

The effects of attractive but unattainable alternatives on the attractiveness of near and distant future menus

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Abstract

We examine how adding an Attractive but Unattainable Alternative (AUA) to a set of available but less attractive alternatives influences evaluations of near vs. distant future sets of alternatives. According to Construal Level Theory (Liberman & Trope, 2008) including an AUA would decrease the attractiveness of near future sets, but may increase the attractiveness of distant future sets. In four studies participants imagined a choice situation with three alternatives. For some participants a fourth alternative was added, which was attractive but unattainable. Half of the participants in each condition imagined making a decision in the near future whereas others imagined making the decision in the distant future. Participants then evaluated the attractiveness of the entire set of alternatives, as well as of each alternative separately. We examined choices between jobs, computers and roommates. The last study examined negotiations with the landlord about an apartment. Consistent with our hypothesis, an AUA increased the evaluation of the distant set and decreased the evaluation of the near set.

Keywords: construal level theory, intertemporal choice, contrast effect, temporal distance.

1 Introduction

Imagine considering a vacation in the Caribbean and browsing through offers of different vacation packages. All the packages seem equally attractive, but one of them stands out as being especially attractive — a brand new five star hotel offers attractive tours that are all included in the quite moderate price. A closer look discloses that this most attractive package is offered exclusively to members of the Hilton Club, which you are not. How would the existence of this very Attractive but Unattainable Alternative (AUA) affect your evaluation of the *set* of vacation plans the travel agency offers? Would you stay with this agency or look for other agencies?

Some decision makers may find the situation annoying. Compared to the AUA, the other vacation plans would seem mediocre, and the entire menu that the agency offers would lose attractiveness. Other people, however, could think that the fact that in principle the agency has such attractive vacation packages speaks in its favor, and increase their ratings of the agency and the menu it offers. Other cases of including an AUA in a set of alternatives may involve offering especially valuable products and indicating that they are out of stock, or including attractive dishes in a restaurant's menu and indicating that they are

not served that day. Obviously, including an AUA is costless. Is it a good strategy? Can it promote sales? Would it reduce or increase the attractiveness of the entire set?

Related to this question, research on the Phantom Decoy effect found that, when choosing between two equally desirable alternatives, adding a phantom decoy — namely, an alternative that is worse than both initial alternatives and is dominated by one of them — increases choice of the alternative that dominates the decoy (Huber, Payne, & Puto, 1982). For example, a decision maker may feel indifferent between a five-star restaurant that is 25 minutes drive away and three-star restaurant that is 5 minutes drive away. Offering a third alternative — a four-star restaurant that is 35 minutes drive away, may cause the decision maker to prefer the five-star restaurant that is 25 minutes drive away (Choplin, & Hummel, 2005; Colman, Pulford, & Bolger, 2007). Both phantom decoys and AUAs are irrelevant. Unlike a phantom decoy, however, an AUA is more attractive than the other alternatives.

We investigate the impact of an attractive but irrelevant alternative on the evaluation of the entire set of alternatives. We suggest that temporal distance from making the choice is one factor that may determine the influence of Attractive but Unattainable Alternatives (AUAs) on evaluation of the entire set. Specifically, based on Construal Level Theory (CLT, Liberman & Trope, 2008; Liberman, Trope & Stephan, 2007; Trope & Liberman, 2003; Liberman, Trope, & Wakslak, 2007), we propose that when alternatives are considered for the proximal future, AUAs

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decrease the attractiveness of near future sets, but do not decrease and even increase the attractiveness of distant future sets, leading to an interaction between AUAs and temporal distance. In what follows, we explicate how this prediction derives from CLT and test it in four studies.

Construal Level Theory (CLT, Liberman & Trope, 1998; Liberman, Trope & Stephan, 2007; Trope & Liberman, 2003) proposes that psychological distance from a decision influences individuals' evaluations of the alternatives by systematically changing the way they construe these alternatives. People tend to construe more psychologically distant alternatives on a higher level, namely, using more abstract, generalized representations. High-level construals abstract the essential qualities of events and, therefore, consist of more central and essential features. In contrast, low-level construals may include more peripheral and less essential features of events. Thus, whereas representations of near future events are rich with details, representations of distant future events omit secondary and incidental features of events. High level features are those that when altered or removed cause more change to the situation. For example, in an academic lecture, changing the topic of the lecture is typically perceived as a more substantial change than changing the room in which the lecture takes place, and therefore the topic is a higher level feature of the talk than its location.

There are two non-exclusive ways in which CLT might predict that distance would increase the beneficial impact (or decrease the detrimental impact) of AUAs on sets of alternatives. First, desirability considerations (i.e., the value of an action's end state) constitute a high-level construal of the alternative and should receive more weight in a more distant future decision. In contrast, feasibility considerations (i.e., the ease or difficulty of reaching that end-state) constitute a low-level construal of the alternative and should receive less weight in a more distant future decision (Liberman & Trope, 1998). Because AUAs are, by definition, highly desirable but not feasible, they would be more attractive in more distant future sets.

Second, temporal distance may affect the likelihood of assimilation versus contrast. Förster, Liberman, and Kutchel (2008) recently showed that psychological distance enhances assimilation (as opposed to contrast) of a target to a category. For example, in one of their experiments, participants compared their athletic skills to either a moderately high standard or a moderately low standard and then rated their expected athletic performance in an athletic competition that would take place either the next day or a year later. Compared to a control condition, in which time was not specified, a distant time perspective enhanced assimilation (i.e., produced a high self-rating after comparison to a high standard and a low self-rating after comparison to a low standard) whereas a proximal

time perspective enhanced contrast (i.e., produced a low self-rating after comparison to a high standard and a high self-rating after comparison to a low standard).

Possibly, temporal proximity would make participants more likely to contrast the AUA from the set, and cause the set to be evaluated more negatively than without an AUA. Temporal distance, on the other hand, would reduce contrast (or produce assimilation) of the set from the AUA. As a result, the entire set of alternatives will not look worse (and may even look better) in the presence of an AUA than without it.

We report four studies that examine the prediction that AUAs decrease the attractiveness of near future sets, but do not decrease and even increase the attractiveness of distant future sets. In addition to this predicted interaction between time and adding an AUA, there might be also main effects of both factors. Specifically, adding an AUA might produce either an overall assimilation effect or an overall contrast effect (Sherif, & Hovland, 1961). Temporal distance, too, might decrease or increase the attractiveness of a set of alternatives, due to temporal discounting (Loewenstein, & Prelec, 1992; Raineri and Rachlin, 1993) or savoring (Loewenstein, & Prelec, 1993), respectively. These possible main effects, which may also vary from study to study, are not the main focus of this research.

2 Method

2.1 2.1. Participants

Tel Aviv University students were approached on campus and offered an opportunity to participate in an experiment. Those who volunteered were handed a questionnaire, and were asked to imagine one of the situations described below. We tried to match the time of the study to its content. For example, we asked about choosing a roommate at the beginning of the academic year, when participants were more likely to be considering such choice. 110 students (45 women) completed Study 1 about choosing an RA job position, 114 students (52 women) completed Study 2 about choosing a computer, 116 students (55 women) completed Study 3 about choosing a roommate and 97 students (27 women) completed Study 4 about negotiation.

2.2 Materials and procedure

In each study, participants considered three or four choice alternatives, depending on the experimental condition. Each alternative was described in a table along several dimensions. Participants were randomly assigned to one of four conditions created by crossing presence vs. absence

Table 1: Descriptions of job positions, Study 1.

	Job A	Job B	Job C	Job D
Interest	Boring technical job	Average	Interesting, requires skill and thinking	Interesting, requires skill and thinking
Opportunity for promotion	High	Medium	Low	High
Variety	Medium	Low	High	High
Working hours	Convenient	Convenient	Inconvenient	Convenient

Table 2: Descriptions of computers, Study 2. This study was done in 2003, therefore, computers are “outdated”.

Computer:	A	B	C	D
New	New	Second hand	Second hand	New
Memory size	512MB	2GB	512MB	2GB
Speed	2GHz	2GHz	1GHz	2GHz
Printer	Old Canon	HP (better)	HP (better)	HP (better)
CD writer	No	No	Yes	Yes

of an AUA and near vs. distant future temporal perspective. In the no-AUA condition participants read a description of three available alternatives, whereas in the AUA condition a fourth alternative was presented, which was better than the other alternatives on each dimension, but it was also indicated that this alternative was unattainable. In the near future condition participants imagined making a decision for the near future whereas in the distant future condition they imagined making a decision for a year later.

In each decision situation, participants indicated how attractive the set of alternatives (or proposals in the fourth study) seemed to them, how satisfying, rich, interesting, and varied it was, and how motivated they were to choose from the set, all on scales that ranged from 1 (not at all) to 9 (very much). These evaluations were positively correlated (Cronbach’s alpha ranges from .87 to .93) and were averaged into a set evaluation index. We predicted that AUAs decrease the attractiveness of near future sets, but do not decrease and even increase the attractiveness of distant future sets. In addition, participants indicated how attractive they considered each alternative (including the AUA in the AUA conditions) on scales that ranged from 1 (not at all attractive) to 8 (very attractive). These ratings were averaged across the 3 alternatives, not including the

AUA. We predicted that time would enhance the attractiveness of the AUA. We also predicted that time would attenuate contrast between AUAs and other alternatives. We therefore expected that, in the near future condition more than in the distant future condition, the presence of an AUA would detract from the attractiveness of the other alternatives.

As mentioned earlier, in addition to the predicted interaction between adding an AUA and time, both time and adding an AUA might have a main effect on the evaluation of both the entire set and on other alternatives. These main effects are not the main focus of our study. The materials, translated from Hebrew, of the near future (distant future) conditions are presented below.

2.2.1 Study 1. Choosing a Research Assistant (RA) position

Imagine that you are looking for an RA position to start working immediately (a year from now). Three [four] job positions are similar in salary but differ in the following dimensions: interest (technical job vs. a job that requires skill and thinking), opportunity for promotion (high, medium, low), variety (high, medium, low) and working hours (convenient versus inconvenient).¹

The positions are described in Table 1. Job D is the AUA — it is dominant over other alternatives, but is open only to 3rd year students with an GPA of 97 and above. This alternative was included only in the “AUA present” conditions.

2.2.2 Study 2. Choosing a computer

Imagine that you are looking for a computer to buy immediately (a year from now). Your credit card company offers a special deal. They

¹These attributes were taken from Gati and Kibary (1998), who established their importance for psychology students in vocational choice.

Table 4: Descriptions of landlord proposals, Study 4.

	<i>Proposal A</i>	<i>Proposal B</i>	<i>Proposal C</i>	<i>Proposal D</i>
Rent increase	30%	20%	Sharing apartment	0%
Property municipal tax	Paid by landlord	Shared	Paid by landlord	Paid by landlord
Building local tax	Paid by tenant	Shared — 50% by tenant, 50% by landlord	Paid by landlord	Shared — 50% by tenant, 50% by landlord
Responsibility for repairs	Paid by landlord	Shared — 50% by tenant, 50% by landlord	Shared — 50% by tenant, 50% by landlord	Paid by landlord

Property tax is paid by the landlord/tenant or shared 50/50.

Table 3: Descriptions of roommates, Study 3.

Candidate:	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Age	20	23	50	23
Occupation	Solder	Student	Foreign worker	Student
Speaks Hebrew	Yes	Yes	No	Yes
Smoking status	Not at all	Not at all	Yes	Not
Orderliness	Yes, slightly	Yes, a lot	Not at all	Yes

offer a choice between three [four] computers for an attractive price. The computers vary in the following dimensions: Newness (new, second hand), Memory size (large, small), speed of processor (high, low), CD writer (available, Unattainable) and printer (HP, old Canon).

Computer D was the AUA — it was dominant over other alternatives, but was indicated as being “out of stock”. It was included only in the “AUA present” conditions. See Table 2.

2.2.3 Study 3. Choosing a roommate

Imagine that you are looking for a roommate to share an apartment in the upcoming semester (a year from now). Three [four] people apply. They vary in the following attributes: Age (25, 50), knowledge of Hebrew (native language, doesn’t speak Hebrew), orderliness (orderly, disorderly), profession (student, for-

eign worker) and smoking status (smoking, non smoking).

Candidate D was the AUA — this candidate was dominant on all the others but it was indicated that he declined the opportunity to join the apartment. This alternative was included only in the “AUA present” conditions. See Table 3.

2.2.4 Study 4. Negotiation with landlord

Imagine that you have been living in a rented apartment for a long time. You are very happy with the apartment. One day, the apartment owner informs you that because the USD rate has dropped, he wants to raise the rent starting next month (a year from now). You do not like this and say that you are going to leave the apartment. However, you find out that there are virtually no apartments for rent in the neighborhood. You therefore start negotiating with your landlord and he makes you a few offers, which are summarized in the Table 4.

Proposal D is the AUA — it dominates other alternatives, but it was indicated that the landlord could not get his wife to approve it, and he had to withdraw it. It was included only in the “AUA present” conditions. See Table 4.

3 Results

3.1 Manipulation check

As intended, in all four studies the AUAs were rated higher than the rest of the alternatives in the set, all $t_s > 12.21, p < .001$.

Table 5: Means and standard deviations (in parentheses) for evaluations of a set of alternatives by AUA, time and study.

		Near future	Distant future	Overall
Jobs (Study 1)	AUA	4.01 (1.06)	6.00 (1.39)	5.02 (1.58)
	No-AUA	4.53 (0.99)	4.14 (1.13)	4.34 (1.06)
	Overall	4.27 (1.04)	5.07 (1.56)	4.68 (1.39)
Computers (Study 2)	AUA	3.64 (1.51)	4.40 (1.48)	4.02 (1.53)
	No-AUA	5.46 (1.13)	4.03 (1.28)	4.76 (1.40)
	Overall	4.55 (1.61)	4.22 (1.38)	4.39 (1.51)
Roommates (Study 3)	AUA	4.45 (1.96)	4.56 (1.46)	4.51 (1.72)
	No-AUA	5.56 (1.13)	4.44 (1.47)	5.01 (1.42)
	Overall	5.07 (1.68)	4.50 (1.45)	4.76 (1.59)
Negotiation (Study 4)	AUA	2.86 (0.48)	2.54 (0.56)	2.70 (0.54)
	No-AUA	3.70 (0.80)	2.71 (0.67)	3.23 (0.88)
	Overall	3.28 (0.78)	2.63 (0.61)	2.97 (0.78)
Overall	AUA	3.77 (1.49)	4.46 (1.75)	4.12 (1.66)
	No-AUA	4.86 (1.26)	3.89 (1.34)	4.38 (1.39)
	Overall	4.31 (1.49)	4.18 (1.59)	4.24 (1.53)

3.2 Evaluations of the set of alternatives

Our main hypothesis concerned the evaluation of the entire set of alternatives. We predicted that AUAs decrease the attractiveness of near future sets, but do not decrease and even increase the attractiveness of distant future sets. We conducted a three-way ANOVA on the set evaluation index, with time, AUA, and Study (1–4) as between-participants factors. Table 5 presents the mean and standard deviations of the individual studies.

There was no main effect of time, $F(1, 420) = 2.05$, $p = .15$. A significant main effect of AUA, $F(1, 420) = 4.83$, $p < .03$, indicated that inclusion of an AUA decreased the attractiveness of the set, ($M_{AUA} = 4.16$, $SD = 1.66$; $M_{no\ AUA} = 4.38$, $SD = 1.38$). This main effect was qualified by the predicted interaction between time and AUA, $F(3, 420) = 45.69$, $p < .001$. Including an AUA decreased the attractiveness of near future sets of alternatives ($M_{proximal, AUA} = 3.77$, $SD = 1.50$; $M_{proximal, no\ AUA} = 4.86$, $SD = 1.26$, $t(218) = 5.82$, $p < .01$) but increased the attractiveness of distant future sets ($M_{distant, AUA} = 4.47$, $SD = 1.76$; $M_{distant, no\ AUA} = 3.86$, $SD = 1.34$, $t(214) = -2.70$, $p < .01$). There was no three-way interaction between time, AUA and study; thus the interaction of time and AUA did not depend on study.

There were significant interactions between time and study, $F(1, 420) = 7.54$, $p < .01$, and between AUA and study, $F(1, 420) = 7.09$, $p < .01$. These interactions sug-

gest that the main effects of time and of AUA differed between studies. Since the main effects of time and AUA are not the focus of the present research, we will not attempt to explain these differences.

Our results thus demonstrate, consistent with our predictions, that when people consider alternatives for the proximal future, inclusion of AUAs makes the set less attractive. When the same set is considered for the distant future, however, inclusion of AUAs makes it more attractive.

3.3 Evaluations of the AUA

We expected the AUA to be more valued in the distant future than in the near future, because time increases the weight of desirability, on which AUAs are high, and decreases the weight of feasibility, on which AUAs are low. We conducted a two-way ANOVA on the evaluations of the AUA, with time and study as between-participants factors (see Table 6). A significant main effect of time, $F(1, 209) = 8.47$, $p < .01$, indicated that, as predicted, the attractiveness of AUAs increased over time, ($M_{near\ future} = 5.96$, $SD = 2.08$; $M_{distant\ future} = 6.58$, $SD = 1.65$). There was no interaction between study and time, $F(3, 209) = 1.22$, ns, indicating that this effect was uniform across studies. A main effect of study, $F(3, 209) = 49.64$, $p < .01$, indicated that the attractiveness of AUA dependent

Table 7: Means and standard deviations (in parentheses) for evaluations of available alternatives by time, AUA and study.

		Near future	Distant future	Overall
Jobs (Study 1)	AUA	4.03 (0.96)	4.16 (1.31)	4.10 (1.04)
	No-AUA	4.46 (0.74)	4.30 (0.97)	4.39 (0.86)
	Overall	4.25 (0.88)	4.24 (1.05)	4.25 (0.96)
Computers (Study 2)	AUA	3.26 (1.55)	3.98 (1.15)	3.61 (1.40)
	No-AUA	4.64 (1.35)	4.06 (1.21)	4.36 (1.31)
	Overall	3.95 (1.60)	4.02 (1.17)	3.98 (1.40)
Roommates (Study 3)	AUA	3.79 (1.53)	3.72 (1.48)	3.76 (1.49)
	No-AUA	4.89 (1.20)	4.03 (1.40)	4.49 (1.36)
	Overall	4.34 (1.47)	3.90 (1.44)	4.13 (1.46)
Negotiation (Study 4)	AUA	2.37 (0.47)	2.17 (0.89)	2.28 (0.71)
	No-AUA	2.46 (0.57)	2.65 (1.07)	2.56 (0.68)
	Overall	2.42 (0.52)	2.41 (1.02)	2.41 (0.79)
Overall	AUA	3.39 (1.37)	3.57 (1.40)	3.48 (1.39)
	No-AUA	4.17 (1.39)	3.83 (1.33)	4.00 (1.37)
	Overall	3.78 (1.43)	3.70 (1.37)	3.74 (1.40)

Table 6: Means and standard deviations (in parentheses) for evaluation of AUAs by time and study.

	Near future	Distant future	Overall
Jobs (Study 1)	7.14 (1.13)	7.70 (0.67)	7.42 (0.96)
Computers (Study 2)	5.75 (2.34)	6.89 (1.66)	6.31 (2.09)
Roommates (Study 3)	6.86 (1.76)	6.97 (1.18)	6.91 (1.49)
Negotiations (Study 4)	3.88 (1.13)	4.39 (0.72)	4.12 (0.98)
Overall	5.96 (2.08)	6.58 (1.64)	6.27 (1.91)

on study, an effect that is of no interest, since we did not attempt to equate AUA's in attractiveness.

Did the effect of time on the AUA account for its effect on the entire set of alternatives of which the AUA was part? To explore this possibility, we conducted a mediation analysis, in which we included only sets with AUAs, and in which time was the independent variable, evaluation of the AUA was the mediator, and evaluation of the set was the dependent variable.

When only sets with AUAs were considered, time had a significant effect on evaluations of the set, $\beta = .22$, $t =$

3.15, $p = .002$, and on the evaluation of the AUA, $\beta = .16$, $t = 2.41$, $p = .017$. Evaluations of the AUA predicted, in turn, the evaluation of the set, $\beta = .49$, $t = 8.20$, $p < .0001$. When both time and evaluations of the AUA were entered together in a regression to predict evaluation of the set, both time, $\beta = .13$, $t = 2.18$, $p = .03$, and AUA remained significant predictors, $\beta = .47$, $t = 7.80$, $p < .0001$. The mediation path was significant according to a Sobel Test, $Z = 2.31$, $p < .02$. This pattern suggests that evaluations of the AUA partially mediated the effect of time on evaluations of the set.

3.4 Evaluations of the available alternatives

We conducted a two-way ANOVA on the evaluations of the available alternatives, with time, AUA and study as between-participants factors (see Table 7 for means and standard deviations). There was no main effect of temporal distance, $F < 1$. A main effect of AUA, $F(1, 420) = 20.45$, $p < .01$, indicated that inclusion of AUA decreased the attractiveness of available alternatives, ($M_{AUA} = 3.48$, $SD = 1.39$; $M_{no\ AUA} = 4.00$, $SD = 1.36$). In other words, the other alternatives in the set were contrasted away from the AUA. More importantly and as predicted, the contrast effect (i.e., the effect of including an AUA) was qualified by an interaction with temporal distance, $F(3, 420)$

= 4.67, $p < .03$, which indicated that it was stronger in near future decisions ($M_{\text{proximal, AUA}} = 3.39$, $SD = 1.37$; $M_{\text{proximal, no AUA}} = 4.17$, $SD = 1.39$, $t(218) = 4.19$, $p < .01$), than in distant future decisions ($M_{\text{distant, AUA}} = 3.57$, $SD = 1.40$; $M_{\text{distant, no AUA}} = 3.83$, $SD = 1.33$, $t(213) = 1.37$, ns.). There were no interaction effects involving study, all F 's < 1.30 , ns, indicating that none of the effects reported above depended on study.

Did the evaluation of the available alternatives mediate the effect of time by AUA interaction on evaluation of the entire set? In other words, did including an AUA affect in a different way the evaluation of near future versus distant future sets because its effect on other alternatives similarly depended on time? Such mediation, if found, would support the assimilation versus contrast explanation, by suggesting that including an AUA makes near future sets look worse and distant future sets to look better because other alternatives are assimilated to an AUA more (or are contrasted from it less) in the distant future compared to the near future.

The results reported so far establish the effect of the interaction of AUA by time (the independent variable) both on the evaluation of the set (the dependent variable), $\beta = .27$, $t = 5.87$, $p < .001$, and on the evaluations of other alternatives (the mediator), $\beta = .09$, $t = 2.00$, $p < 0.04$. Evaluations of available alternatives were positively related to the evaluation of the set, $\beta = .68$, $t = 19.45$, $p < 0.01$. When the evaluation of the set was regressed simultaneously on time, AUA, their interaction, and evaluations of available alternatives, the effect of time \times AUA remained significant, $\beta = .21$, $t = 6.12$, $p < .001$, as did the effect of available alternatives, $\beta = .66$, $t = 19.57$, $p < .001$. This pattern establishes the evaluation of available alternatives as a partial mediator of the effect of the time \times AUA interaction on evaluation of the set, Sobel test for significance of mediation, $Z = 1.99$, $p < .05$.

4 General discussion

The present studies demonstrate across a variety of choice situations that including a highly attractive but unattainable alternative (AUA) reduces the attractiveness of the set of alternatives when the choice is envisioned in the near future but not when it is envisioned in the distant future. When a distant choice is considered, an AUA increases the attractiveness of the set of alternatives to which it belongs.

On the applied side, our results point to a costless and potentially effective strategy of marketing. For example, a real estate agency may exhibit attractive apartments and label them as "sold out", a university may propose a study program that includes an attractive course and note that it is not offered in the current academic year, or raffle or-

ganizers may offer an especially attractive prize and note that it is out of stock. Would that increase the attractiveness of the real estate agency, of the study program, or of the raffle? Our results suggest that this is more likely to be the case if choice is considered for the distant future. When the set of alternatives is proximal, adding such an AUA might backfire.

On the theoretical side, these results point to another way in which irrelevant information may affect choice and extend CLT in a potentially interesting way. We examined two mechanisms (both within the framework of CLT) that could account for the obtained pattern of results. First is the notion that AUAs, being high on desirability and low on feasibility, seem more attractive in the distant future than in the near future (Liberman & Trope, 1998). This was indeed the case on our studies, and this pattern partly accounted for the enhanced attractiveness of sets with AUAs in the more distant future. The second explanation is that temporal distance reduces contrast between AUAs and the rest of the alternatives in the set (Förster et al., 2008). This explanation, too, was supported by our results, and appeared to partly mediate the effect of AUA on near versus distant sets.

Although our findings are consistent with these two explanations, there is another way in which CLT could explain these results, namely, that distant future sets of alternatives may be perceived in a more global and less differentiated way, without taking note of which feature belongs to which alternative. To the extent that a decision maker does not note to which alternative unattainability is attached, adding an AUA would have a more beneficial effect on set evaluation. This latter theoretical possibility points to a number of interesting predictions. For example, regarding information search one could predict that, if more distant sets are presented in a less differentiated way, then they would be searched by attributes and not by alternatives. We could also predict that when examining sets of alternatives for the more distant future, participants would not pay much attention to what attributes belong to which alternative. Initial data in our lab supports these predictions. For example, participants read descriptions of two job candidates and chose between them for a job that had to start in the near future or in the distant future. On a later memory test, they were asked whether a certain feature (e.g., "easily discouraged") was associated with the first candidate, the second candidate or neither. Participants in the distant future condition confused the candidates more often, but did not make more of other memory mistakes.

In future research it would be interesting to examine the case of undesirable but very improbable alternatives. For example, in presenting the health risks involved in sunbathing, reminding people of the unlikely but extremely unpleasant outcome of skin cancer might cause

the set of milder but more probable negative outcomes (e.g., wrinkles, moles) appear less negative in the near future, but more negative in the distant future. Adding information on negative but improbable outcomes would make the entire set of outcomes seem more threatening in the distant future more than in the near future.

Future research should also examine real life situations in which an AUA is included in a menu. It would be interesting, for example, to append to a department's course list an attractive course, indicate that it is not offered during the current academic year, and assess the effects of doing so on the attractiveness of the courses in the department, both a long time before enrollment and on the day of enrollment. Based on our current results, we could advise departments against using such strategies close to enrollment.

In CLT, temporal distance is one of four psychological distances that are predicted to have similar effects. Therefore, the other three distances — social distance, spatial distance, and hypotheticality may have similar effects on evaluations of sets with and without AUAs. For example, menus with AUAs would seem more attractive when considered for somebody else rather than for oneself, when the choice situation is geographically distance, or if the prospect of making the choice is less likely. These predictions, too, await empirical examination in future studies.

References

- Colman, A.M., Pulford, B. D. and Bolger, F. (2007). Asymmetric dominance effects in games with and without dominant strategies. *Organizational Behavior and Human Decision Processes*, 104, 193–206.
- Choplin, J. M. & Hummel, J. E. (2002). Magnitude comparisons distort mental representations of magnitude. *Journal of Experimental Psychology: General*, 131, 270–286.
- Förster, J., Liberman, N., & Kuschel, S. (2008). The effect of global versus local processing styles on assimilation versus contrast in social judgment. *Journal of Personality and Social Psychology*, 94, 579–599.
- Huber, J., Payne, J.W., & Puto, C. (1982). Adding asymmetrically dominated alternatives: Violations of regularity and the similarity hypothesis. *Journal of Consumer Research*, 9, 90–98.
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75, 5–18.
- Liberman, N. & Trope, Y. (2008). The psychology of transcending the here and now. *Science*, 322, 1201–1205.
- Liberman, N., Trope, Y., & Stephan, E. (2007). Psychological distance. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (Vol. 2, pp. 353–383). New York: Guilford Press.
- Liberman, N., Trope, Y., & Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of Consumer Psychology*, 17, 113–117.
- Loewenstein, G., & Prelec, D. (1992). *Choices Over Time*. New York, Russell Sage Foundation
- Loewenstein, G., & Prelec, D. (1993). Preferences for Sequences of Outcomes. *Psychological Review*, 100, 91–107.
- Raineri, A., & Rachlin, H. (1993). The effect of temporal constraints on the value of money and other commodities. *Journal of Behavioral Decision-Making*, 6, 77–94.
- Sherif, M. & Hovland, C. I. (1961). *Social judgment: Assimilation and contrast effects in communication and attitude change*. New Haven: Yale University Press.
- Thagard, P. (1989). *Explanatory coherence*. *Behavioral and Brain Sciences*, 12, 435–502.
- Trope, Y., & Liberman, N. (2003). Temporal Construal. *Psychological Review*, 110, 401–421.