Although research on overconfidence and the planning fallacy has not compared near and distant future judgments, it does

suggest a general mechanism that may underlie the effects of temporal distance. In particular, this research suggests that overconfidence and the planning fallacy result from individuals' failure to incorporate into their construal of future events nonschematic aspects of reality, that is, aspects that are not part of the constructed scenario (Buhler et al., 1994; Dunning et al., 1990; Griffin & Ross, 1991). We propose to extend this idea by distinguishing between degrees of schematicity, or, in our terms, between high-level and low-level construals. Our temporal construal theory specifically proposes that construals of distant future events are likely to be more abstract and consist of features that are central to the meaning of the event, whereas the construal of near future events is likely to be more concrete and include more peripheral and incidental features.

According to Medin (1989; see also Murphy & Medin, 1985), concepts are structured around underlying theories. In these conceptual structures, some features are central in that they have greater explanatory power than other more peripheral features (Kunda & Thagard, 1996; Read & Marcus-Newhall, 1993; Thagard, 1989). For example, in human-made products (e.g., furniture) functional features are more central than nonfunctional features (e.g., color), whereas in natural categories (e.g., tiger) genetic features are more central than morphological features (Rothbart & Taylor, 1992). In goal-directed activities, goal-related features of activities are more central than goal-irrelevant features (Gollwitzer & Moskowitz, 1996; Trope & Higgins, 1993). Temporal construal theory suggests that peripheral and incidental features are more likely to come to mind in thinking about near future events than in thinking about distant future events. For example, the construal of "movie on TV" is more likely to include "commercials" when it refers to a near future rather than a distant future movie on television.

Schematic or high-level construals are likely to be more abstract, that is, they are likely to represent events in terms of general, superordinate, and decontextualized features rather than in terms of specific, subordinate, and contextualized features (see Cantor & Mischel, 1979; Hampson, John, & Goldberg, 1986; Rosch, 1978; Semin & Fiedler, 1988; Sherman, Beike, & Ryalls, in press; Trope, 1986, 1989; Vallacher & Wegner, 1987). For example, high-level construals are more likely to use the term "pet" rather than "dog," "aggressive behavior" rather than "pushing," and "being talented" rather than "being musical." In the same way, goal-directed actions may be construed in terms of goals at different levels of abstractness. Vallacher and Wegner's (1987) action identification theory specifically suggests that actions may be represented in terms of superordinate or subordinate goals. For example, "conducting a study" may be thought of as "advancing science," or, less highly as "testing a hypothesis" or even "entering data."

Temporal construal theory proposes that abstract features are likely to be used in construing distant future events whereas more concrete features are likely to be used in construing near future events. Vallacher and Wegner (1985) have tested a related idea regarding the effects of time perspective on action identification. They have shown that a long time in advance, people represented their wedding in high-level terms, such as "expressing love," whereas on the day of the wedding they represented their wedding in lower level terms, such as "having pictures made." It should be noted, however, that the immediate reality

at these two times could be different (e.g., actually meeting the photographer only on the day of the wedding). The effect of temporal distance could be due, then, to the immediate reality rather than to how it was represented. In our tests of temporal construal theory, the immediate situation and the information about future events were kept constant across temporal distance conditions.

Thus, temporal construal theory proposes that in distant future construals, peripheral, incidental, subordinate, and contextual features are either omitted or replaced by more central and abstract features, resulting in more coherent representations. How does this theory explain changes in value over time? According to this theory, both low-level and high-level features of the construal may have either positive or negative value. Moreover, the theory states that distant future events are construed in terms of higher level features than near future events. Accordingly, the weight of the value associated with the high-level features should be higher in distant future construals, whereas the weight of the value associated with the low-level features should be lower in distant future construals. It follows, then, that value associated with low-level construals will be discounted over time (i.e., positive value will become less positive and negative value will become less negative), but value associated with high-level construals will be augmented over time (i.e., positive value will become more positive and negative value will become more negative). For example, in deciding whether to attend an interesting conference in a far away place, the fact that the topic of the conference is interesting (high-level feature) has positive value, but the fact that it requires long travel (low-level feature) has negative value. Because value associated with the topic of the conference is augmented over time delay, and value associated with travel is discounted over time delay, the overall value of attending the conference should become more positive over time. Suppose, however, that the conference is marginally interesting (negative value of a high-level feature) but takes place in one's own university (positive value on the low-level construal). In this case, positive value is associated with the low- rather than high-level construal of the conference. As a result, the overall value of this conference will become less positive over time delay.

In general, temporal construal theory predicts that the value of an event will become more positive (or less negative) over time when the value associated with the high-level construal of the event is more positive (or less negative) than the value associated with the low-level construal of the event. Conversely, the value of an event will become less positive (or more negative) over time when the value associated with the high-level construal is less positive (or more negative) than the value associated with the low-level construal of the event. In other words, the overall value of a distant future event should be closer to the value associated with its high-level construal, whereas the overall value of a near future event should be closer to the value associated with its low-level construal.

This analysis is different from that proposed by conflict models theories (Lewin, 1951; Miller, 1944) and the affect-dependent time discounting approach (Mischel et al., 1989). That is, temporal construal theory predicts both time discounting and augmentation in value of outcomes depending on whether value is associated with low- or high-level construals, respectively, and regardless of whether the value is positive or negative, af-

fective or cognitive. For example, temporal construal theory predicts that an outcome that has negative value at the high-level construal will seem more negative when delayed, whereas conflict models theory would predict that this outcome will seem more positive when delayed. Temporal construal theory also predicts that affective value associated with a high-level construal will be augmented over delay, whereas the affect-dependent time-discounting approach predicts that affective value will be discounted over delay.

### Time-Dependent Effects of Feasibility and Desirability on Choice

The present research applied temporal construal theory to the role of feasibility and desirability considerations in choice among near and distant future action alternatives. The distinction between desirability and feasibility corresponds to the distinction between means and ends (see Gollwitzer & Moskowitz, 1996; Kruglanski, 1996; Miller, Galanter, & Pribram, 1960). That is, desirability refers to the valence of an action's end state, whereas feasibility refers to the ease or difficulty of reaching the end state. For example, desirability may reflect the value one attaches to getting a high grade in a course, whereas feasibility may reflect the amount of time and effort one has to invest to get a high grade. In goal subordination theories (Carver & Scheier, 1981, 1990; Vallacher & Wegner, 1987), desirability reflects the superordinate why aspects of an action, whereas feasibility reflects the subordinate how aspects of an action. Why aspects of an action are more abstract, general, and better convey the action's meaning than how aspects (Vallacher & Kaufman, 1996; Vallacher & Wegner, 1987). For example, Wegner, Vallacher, Kiersted, and Dizadji (1986) found that people more readily adopt a new meaning for their action (e.g., accept bogus feedback as true) when the action is identified in how terms rather than why terms. Why identifications presumably convey more meaning and therefore are more resistant to new meaning (Vallacher & Wegner, 1989). This means that desirability considerations can be characterized as constituting high-level construals of action alternatives, whereas feasibility considerations can be characterized as constituting low-level construals of action alternatives. Given this characterization, temporal construal theory predicts that the influence of desirability considerations, relative to the influence of feasibility considerations, will be stronger on distant future compared with near future decisions.

Five studies were conducted to test the present application of temporal construal theory to the relative effect of feasibility and desirability in near versus distant future. Study 1 consisted of two preliminary tests of the assumption that individuals use higher level construals for distant future than for near future actions. Studies 2 and 3 used decision scenarios to test the hypothesis that relative to feasibility considerations, desirability considerations are more influential in distant future decisions compared with near future decisions. Study 4 used a real-life situation of choosing among academic assignments as a further test of the relative strength of feasibility and desirability considerations in near future and distant future decisions. Study 5 related future planning to time constraints (representing feasibility considerations) and desirability of the planned activities. It tested the hypothesis that time constraints are given greater

weight in near future than in distant future planning, but that the desirability of the planned activities is given greater weight in distant future planning than in near future planning.

### Study 1: Time-Dependent Construals

This study tested the hypothesis that distant future activities are construed on a higher level compared with near future activities. In the first, open-ended part of the study, participants described either near or distant future activities. Content analysis assessed the level of construal of the described activities. The second part of the study used an adapted version of Vallacher and Wegner's (1989) level of personal agency forced-choice questionnaire. The questionnaire asks participants to choose between high-level and low-level restatements of either distant or near future activities.

### Method

#### Participants

Thirty-two New York University psychology students (24 women) participated in the study as part of their introductory psychology course requirements. Participants answered the questionnaire in small groups (2–8 persons). They were randomly assigned to either near or distant future conditions.

#### Procedure

Each participant answered two questionnaires. The first, open-ended questionnaire asked participants to imagine themselves engaging in seven activities either "tomorrow" or "next year" and to describe these activities. The activities were "reading a science fiction book," "moving into a new apartment," "spending a weekend with your family," "taking an exam," "having a party at your apartment," "writing a letter to your family," and "watching TV." The second questionnaire was Vallacher and Wegner's (1989) levels of personal agency questionnaire, which was originally designed to assess stable individual differences in action identification. The questionnaire presents 25 activities, each followed by two restatements, one corresponding to the how aspect and the other corresponding to the why aspect of the activity (see Table 1). For example, "locking a door" is followed by the alternative restatements (a) "putting a key in the lock" and (b) "securing the house." We removed six activities we thought New York University students would find hard to imagine themselves performing in the near future.<sup>1</sup> We also added a time indicator to each activity, either "tomorrow" or "sometime next year," according to experimental condition.

### Results and Discussion

#### Open-Ended Activity Descriptions

The analysis of the open-ended activity descriptions was based on the assumption that superordinate, high-level descriptions of an activity fit the structure "[description] by [activity]" whereas subordinate low-level descriptions fit the structure "[activity] by [description]" (Hampson et al., 1986). Consider, for example, the activity "reading a science fiction book." The high-level description of this activity "broadening my horizons" fits the first structure (i.e., "I broaden my horizons by reading a science fiction book"), but not the second structure (i.e., it is odd to say "I read a science fiction book by broadening my horizons"). In contrast, the low-level de-

scription "flipping pages" fits the second structure (i.e., "I read a science fiction book by flipping pages") but not the first structure ("I flip pages by reading a science fiction book").

Two judges analyzed the open-ended activity descriptions as fitting the first structure, the second structure, neither, or both. Judges agreed on 78% of the descriptions. In 20% of the cases, one judge classified a description as fitting one of the two structures whereas the other judge classified the description as fitting neither or both structures. These cases were resolved in favor of the former judgment. Only 2% of the descriptions were classified by the two judges as fitting different structures. These cases were resolved by a third judge.

As predicted, high-level descriptions were more common in the distant future condition than in the near future condition (61% vs. 32%, respectively), and the reverse was true for low-level descriptions (27% vs. 56%, respectively). The percentage of descriptions that did not fit either structure (mostly cases where the behavior was repeated rather than described) or fit both structures was the same (12%) in the two temporal distance conditions. To perform a more refined analysis, we scored low-level descriptions -1, descriptions that were neither high-level nor low-level and descriptions that were both high-level and low-level were scored 0, and high-level descriptions were scored 1. For each participant, scores were summed over the 7 descriptions, resulting in a -7 to 7 level of construal score. As predicted, the construal level score was higher for distant future activities ( $M = 2.06$ ) than for near future activities ( $M = -1.44$ ),  $t(30) = 2.80$ ,  $p < .01$ . For example, participants described "moving into a new apartment" as "starting a new life" in the distant future condition, but as "packing and carrying boxes" in the near future condition. Similarly, "watching TV" was described as "being entertained" in the distant future condition, and as "sitting on the sofa, flipping channels" in the near future condition.

#### Levels of Personal Agency Questionnaire

Frequencies of high- and low-level restatements for each activity in the questionnaire are presented in Table 1. Each high-level why construal was scored as 1, and each low-level how construal was scored as 0. Scores were summed for each participant, resulting in a 0 through 19 level of construal score. As predicted, this construal level score was higher for distant future activities ( $M = 13.44$ ) than for near future activities ( $M = 10.19$ ),  $t(30) = 2.55$ ,  $p = .016$ .

Together, the results of the open-ended and forced-choice studies provide convergent evidence for our hypothesis that individuals use higher level construals to represent distant future activities than near future activities. Our participants used superordinate terms to describe distant future activities and subordinate terms to describe near future activities. For example, in the distant future "cleaning the house" was described as "showing one's cleanliness" whereas in the near future the same activity was described as "vacuuming the floor." Similarly, in the distant future "filling out a personality questionnaire" was described as "revealing what you're like" whereas in the near future

<sup>1</sup> These included "joining the army," "picking an apple," "chopping down a tree," "voting," "climbing a tree," and "growing a garden."

Table 1

*Proportion of High-Level Responses for Items in the Levels of Personal Agency Questionnaire (Study 1)*

Action	High identification	Low identification	Near future	Distant future
Making a list	Getting organized	Writing things down	.56	.81
Reading	Gaining knowledge	Following lines of print	.75	.88
Washing clothes	Removing odors from clothes	Putting clothes into the machine	.50	.56
Measuring a room for carpeting	Getting ready to remodel	Using a yardstick	.75	.75
Cleaning the house	Showing one's cleanliness	Vacuuming the floor	.31	.56
Painting the room	Making the room look fresh	Applying brush strokes	.69	.81
Paying the rent	Maintaining a place to live	Writing a check	.50	.88
Caring for houseplants	Making the room look nice	Watering plants	.13	.50
Locking a door	Securing the house	Putting a key in the lock	.81	.94
Filling out a personality test	Revealing what you're like	Answering questions	.44	.69
Toothbrushing	Preventing tooth decay	Moving a brush around one's mouth	.63	.81
Taking a test	Showing one's knowledge	Answering questions	.31	.50
Greeting someone	Showing friendliness	Saying hello	.56	.69
Resisting temptation	Showing moral courage	Saying "no"	.31	.56
Eating	Getting nutrition	Chewing and swallowing	.44	.50
Traveling by car	Seeing countryside	Following a map	.81	.75
Having cavity filled	Protecting your teeth	Going to the dentist	.19	.56
Talking to a child	Teaching a child something	Using simple words	.68	.75
Pushing a doorbell	Seeing if someone's home	Moving a finger	.81	.94

this activity was described as "answering questions." Thus, a common description of distant future activities stated the goals of the activities, whereas a common description of near future activities stated the means for achieving these goals. On the basis of these findings, we predicted that desirability considerations, reflecting the value of a goal, will be more influential in distant future decisions, whereas feasibility considerations, reflecting the difficulty of achieving the goal, will be more influential in near future decisions. The following four studies tested this prediction.

### Study 2: Time-Dependent Effects of Feasibility and Desirability Considerations on Choice

This study investigated the effects of feasibility and desirability of outcomes on near future and distant future decisions to undertake some course of action. Participants were asked to imagine themselves in three decision situations (e.g., deciding whether to attend a guest lecture) either in the near future or distant future and to indicate what they would decide. For each situation, the desirability of the outcome (how interesting the lecture is) and its feasibility (how convenient the timing of the lecture is) were varied between participants. We predicted that relative to the effect of feasibility, the effect of desirability on decision would increase over time.

#### Method

##### Participants

Participants were 192 psychology and business students (129 women) at Tel Aviv University. They participated in the study in groups ranging in size from 2 to 8 or in class. Psychology students fulfilled part of the requirements for an introductory psychology course, whereas business students volunteered.

##### Procedure

Three decision problems were used in this study, each varying in feasibility, desirability, and time. An English translation of the near

future versions is presented below. The text for the low desirability versions appears in parentheses, and the text for the low feasibility versions appears in brackets. In distant future versions, "tomorrow" was replaced with "a year from now."

*Guest lecture.* Imagine that a guest lecture on decision processes in organizations (on data collection strategies in field studies) will be given tomorrow. Your professor advised you to go to the lecture, and you think that it might be interesting and relevant for your future work (but you do not think that the topic is interesting or that it can be relevant to your future work). The lecture is scheduled for a convenient time: You don't have any classes at this time, and did not plan to do anything special. [The lecture is scheduled for the afternoon, which is inconvenient: You finish classes at noon, and will have a few free hours before the lecture]. In this situation tomorrow, how likely is it that you'll attend the lecture?

*Word processor.* Imagine that tomorrow you will receive a new computer, and will decide to install a word processor. A friend will offer you his word processor, which is updated and very quick, and seems to suit your needs (which is old and slow, but seems sufficient for your needs). You know this kind of word processor well: You have worked with its earlier version, and you won't need too much time to learn it. You can start working right after you install it. [You are not familiar with the word processor, and won't be able to start working right after you install it. You will have to spend first a few hours learning it]. In this situation tomorrow, how likely is it that you'll install the word processor?

*Tickets for a show.* Imagine that tomorrow a friend will offer you two tickets for a concert of a band that you like very much (concert of a new band that you are not very familiar with and you are not sure you'll like the kind of music they play). Your friend cannot go to the concert himself because of an unexpected event, and offers you his tickets. Since he had a special deal for the tickets, they cost only 20 NIS (\$6) each, instead of their usual price, which is 80 (\$24) NIS. [The tickets are more expensive than you thought, 80 NIS each]. In this situation tomorrow, how likely is it that you'll buy the tickets?

In each of the problems, feasibility and desirability are represented by different aspects of the content. In the guest lecture problem, desir-

Table 2  
*Mean Decision Probabilities for Near and Distant Future Options (Study 2)*

Decision problem	Near future			Distant future		
	High desirability	Low desirability	Overall	High desirability	Low desirability	Overall
Guest lecture						
High feasibility	8.71	6.83	7.77	9.00	5.08	7.04
Low feasibility	6.17	3.96	5.06	7.37	3.21	5.29
Overall	7.44	5.39		8.19	4.15	
Word processor						
High feasibility	8.87	6.83	7.85	8.75	5.00	6.87
Low feasibility	6.42	4.17	5.29	6.87	3.54	5.21
Overall	7.65	5.50		7.81	4.27	
Tickets						
High feasibility	9.17	5.04	7.10	8.58	4.67	6.62
Low feasibility	6.46	3.08	4.77	8.08	3.62	5.85
Overall	7.81	4.06		8.33	4.15	

Note. Ratings were made on a scale ranging from 1 (*highly unlikely*) to 10 (*highly likely*).

ability is the interest value of the talk, and feasibility is the convenience of timing; in the word processor problem, desirability is the quality of the product and feasibility is its learning time; and in the tickets problems, desirability is the expected quality of the show, and feasibility is the tickets' price.

Responses to the decision problems were made on 10-point scales ranging from *highly unlikely* (1) to *highly likely* (10). Each participant received a booklet that explained that the study investigated behavior in everyday situations, and the three problems. Each participant answered either the near or distant future version of the three problems, but the problems differed in feasibility and desirability. The assignment of feasibility and desirability values to the three problems and the order in which the problems were presented were counterbalanced across participants. For each problem, feasibility, desirability, and time were manipulated between participants.

### Results and Discussion

For each problem, a Desirability (low vs. high)  $\times$  Feasibility (low vs. high)  $\times$  Time (near vs. distant future) between-subjects analysis of variance (ANOVA) was performed on the reported decision likelihoods. All three decision problems yielded strong main effects for both desirability and feasibility: for the guest lecture problem,  $F(1, 184) = 97.04$ ,  $p < .0001$ , and  $F(1, 184) = 52.12$ ,  $p < .0001$ , respectively; for the word processor problem,  $F(1, 184) = 63.76$ ,  $p < .0001$ , and  $F(1, 184) = 35.25$ ,  $p < .0001$ , respectively; for the tickets problem,  $F(1, 184) = 150.44$ ,  $p < .0001$ , and  $F(1, 184) = 23.01$ ,  $p < .0001$ , respectively. As can be seen in Table 2, the likelihood of choosing the offered option increased with the feasibility and desirability of the outcome. These main effects provide evidence for the effectiveness of the manipulations of feasibility and desirability.

More important, in all three problems, the effect of desirability on choice increased over time, whereas the effect of feasibility on choice decreased over time. In all three problems, either the Time  $\times$  Desirability or the Time  $\times$  Feasibility interactions were significant: for the guest lecture problem,  $F(1, 184) = 10.49$ ,  $p = .001$ , and  $F(1, 184) = 2.41$ ,  $p = .12$ , respectively; for the word processor problem,  $F(1, 184) = 3.84$ ,  $p = .05$ , and  $F(1, 184) = 1.58$ ,  $p = .21$ , respectively; for the tickets

problem,  $F(1, 184) < 1$ , *n.s.*, and  $F(1, 184) = 5.83$ ,  $p = .02$ , respectively. There were no other significant effects on choice likelihoods.

We predicted that the effect of desirability, compared with the effect of feasibility, would increase over time. To examine this prediction directly, we analyzed the choice likelihoods for the mixed options (i.e., the high feasibility–low desirability options and the low feasibility–high desirability options).<sup>2</sup> Consistent with temporal construal theory, the results for all three problems showed an increase over time in attractiveness of the high desirability–low feasibility options and a decrease over time in attractiveness of the low desirability–high feasibility options (see Table 2). ANOVAs with mixed option and time as between-subjects variables yielded significant Mixed Option  $\times$  Time interactions for all three problems: for guest lecture,  $F(1, 92) = 9.25$ ,  $p = .003$ ; for word processor,  $F(1, 92) = 4.42$ ,  $p = .04$ ; for tickets,  $F(1, 92) = 3.86$ ,  $p = .05$ .

These results support the predictions of temporal construal theory regarding the relative effect of feasibility and desirability considerations on choice. As predicted, relative to the impact of feasibility, the impact of desirability on choice increased over time. These results were obtained across all three decision problems, despite variation in the specific content of the feasibility and desirability aspects. Thus, in deciding whether to attend a distant rather than a near future lecture, the interest value of the lecture had more impact relative to convenience of its time. In deciding whether to install a word processor in the distant rather than the near future, quality of the word processor had more impact relative to learning time. Finally, in deciding whether to buy concert tickets in the distant compared with the

<sup>2</sup> Comparing the differences between the effects of feasibility and desirability in near versus distant future is equivalent to comparing the change over time in the preferences for the mixed options. Therefore, our prediction may be restated as a Mixed Option  $\times$  Time interaction, such that the choice likelihoods for the desirability high–feasibility low option would increase over time delay, whereas the choice likelihoods for the desirability low–feasibility high option would decrease over time delay.

near future, interest in the performer and type of music had more impact relative to price.

The present study demonstrates, then, that under specifiable conditions, interest in a choice alternative may be discounted as well as augmented over time. Individuals tend to represent distant future activities in terms of outcome desirability (high-level construal) and near future activities in terms of outcome feasibility (low-level construal). Hence, when the attractiveness of an option derives from its desirability aspects, the option will become more attractive over time, but when attractiveness of an option derives from its feasibility aspects, the option will become less attractive over time. The present findings support this analysis by showing that when outcomes are desirable but hard to obtain, attractiveness increases over time, but when outcomes are less desirable but easy to obtain, attractiveness decreases over time. For the distant future, individuals seem to prefer options with outcomes that may be unfeasible, but highly desirable, whereas for the near future individuals seem to prefer options with outcomes that are less desirable, but highly feasible.

### Study 3: Time-Dependent Changes in the Subjective Importance of Feasibility and Desirability

Study 2 investigated the effect of feasibility and desirability considerations on near and distant future decisions. The present study was designed to assess directly the importance participants attach to these two types of considerations in near and distant future decisions. On the basis of temporal construal theory, we predicted that participants would view desirability considerations as more important and feasibility considerations as less important in distant future decisions compared with near future decisions.

#### Method

Participants were asked to imagine themselves facing a decision (e.g., attending a guest lecture) either in the near or distant future and to rate the importance of either desirability considerations (e.g., how interesting is the lecture) or feasibility considerations (e.g., how convenient is the timing of the lecture) in their decisions. Four problems were used in this study, three of which were from Study 2 and one of which was new. We manipulated time (tomorrow vs. next year) between-subjects and judged consideration (feasibility vs. desirability) within-subjects.

#### Participants

Participants were 116 introductory psychology students (71 women) from Tel-Aviv University and the Open University in Israel. Tel-Aviv University students participated in the study as part of their introductory course requirements, whereas Open University students volunteered.

#### Procedure

The four decision problems used in this study are presented below. Each problem was followed by a question regarding the importance of either desirability or feasibility considerations. The text for the version where feasibility was the judged consideration is presented in parentheses. In the distant future version "tomorrow" was replaced with "next year."

*Guest lecture.* Imagine that a guest lecture will be given tomorrow on campus. Your professor advised you to attend the lecture, and

you hesitate whether to attend it or not. In this situation tomorrow, how important would it be for your decision whether or not the topic of the lecture is interesting? (In this situation tomorrow, how important would it be for your decision whether or not the lecture is given at a convenient time?)

*Word processor.* Imagine that tomorrow you will get a new computer and will decide to install a word processor with which to write your papers. A friend will offer you his word processor, and you will consider installing it. In this situation tomorrow, how important would it be for your decision whether the word processor is quick and updated? (In this situation tomorrow, how important would it be for your decision how much time it takes to learn to use the word processor?)

*Tickets for a show.* Imagine that tomorrow a friend will offer you two tickets for a concert, and you will consider taking the tickets. In this situation tomorrow, how important would it be for your decision whether or not the concert is by a band you like? (In this situation tomorrow, how important would be the price of the tickets for your decision?)

*Furniture.* Imagine that tomorrow you will move into a new apartment and you will need furniture for the living room. A friend will offer you his living room set, and you will consider taking it. In this situation tomorrow, how important would it be for your decision whether or not you like the design and the color of the furniture? (In this situation tomorrow, how important would it be for your decision whether or not the friend can deliver the furniture to your place?)

The problems were accompanied by 10-point scales ranging from *completely unimportant* (1) to *very important* (10). As in Study 2, each participant answered either the near or distant future version of all four problems, but two of the problems were followed by a question about the importance of feasibility and the other two were followed by a question about the importance of desirability. The assignment of judged consideration (feasibility or desirability) to problems and the order in which the problems were presented were counterbalanced across participants.

### Results and Discussion

A Consideration (feasibility vs. desirability) × Time (near vs. distant future) ANOVA with consideration as a within-subjects variable and time as a between-subjects variable was performed on the importance ratings (see Table 3). The analysis revealed a main effect of consideration,  $F(1, 112) = 49.72, p < .0001$ , indicating that desirability considerations were seen

Table 3  
*Mean Importance Ratings of the Feasibility and Desirability Aspects in Near and Distant Future Problems (Study 3)*

Decision problems	Near future		Distant future	
	Desirability	Feasibility	Desirability	Feasibility
Guest lecture	7.17	8.31	7.86	6.90
Word processor	8.21	7.93	8.38	6.45
Tickets	8.38	7.00	9.03	6.86
Furniture	7.52	6.31	8.28	4.24
Overall	7.82	7.39	8.39	6.11

*Note.* Ratings were made on a scale ranging from 1 (*completely unimportant*) to 10 (*very important*).

as more important than feasibility considerations ( $M_s = 8.10$  and  $6.75$ , respectively). More important, the ANOVA yielded a Consideration  $\times$  Time interaction,  $F(1, 112) = 23.09$ ,  $p < .001$ . As predicted, this interaction indicated that the perceived importance of desirability considerations increased over time ( $M_s = 7.82$  and  $8.39$ , respectively), whereas the perceived importance of feasibility considerations decreased over time ( $M_s = 7.39$  and  $6.11$ , respectively). Separate Consideration  $\times$  Time ANOVAs (with consideration and time as between-subjects variables) were performed on importance ratings for each of the problems. The predicted Consideration  $\times$  Time interaction was obtained for three of the four problems: guest lecture,  $F(1, 112) = 6.90$ ,  $p = .01$ ; word processor,  $F(1, 112) = 5.67$ ,  $p = .02$ ; and furniture,  $F(1, 112) = 10.01$ ,  $p = .002$ . The fourth problem, tickets, yielded a similar interaction effect, but it did not reach significance,  $F(1, 112) = 1.34$ ,  $p = .25$ .

These results are consistent with temporal construal theory. Participants generally attached greater significance to desirability considerations than to feasibility considerations, but this difference was more apparent for distant future decisions than for near future decisions. Temporal distance from the decision increased the subjective importance of desirability considerations relative to the subjective importance of feasibility considerations. For example, in deciding whether to install a word processor in the distant future the quality of the word processor was rated as more important than the time it takes to learn it, a difference that was attenuated in the near future. These results agree with the results of Study 2 on the time-dependent effects of feasibility and desirability considerations on actual choice. Together, these results support the present proposal that desirability considerations are relatively more prominent in thinking about distant rather than near future decisions, whereas feasibility considerations are relatively more prominent in thinking about near rather than distant future decisions.

#### Study 4: Time-Dependent Effects of Feasibility and Desirability Considerations on Choice of Academic Tasks—A Field Study

This study was designed to investigate time-dependent effects of desirability and feasibility considerations in a realistic choice situation. Participants were presented with a choice among four university course assignments. The assignments were either easy (based on readings in Hebrew, the students' native language) or difficult (based on reading in English, a foreign language for these students) and either on an interesting or an uninteresting topic. In this situation, the difficulty of the assignment represented a feasibility consideration and the interest level of the assignment represented a desirability consideration. Students had to submit both a near future and a distant future assignment. They were told that they would have 1 week to work on each assignment, but that the near future assignment (reading materials and essay questions) would be given immediately, whereas the distant future assignment would be given 9 weeks later. The study manipulated interest (interesting vs. uninteresting topic), difficulty (easy vs. difficult), and time (near vs. distant future) within-subjects. We predicted that the effect of interest, relative to that of difficulty, would be greater in choosing among distant future compared with near future assignments.

## Method

### Participants

Participants were 48 students (37 women) enrolled in an introductory social psychology course given in the Nursing School at Tel-Aviv University.

### Procedure

Two sets of assignments were prepared, one for the near future and the other for the distant future. Each set consisted of four assignments on social psychology topics that were either interesting or uninteresting to the students and based on 20-page chapters in either Hebrew or English. The topics were selected on the basis of pretesting. Specifically, a group of 14 introductory social psychology students who did not participate in the main study rated the interest level and difficulty of 20 social psychology topics on 1-to-10 scales. The four interesting topics we selected had significantly higher interest ratings ( $M_s = 8.36$ – $8.71$ ) than the four uninteresting topics we selected ( $M_s = 4.07$ – $4.64$ ),  $t(13) = 6.33$ ,  $p < .001$ . Mean difficulty ratings of the topics ranged from 4.28 to 6.00 and did not significantly differ across interest levels. The results of a survey confirmed that for the vast majority of nursing students (96%), reading in Hebrew was easier than reading in English.

The near future set of assignments consisted of two chapters on attitudes ("different definitions of the attitude concept" and "distinguishing between different attitude types"), which were relatively uninteresting, and two chapters on group norms ("when do people conform to social norms, and when do they deviate" and "how are social norms formed"), which were relatively interesting. The distant future set of assignments consisted of two chapters on historical trends in social psychology ("topics in social psychology from the beginning of the century" and "historical trends in social psychology"), which were relatively uninteresting, and two chapters on romantic love ("stages of romantic love" and "gender differences in jealousy and romantic love"), which were relatively interesting.

The study was conducted in the fourth meeting (out of 14 meetings) of an introductory social psychology course. Students were told that as part of the course requirements, they would have to submit two exercises, each requiring reading a chapter and answering a number of questions about it. Students were further told that they would have 1 week to complete each of the assignments and that the first assignment would be handed to them on the same day (near future), whereas the other would be handed to them 9 weeks later (distant future). Students also were told that the assignments would be allocated to them according to their own preferences.

Although students were instructed not to discuss their choices, they could look at each other's questionnaires. Therefore, we had to use the same questionnaire for all students, which, in turn, prevented us from counterbalancing topic of assignment and order of presentation across students. Thus, students first indicated their preferences regarding the distant future assignment, and then their preferences regarding the near future assignment. For each time condition, the four assignments were presented on a single page, in the following order: an uninteresting chapter in English, an uninteresting chapter in Hebrew, an interesting chapter in English, and an interesting chapter in Hebrew. Each of the chapter titles was followed by a 10-point scale ranging from *would not at all like to do the exercise on this chapter* (1) to *would like very much to do the exercise on this chapter* (10).

After indicating their preferences, students were thoroughly debriefed, thanked for their participation, and questioned about their perception of the experimental situation. All participants reported believing the cover story of the experimental manipulation.

## Results and Discussion

Preference ratings of the assignments were submitted to an Interest (interesting vs. uninteresting topic)  $\times$  Difficulty

(Hebrew vs. English)  $\times$  Time (near vs. distant future) within-subjects ANOVA. The analysis revealed strong main effects for interest,  $F(1, 47) = 100.62, p < .001$ , and difficulty,  $F(1, 47) = 45.84, p < .001$ , indicating that interesting chapters were preferred to uninteresting chapters and that Hebrew chapters were preferred to English chapters (see Table 4). These results suggest that the manipulations of interest and difficulty were successful.

As predicted, the main effects of interest and difficulty were qualified by significant interactions with time,  $F(1, 47) = 11.21, p = .002$ , and  $F(1, 47) = 5.78, p = .02$ , respectively, indicating that the effect of interest increased over time, whereas the effect of difficulty decreased over time. The difference between the overall mean preference for interesting and uninteresting assignments in the near future ( $M_s = 7.82$  and  $4.90$ , respectively) was smaller than the corresponding difference in the distant future ( $M_s = 8.41$  and  $4.08$ , respectively), whereas the difference between the overall mean preference for easy and difficult assignments in the near future ( $M_s = 7.93$  and  $4.78$ , respectively) was greater than the corresponding difference in the distant future ( $M_s = 7.36$  and  $5.12$ , respectively). None of the other effects were significant, except for the three-way interaction,  $F(1, 47) = 6.92, p = .01$ , indicating that the increase in the effect of interest over time was stronger for the easy assignments and that the decrease in the effect of difficulty over time was stronger for the uninteresting assignments.

According to temporal construal theory, the effect of feasibility, compared with that of desirability, should be larger in the distant future than in the near future. This means that time delay should have opposite effects on preferences for the easy but uninteresting as opposed to the difficult but interesting assignments (i.e., the mixed assignments, see footnote 2). The means in Table 4 confirm this prediction. A Mixed Option (easy and uninteresting vs. hard and interesting)  $\times$  Time ANOVA on preference ratings of the mixed assignments yielded an Assignment  $\times$  Time interaction,  $F(1, 47) = 10.69, p = .002$ , indicating that the preference for the easy but uninteresting assignment decreased over time ( $M = 6.79$  and  $5.08$ , respectively), whereas the preference for the hard but interesting assignment increased over time ( $M = 6.56$  and  $7.17$ , respectively).

These results suggest that in choosing among assignments, time delay diminishes the influence of difficulty of the assignment and augments the influence of interest in the topic of the assignment. Thus, in selecting a near future assignment, students were willing to sacrifice interest for the sake of ease. In contrast, in selecting a distant future assignment, students were willing to sacrifice ease for the sake of interest. This shift in preferences

over time occurred despite the fact that students had the same amount of time (1 week) to prepare the near future and the distant future assignments.

Although these results confirm our predictions, they should be interpreted with caution, because our use of a realistic choice situation prevented us from fully counterbalancing topics across time (near vs. distant future) and language (English vs. Hebrew). As described earlier, we used pretest data to equate the interest and difficulty levels of topics across time and language. Nevertheless, it is possible that some other uncontrolled property of the topics produced the observed effects. Fortunately, Studies 2 and 3 produced similar findings with fully controlled designs. Therefore, although in themselves the results of the present field study are not conclusive, they enhance the generalizability of the results of Studies 2 and 3. Together, the three studies provide convergent evidence for the hypothesis that feasibility considerations are relatively more influential in decisions about the near future whereas desirability considerations are relatively more influential in decisions about the distant future. The next study examined some implications of this principle.

#### Study 5: Time Planning

In Study 5 we examined the implications of temporal construal theory for time planning. How do people decide how much time they should allocate to different activities in the near and the distant future? In addressing this question, Gilovich, Kerr, and Medvec (1993) asked students whether they would be able to handle increased course load in the future or in the present. They also asked alumni whether they would have been able to add courses to their past schedules. Gilovich et al. found that participants thought that they would be able to increase course load in the future and that they could have done so in the past, but that they could not do it in the present. Apparently, time constraints were more salient in considering the present than either the future or the past.

The present study tested this idea by comparing plans for the near and distant future. We conceptualized time constraints as feasibility aspects of an activity (Vallacher & Wegner, 1987) and investigated the role of time constraints and desirability of activities in near and distant future planning. We tested three predictions derived from temporal construal theory: First, as a result of ignoring time constraints for the distant future, students will plan more activities for the distant future than the near future. This prediction is in accord with the results obtained in Gilovich, Kerr, and Medvec's (1993) study. Second, time planned for activities that are perceived as competing for time

Table 4  
Mean Preferences for Near and Distant Future Assignments (Study 4)

Assignment	Near future exercise			Distant future exercise		
	Interesting	Uninteresting	Overall	Interesting	Uninteresting	Overall
Easy	9.08	6.79	7.93	9.65	5.08	7.36
Difficult	6.56	3.00	4.78	7.17	3.08	5.12
Overall	7.82	4.90		8.41	4.08	

Note. Ratings were made on a scale ranging from 1 (would not at all like to do the exercise on this chapter) to 10 (would very much like to do the exercise on this chapter).

resources will be negatively correlated in near but not in distant future plans. This prediction also derives from the underrepresentation of time constraints in distant future plans. Third, distant future plans, compared with near future plans, will be more contingent on desirability of activities.

### Method

Participants were 127 Tel Aviv University students (100 women) who participated to partially fulfill introductory psychology course requirements. The study was conducted in groups ranging in size from 2 to 8.

Participants were invited for a two-session experiment. The first session was held during Weeks 3 through 7 of the fall semester. During this session, participants completed an activity desirability questionnaire in which they were presented with two academic activities and seven nonacademic activities. The academic activities were "study" and "attend classes." The nonacademic activities were "participate in cultural events," "sports and exercise," "go out with friends and attend social events," "watch TV," "read books unrelated to your studies," "spend time with your family," and "paid work." Participants rated on 9-point scales the extent to which they would like to spend more time doing each of these activities. The study was presented as part of a pilot survey on students' lifestyles.

The second session was held 5 to 8 weeks after the first. Participants were asked to indicate how many hours they would spend on each of the activities during either "next week" (near future condition) or "a week a year from now" (distant future condition). As in the previous session, the questionnaire was presented as a pilot survey on students' lifestyles.

### Results and Discussion

Table 5 presents mean hours planned for different activities in the near and distant future. A multivariate analysis of variance revealed a significant effect of temporal distance,  $F(9, 117) = 3.11, p < .005$ . This effect indicated that participants planned to spend more time on the same activities in a distant future week ( $M = 81.50$  hr) than in a near future week ( $M = 67.35$  hr).

Feasibility considerations require that the time allocated to

activities perceived as competing for one's time resources will be inversely related. Assuming that academic and nonacademic activities are perceived as competing for time resources, we correlated the total amount of time planned for academic and nonacademic activities across participants within each temporal distance condition. A negative correlation between time planned for academic activities and time planned for nonacademic activities was found for near future plans,  $r(65) = -0.42, p < .005$ , but not for distant future plans,  $r(62) = 0.09$ . The difference between these correlations was, of course, also significant,  $Z = 2.96, p < .001$ . Thus, participants treated academic and nonacademic activities as competing on time resources in near future plans but not in distant future plans.

To test our third hypothesis regarding the relationship between the desirability of activities and time planning, we computed the correlations between participants' ratings of the desirability of each activity and the time they planned to spend on it (see Table 5). None of these correlations was significant for near future plans. In contrast, for distant future plans, significant positive correlations with desirability were obtained for six of nine activities.

To further examine the relationship between desirability of activities and time planning, we computed for each participant the correlation between the desirability of each activity and the time planned for it. Planned time for each activity was standardized within each time-perspective condition, so that scores reflected the degree to which the participant's planned time for an activity deviated from the mean time planned for that activity by all participants. The mean Z-transformed values of these within-subject correlations were significantly higher in the distant future plans ( $M = 0.20$ ) than in the near future plans ( $M = 0.03$ ),  $t(125) = 2.21, p = .03$ . Thus, in the distant future, but not in the near future, participants planned to spend relatively more time on those activities they liked, suggesting that time planned for activities is contingent on the desirability of the activities in the distant future, but not in the near future.

Study 5 demonstrates that distant future plans differ from

Table 5  
Mean Hours Planned for Different Activities and Correlations of Planned Time With Desirability of Activities (Study 6)

Activity	Mean hours planned		Correlation with desirability	
	Near future	Distant future	Near future	Distant future
Academic				
Study	21.22	22.44	-.04	.03
Attend classes	13.60	15.32	.23	-.08
Nonacademic				
Attend cultural events	2.74*	4.13	-.12	.25**
Work	9.37*	15.45	-.03	.25**
Sports and exercise	1.94	2.50	.13	.42**
Go out with friends	6.46	7.03	-.03	-.11
Spend time with family	5.37	6.16	.19	.37**
Watch TV	4.71	5.31	-.11	.36**
Read books	1.95*	3.16	.08	.38**
Overall	67.35*	81.50		

\* Difference between near and distant future means was significant at  $p < .05$  level. \*\* Correlation is significant at  $p < .05$  level.

near future plans in several respects. First, people expect to do more in the distant future than in the near future. Second, near future plans, but not distant future plans, take into account time constraints. Third, plans for the distant future, but not for the near future, are contingent on desirability. These results support the idea that feasibility concerns (i.e., the time it takes to engage in an activity) are more prominent in near future plans compared with distant future plans, whereas desirability concerns are more prominent in distant future plans than in near future plans. As a result, planning for the distant future may produce overcommitment. In making such plans, individuals may consider any given activity in isolation and fail to take into account that this activity may come at the expense of some other activities they may want to engage in at the same time.

### General Discussion

Temporal construal theory relates mental construal of situations to temporal distance. The theory proposes that in thinking about near compared with distant future situations, people use lower level construals—construals that include more concrete and peripheral features of the situation. In construing goal-directed actions, desirability considerations—which pertain to the action's end state—constitute high-level construals, whereas feasibility aspects—which pertain to the means for reaching that end-state—constitute low-level construals. Consistent with this proposal, Study 1 found that participants describe distant future activities in terms of their goals but use low-level means terms in describing near future activities. For example, in the distant future "cleaning the house" was described as "showing one's cleanliness" whereas in the near future the same activity was described as "vacuuming the floor." The differences in construal of near and distant future activities were found in open-ended descriptions as well as in answers to Vallacher and Wegner's (1989) forced-choice questionnaire of individual differences in action identification.

In theory, changes in preference over time reflect these changes in construal of activities over time, namely, the tendency to use higher level construals for distant future than for near future activities. We therefore predicted that in choosing among activities, the weight of desirability considerations, relative to the weight of feasibility considerations, should be augmented over time. The results of Studies 2 through 5 are consistent with this prediction. Specifically, in Study 2, participants indicated their preferences regarding near or distant future choices varying in feasibility and desirability. In Study 3, participants directly judged the importance of feasibility and desirability considerations in their near or distant future decisions. As expected, the results of both studies showed that desirability considerations were assigned more weight than feasibility considerations in distant than in near future decisions. For example, in deciding whether to purchase a word processor in the distant future, compared with the near future, participants assigned more weight to the quality of the word processor and less weight to the time it would take to learn it.

Study 4 presented students with a realistic situation of choosing near and distant future academic assignments. The assignments varied in interest level (desirability) and difficulty (feasibility). Students' choices showed that the weight of difficulty decreased and the weight of interest increased over time. Thus,

participants were willing to undertake an interesting but difficult assignment for the distant future, but preferred an uninteresting but easy one when a near future assignment was considered.

Study 5 examined time planning for the near and distant future. It showed that (a) participants expected to spend more time on different activities in the distant compared with the near future, (b) distant future but not near future plans were related to desirability of activities, and (c) academic and nonacademic activities were treated as competing for time resources in near but not in distant future plans. These results suggest that plans for the distant future, compared with plans for the near future, are based on the desirability of the planned activity rather than on time constraints.

### *Why Are Higher Level Construals Used to Represent Distant Future Events?*

At this point, we can only speculate why high-level construals are used to represent distant future events. In many situations, feasibility information regarding the distant future is unavailable or unreliable and therefore cannot be taken into consideration. For example, because transportation information for a distant future conference may be unavailable, one may be unable to appreciate the time, effort, or cost of getting to the conference. In these cases, using higher level construals for distant future events is a natural outcome of one's knowledge. It should be noted, however, that the results of the present studies cannot be explained by unavailability of feasibility information regarding distant future situations. Studies 1 through 4 explicitly provided definite low-level feasibility information in both near and distant future conditions. For example, in Study 2 information regarding the learning time of a word processor was presented and could be taken into consideration in distant future as well as in near future decisions. Nevertheless, it was given relatively less weight in distant future than in near future decisions. In Study 5 participants most likely knew that academic and nonacademic activities compete for time resources in both the near and the distant future. Nevertheless, they seemed to ignore this constraint in their distant future plans.

Thus, our results suggest the possibility that the tendency to disregard feasibility considerations in decisions about the distant future is an overgeneralization to situations in which relevant feasibility information is available or could be obtained. More generally, it is possible that the tendency to use high-level construals for distant future events is the result of overgeneralizing from cases in which low-level information on distant future events is unavailable.

It should be pointed out that normative considerations require relatively regressive (i.e., moderate) decisions when relevant information (such as feasibility information) is unavailable or uncertain. Hence, to the extent that feasibility information regarding the distant future is believed to be uncertain, one should make relatively moderate decisions regarding the distant future. Temporal construal theory would predict, however, that individuals may violate this requirement because they are likely to rely on high-level construals (i.e., desirability information) for making decisions about the distant future. Consistent with this prediction, the results of Studies 2 and 4 show that preference ratings for distant future options were as extreme as preference ratings for the near future. These findings argue against an inter-

pretation of the present temporal distance effects simply in terms of normatively justifiable responses to uncertainty about distant future feasibility information.

Related to the notion of unavailability of feasibility information is the idea that in goal-directed activities, desirability (i.e., "what is the goal?") is considered first in relatively distant future plans, whereas feasibility (i.e., "how do I get there?") is considered only later, in relatively near future plans. Of course, this does not justify underweighing available feasibility consideration when making decisions for the distant future. However, it may be the case that the tendency to consider desirability first and feasibility second contributes to the association of distant future with high-level construals. In sum, it is possible that both information availability and planning habits contribute to the association of distant future events with high-level construals.

### *Action Control Theories and Temporal Construal*

Cybernetic theories of action control (Carver & Scheier, 1981, 1990; Vallacher & Wegner, 1987) maintain that goals are translated into subgoals when time of implementation approaches. Action identification theory (Vallacher & Wegner, 1987) proposes that people naturally prefer high-level identifications and that they lower the identification level only to execute the action when difficulties in enactment are encountered (Vallacher & Kaufman, 1996; Vallacher & Wegner, 1987). The notion that temporal perspective affects action representation follows naturally from this mechanism: As one gets closer to executing an action, she or he is more likely to consider enactment, perceive it as difficult and therefore identify the action in lower level terms (Vallacher & Wegner, 1985). It should be noted that, by this logic, action identification theory would predict that identification of easy alternatives will remain high even in near future perspective and that, as a result, time perspective will have a weaker effect on identification of easy alternatives compared with difficult alternatives. This was not the case in Studies 2 and 4.

More generally, temporal construal theory maintains that time perspective may affect level of construal of an action even when its enactment is not difficult. For example, Study 1 found that people tended to restate "watching TV" in the near future as "flipping channels," although this action is not particularly difficult. We also predict that near future perspective might enhance low-level details that may be useless for enactment needs. For example, we predict that in thinking about attending a near future conference one is more likely to think of the food in the hotel, even if it does not matter for any action one might undertake. Moreover, temporal construal theory applies to events that do not involve action. Therefore, low-level representation of such events, as temporal distance decreases, cannot be explained as serving enactment needs. For example, we predict that commercials are more likely to be included in a construal of a near future television movie than a distant future television movie.

Gollwitzer's (1990) action phase theory proposes a distinction between a predecisional deliberation and a postdecisional implementation stage of action. In the deliberation stage, people compare an action to its alternative whereas in the implementation stage, people focus on means for carrying out the action. It seems possible that temporal distance increases the likelihood of engaging in deliberation rather than in implementation. How-

ever, a key difference between this theory and temporal construal theory is that temporal construal theory predicts differences in construal when time perspective is varied within the same decision stage, and even when no decision is involved at all. Indeed, all our studies addressed either predecisional situations (Studies 2–5) or situations that do not involve decisions (Study 1).

### *Future Optimism and Temporal Construal*

The present findings are relevant to future optimism, that is, the tendency to hold more positive expectancies for distant future than for immediate future outcomes (Brickman, Coates, & Janoff-Bulman, 1978; Taylor & Brown, 1988). Future optimism would suggest that temporal distance increases the perceived feasibility of outcomes. This idea may explain some but not all of the present findings. Specifically, future optimism may explain the increase over time in preference for the difficult but highly desirable options, as individuals presumably become increasingly confident over time in the attainability of the outcome. However, future optimism cannot account for the decreased preference for easy but less desirable options. Neither can future optimism account for the null effect of time on preference for difficult but less desirable options. For example, if temporal distance makes learning a new word processor seem easy, as future optimism suggests, then temporal distance should enhance the value of both a low- and high-quality word processor. Our findings, however, show that this is not the case.

In general, future optimism cannot fully explain the present findings because, unlike temporal construal theory, it does not take into account time-dependent changes in the weight of desirability considerations in choice. Another important difference between the future optimism idea and temporal construal theory concerns feasibility. Future optimism suggests that individuals undertake harder activities for the distant future than for the near future because distant future activities seem more feasible. Temporal construal theory suggests a different possibility, namely, that individuals undertake harder activities for the distant future because feasibility receives less weight in distant future activities. Overoptimistic decisions regarding future activities may thus reflect underweighing rather than overestimation of feasibility.

### *Conflict Models and Temporal Construal*

Feasibility concerns often refer to effort, cost, or other negative aspects of an activity. Therefore, actions directed toward attaining a positive goal may be viewed as involving an approach-avoidance conflict (Lewin, 1951; Miller, 1944). Conflict models theory assumes that temporal distance increases the salience of positive features and decreases the salience of negative features and therefore situations including both negative and positive features should be more attractive in the distant than in the near future. According to temporal construal theory, however, time-dependent changes in the weight of positive and negative features depends on the construal level of these features. Negative features may be less prominent in the distant rather than in the near future if they constitute low-level construals, but the reverse is expected if they constitute high-level construals. Both theories predict that desirable but difficult options (e.g., reading an interesting but difficult chapter or installing an excellent but

hard-to-learn word processor) will be more attractive in the distant than in the near future, as our findings actually show. However, the theories make opposite predictions for easy but undesirable options (e.g., reading an easy but boring chapter). Conflict models theory continues to predict that such options will be more attractive in the distant future than in the near future, because these options have both positive features (easy assignment) and negative features (boring assignment). In contrast, temporal construal theory predicts that easy but undesirable options will be more attractive in the near future than in the distant future, because positive value (easy assignment) is associated with low-level feasibility considerations, whereas negative value is associated with high-level desirability considerations (boring assignment). Our findings support the predictions of temporal construal theory rather than those of conflict models theory.

### Implications

The present findings have interesting implications for real-life decision situations. Many situations involve high-level considerations such as moral principles and ideals as well as low-level considerations such as difficulty, cost, or situational pressures. For example, both moral principles and considerations of effort and convenience are often involved in helping. According to our approach, moral principles are more likely to guide decisions for the distant future than for the immediate future, whereas difficulty, cost, and situational pressures are more likely to be important in near future decisions. In other words, individuals are more likely to compromise their principles in decisions regarding near future actions compared with distant future actions.

Study 5 on time planning provides experimental demonstrations of overcommitment in distant future planning and suggests an explanation of the phenomenon within temporal construal theory. Specifically, time constraints are presumably part of the low-level construal of activities (Vallacher & Wegner, 1987), and are, therefore, underweighted in distant future planning. As a result, distant future activities are not perceived as competing, and many activities are planned for the same time. It is interesting that distant future planning and decision making are usually considered to be reasonable and advantageous. However, the present study suggests that distant future planning and decisions may have negative consequences, such as overcommitment and insensitivity to feasibility considerations.

The present research applied temporal construal theory to feasibility and desirability considerations because these considerations are relevant to a wide range of decisions. It should be pointed out, however, that the theory is applicable to a variety of other attributes that differ in abstractness and centrality. For example, Slovic (1975) and Tversky, Sattath, and Slovic (1988) found that in selecting a candidate for some position (e.g., production engineer), certain attributes (e.g., technical knowledge) are seen as more central and are weighted more than other attributes (e.g., social skills). Temporal construal theory predicts that in decisions for the near future, the peripheral attribute (social skills) would be weighted more than in decisions for the distant future. More generally, personal traits may be abstract or concrete, goals may be primary or secondary, and skills may be general or specific. Abstract, general, and primary attributes

constitute high-level construals. Hence, value associated with these attributes should be augmented over time. In contrast, concrete, secondary, and specific attributes constitute low-level construals. Hence, value associated with these attributes should be discounted over time. These predictions suggest important directions for future research on time-dependent changes in judgment and decision making.

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