Special Session Summary  Using Construal Level Theory to Uncover Cognitive Drivers of Decisions  For the Future

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SESSION OVERVIEW

Research on temporal effects in decision-making is a fertile area of investigation for both economists and psychologists. While economists focus on rational utility maximizing models of intertemporal choice, psychologists focus on the cognitive and affective processes by which individuals make time-related evaluations and choices (Loewenstein, Read and Baumeister, 2003). Recently there has been a great deal of interest in formulating richer process models that derive value from both disciplines. In this endeavor, the psychological processes underlying such intertemporal choices have received much research attention (e.g. Liberman & Trope, 1998; Metcalfe & Mischel, 1999; Ebert, 2001; Frederick, Loewenstein and O’Donoghue, 2002). In this context, a great deal of interest is focused on Construal Level Theory (CLT) by Nira Liberman and Yaacov Trope which proposes a comprehensive process model that accounts for a wide variety of temporal effects including intertemporal preference reversals which cannot be explained by many theories of intertemporal choice. CLT posits that the greater the temporal distance, the more likely it is that events are represented by a few central and abstract features (high-level constructs) rather than by concrete and incidental details of the events (low-level construals). Thus temporal distance changes the way people mentally represent events and this in turn changes their judgments and choices for future events (Liberman & Trope, 2000; Trope and Liberman, 2003). In this session, the three papers key in not only on the substantive issue of intertemporal choice, but are also remarkably well aligned in their theoretical underpinnings. Each of the papers draws from Construal Level Theory in building a process model for the findings.

The first paper by Ebert demonstrates individuals’ propensity for myopic thinking about short-term costs versus long-term benefits. The second paper by Malkoc and Zauberman demonstrates shifts in time preferences where individuals value the near future more in deferral decisions than in decisions to expedite outcomes/actions. The third paper by Thomas, Chandran and Trope explores differences in the structure of discount and price cognitions between purchases in the near future and those in the distant future. Taken together the three papers examine temporal effects in choice and judgment across a variety of contexts and dependent measures. The scenarios investigated range over decisions on social interactions such as dating, choosing lottery tickets, concert tickets, and buying products such as coffee makers, software and memory sticks. Further, each paper uses CLT to understand a unique and distinct aspect of time related decisions. Together, these papers underscore the importance of understanding psychological mechanisms that drive such time related decisions.

CONTRIBUTIONS

Three papers were presented that document a better understanding of time related decision-making. This is of particular importance as the field of intertemporal choice is increasingly adopting an interdisciplinary approach to our understanding of time and decisions. The increased focus on psychological factors and processes has practical implications for designing products and services that incorporate consumers’ time related preferences. Each paper explored psychological mechanisms derived from CLT to address a separate and distinct aspect of time related judgments. In each case, the results demonstrate the limitations of traditional models of intertemporal choice in accounting for the effects. The paper by Ebert looks at the interaction of social distance (making decisions for others versus for oneself) and temporal distance (costs are in the near future while benefits are in the distant future) in decision domains such as work and social interaction and finds that people place more importance on short-term costs for themselves than they do for others (such as having to ask someone on a date in the pursuit of long-term romantic happiness). Ebert suggests this self-other difference may be explained by self-other differences in the concreteness of representations and consequently their affective intensity and may explain why people sometimes make normatively inferior choices for themselves relative to others. The paper by Malkoc and Zauberman also looks at the role played by the concreteness of representations of decisions to defers vs. expedite actions. They propose that when faced with deferral decisions (vs. decisions to expedite) people’s mental representations are relatively more concrete. This increased concreteness increases the value of the near future in deferral decisions both for monetary outcomes like participating in a lottery and for non-monetary events like attending a concert. Finally, the paper by Thomas, Chandran and Trope proposes that the concrete and contextually rich representations of the near future drive people to overweight incidental features relating to price promotions, while the more abstract and structured perspective taken in the distant future leads individuals to focus on notions of overall value over contextual details of the price promotion. They test this notion across a variety of process measures for purchase decisions involving coffee makers, memory sticks and software. Each of the papers thus, draws from CLT to derive an integrative theoretical framework in understanding how people make time related decisions.

The contribution of the session was greatly enhanced by the presence of Yaacov Trope as the discussion leader who as an acknowledged expert in the area integrated findings, suggested new research directions in the area and lead the discussion from the audience in sketching a larger theoretical framework in which to understand intertemporal choice.

“Self-Sympathy in the Short-Term: Self-Other Differences in Long-Term Benefits and Short-Term Costs”

Jane E. J. Ebert, University of Minnesota

People frequently appear shortsighted in their behaviors. They choose unhealthy foods and skip a session at the gym despite resolutions to eat healthily and exercise regularly. They procrastinate at work, invest insufficiently for retirement and fail to take preventative health measures (Frederick, Loewenstein, & O’Donoghue, 2002). Such myopic behavior suggests a tendency for people to place more value on short-term than on long-term desires. However, while people are frequently myopic in their own decisions, it appears they may be more far-sighted and patient when making decisions on behalf of others. In three studies I looked at people’s trade-offs of long-term benefits and short-term costs in a variety of decision situations either for themselves or for others. People were less myopic in their decisions for others than they were in the same or similar decisions for themselves. This finding may be...
due in part to different construals of long-term benefits and short-term costs, consistent with temporal construal theory (Liberman and Trope, 1998). The reasons for myopia in consumers’ lives are only partially understood. We know that immediate concerns or desires (e.g., eating a cheeseburger) can exercise a uniquely powerful hold on people’s attention (Mischel & Baker, 1975) and are especially potent when visceral needs are heightened (e.g., the person is hungry). In addition, researchers have suggested that the distant future lacks motivational force because it is perceived as remote, pallid, and uncertain, relative to a more arousing, vivid and predictable near future (Rae, 1834; Böhm-Bawerk, 1889). Consistent with this, Ekman and Lundberg (1971) found distant future events were rated lower in felt affect than were near future events. More recently, in proposing and supporting temporal construal theory, Liberman and Trope (1998) have found that temporally distant events are construed abstractly and at a more general level while more proximal events are construed in more concrete and specific ways. Such differences in construal may correspond to differences in affect, as imagining events in more concrete and specific detail results in greater affect (Williams et al, 1996).

Psychological differences like these between proximal and distal future events may help account for the myopic behaviors people show. For example, people may give disproportionate weight to vivid, concrete and affectively arousing short-term costs (e.g., exerting the effort to exercise) relative to pallid and abstract longer-term benefits (e.g., good health in old age). This effect may be particularly pronounced for people own decisions compared to their decisions for other people. Trope and Lieberman (2003) have suggested that construals may differ for forms of psychological distance other than time, such as the self versus others. So construals of events may be more concrete, and perhaps more affective in nature, when relevant to the self than when relevant to others. Similarly, psychological research on risk suggests that people’s judgments and decisions for themselves may depend more on feelings relative to their judgments and decisions for others (Hsee and Weber, 1997). If judgments of concrete short-term costs are based more on feelings than are the judgments of short-term costs when made for other people, we might expect to see people weight short-term costs more heavily in decisions for themselves than for other people. Whereas, we might expect to see no difference in the weights people place on more abstract long-term benefits for themselves versus others.

This is exactly what I found in three experiments. In experiment 1, subjects were asked to describe a real situation in their lives, namely something they wanted to do that would benefit them in the long-term but which they were currently reluctant or hesitant to do because of associated costs or difficulties in the short-term. They then rated the importance of the long-term benefits and short-term costs. Half the subjects produced a description and made the ratings for themselves, while the other half did this for a friend. Those making the ratings for themselves showed more myopia in their judgments of importance than did those making the ratings for their friends. This effect was driven by differences in the importance of the short-term costs. While self and friend ratings did not differ on the importance of long-term benefits, people’s ratings of the importance of short-term costs for themselves were significantly larger than their ratings for their friends. Such “self-sympathy” was found again in experiment 2. This experiment was very similar to experiment 1, except that, instead of subjects producing idiosyncratic situations that might vary in multiple ways, all subjects made ratings of the same set of 4 situations. The situations were all shown in pretests to be relevant to undergraduates, e.g., asking someone out on a date (short-term cost) to become involved in a relationship (longer-term benefit) or attending a class (short-term cost) to obtain a better job in the future (longer-term benefit). Once again, people’s ratings of the importance of short-term costs for themselves were significantly larger than their ratings for their friends.

In experiment 3, I replicated this self-sympathy finding and demonstrated a role of temporal construal theory in this effect. In this “yoked” experiment subjects came to the lab with a friend, and both made ratings of the benefits and costs of the same real situation: a currently relevant situation for the subject described and submitted by him or her at an earlier date. Coders blind to both the hypotheses and subjects’ ratings coded the descriptions of the short-term costs. Self and friend ratings of the importance of short-term costs differed only for those situations where the cost descriptions they read were relatively concrete and specific, rather than more abstract and general, consistent with the idea that self-other differences on the importance of short-term costs reflects a self-other difference in construal for events. This experiment also ruled out other possible explanations for this effect, such as self-other differences in expectations.

“Expediting versus Deferring Utility: The Effect of Temporal Perspective on Sensitivity to Prospective Duration”

Selin Malkoc, University of North Carolina at Chapel Hill
Gal Zauberman, University of North Carolina at Chapel Hill

When considering how consumers prefer to experience events, consumers often face a tradeoff between level and the timing of consumption. For example, consumers who purchase a book can receive it in a day for $15 shipping fee or wait 7-10 days and pay no shipping charges. How sensitive are consumers to the duration on which this decision takes place? Will sensitivity to duration depend on whether consumers’ decision is to expedite future consumption or to postpone current consumption? Research on intertemporal choice has repeatedly documented declining discount rates over time, commonly interpreted as hyperbolic discounting (e.g., Thaler, 1981). In addition, Loewenstein (1988) found that people display greater time discounting when they delay an outcome than when they expedite that outcome over the same time period. In this work, we focus on how people incorporate time horizon into their decisions and examine its interactive effect with temporal framing. We propose that when faced with a deferral decision, people are anchored to the near future, leading to more concrete mental representations (Trope and Liberman, 1998; 2003). As a result of this increased concreteness, individuals’ value of the near future more in deferral decisions than in decisions to expedite. This phenomenon is manifested by more pronounced hyperbolic discounting in deferral as compared to expedite decisions.

We explore these effects in five experiments with both monetary and non-monetary outcomes. In our experiments we use a temporal perspective manipulation (expedite or defer a focal event) and a manipulation of time horizon on which the decision takes place (near future vs. distant future). For space considerations, we focus on the implied discount rate measure. In the first experiment (N=149) participants were presented with a lottery prize scenario. Framing (defer vs. expedite) and prize amount ($15, $250, $3000) were manipulated between participants and time horizon was treated within-participants (3 months, 1 year, and 3 year). Replicating previous findings, we find a main effect for temporal framing, prize amount, and time horizon. More importantly, we find the predicted two-way interaction between time horizon and temporal framing (F(2, 286)=40.36, p<0.0001), indicating an increased value associated with near future in the deferral versus expedite decision. To ensure that these results were not an artifact of the experimental design, we replicated the results with a second experiment in which time horizon was manipulated between participants.
To further test the generality of effect, we introduced non-monetary outcomes. In the third experiment (N=98), participants considered having purchased a concert ticket for $80 for the 75th row of a local arena with 150 total rows. We manipulated temporal framing between-participants by informing participants about an option to either defer or expedite the concert date. Time horizon was a within-participants factor (3 months vs. 1 year). These results replicated previous findings with two significant main effects for temporal framing and for time horizon. In addition, we replicated the significant two-way interaction between time horizon and temporal framing (F(1, 96)=47.160, p<.0001), indicating that the effect of interest is not limited to monetary scenarios.

To test whether our results were generalizable across non-monetary response units, we have ran a fourth experiment (N=95) where participants considered having reserved a 5-day vacation and were informed by their travel agent that they either needed to defer or expedite their vacation (between participants). Participants were asked to indicate the number of days they would require (give up) to delay (expedite) the vacation time horizon was manipulated as a within participants factor (4 weeks vs. 10 weeks). Our analyses produced a significant temporal framing by time horizon interaction (F(1, 93)=7.583, p<.001), indicating that the effect of interest is not limited to monetary response units.

The last experiment (N=222) directly tested the role of perceived concreteness using a similar design to that of experiment 1, but asking participants to indicate the level of concreteness of their future plans upon the completion of the experiment. The stimulus was a $100 gift certificate and time horizon was manipulated within-participants at two levels (3 months vs. 1 year). Once again, the predicted two-way interaction was obtained (F(1, 205)=11.184, p=.001). More importantly, as predicted, we found a two-way interaction between frame and concreteness (F(1, 205)=4.698, p=.031), indicating that deferral decisions lead to more concrete mental representations. Moreover, the predicted three-way interaction of time, frame and concreteness (F(1, 205)=4.772, p=.03) was also obtained. These results show that the frame by time horizon interaction is moderated by the level of concreteness of mental representation.

In conclusion, we go beyond existing findings and demonstrate a systematic and robust interactive effect of time horizon and temporal framing. Specifically, shifts in time preferences are significantly more pronounced in deferral decisions than in decisions to expedite. This differential sensitivity is moderated by the different levels of concreteness of representations between the two decision frames.

“Distance Lends Structure to the View: Temporal Construal and Value Perceptions”

Manoj Thomas, New York University
Sucharita Chandran, Boston University
Yaacov Trope, New York University

While there is a large body of work that examines temporal effects on consumer behavior, there is little work that looks at how temporal distance impacts the structure of price cognitions. Price evaluations are seldom based on a single piece of information. Cognitions about the product, the gross price, available discounts and promotions etc. underlie consumers’ response to prices. In this paper we look at the effect of immediate versus distant future purchases on the cognitive structure of discount and price evaluations and their impact on purchase intentions. Drawing on construal level theory, which suggests that representations of the distant future are relatively more schematic and coherent than those of the near future (Liberman, Sagristano and Trope, 2002), we propose that for distant purchase decisions consumers form more coherent and structured evaluations of price and discount information, leading to more stable purchase intentions. For more immediate purchase decisions, price cognitions will be more fragmented and purchase intentions will therefore be more variable.

We test this hypothesis through four studies that employ the same manipulation of psychological distance whereby participants are asked to contemplate purchase of a product either in the near future (tomorrow) or in the distant future (this time, a year from now). In study 1 we assessed participants purchase intentions for a memory stick twice, once before discount information was displayed and once after presenting discount information. As expected, we found systematic differences in information processing across the two time-related purchase conditions. Participants assigned to the distant condition demonstrated stability in purchase intentions which did not change pre and post viewing of discount information although participants assigned to the near condition did change their purchase intentions after seeing the discount. Further, we observed that participants in the distant construal took into account only price evaluations, while near construal participants took into account both price and rebate evaluations while forming their final purchase intentions. Study 2 used a similar paradigm except that we used a coffeemaker as the stimulus and conducted the study on computers to examine the effect of temporal construal on response time. We replicated our earlier results of decision stability in the distant construal. Further, participants took significantly more time to make the post-discount judgment of purchase intention in the distant construal than in the near construal, while pre-discount response latencies were no different across time conditions. This suggests that their evaluation was more carefully considered and thoughtful.

In the third study we investigated whether such systematic differences in information processing extended to non-monetary aspects of promotions. Participants in this study, who saw a piece of software offered for purchase with a mail-in rebate, were told that the rebate redemption process was either painful/difficult or that it was painless/easy. We found that participants in the near (vs. distant) future purchase condition rated the price of the offer with the easy-to-redeem rebate more favorably and indicated a higher likelihood to buy the product. Further they placed a higher weight on ease of redemption of the rebate, while participants in the distant purchase condition placed a higher weight on overall need for the product. Finally, in order to gain greater insight into the thought process that individuals go through, we asked participants to list the most important factors while purchasing a product offered with a mail-in rebate, again either tomorrow or next year. We found that while the total number of thoughts across conditions was about the same, the structure of cognition was significantly different in two important ways. Participants in the near future (versus the distant future) condition, listed: i) significantly more thoughts pertaining to the rebate, ii) more categories of thoughts overall, suggesting that their thinking was more fragmented and also more influenced by contextual aspects of the decision environment.

Taken together these results demonstrate systematic differences in the structure of price and discount cognitions as a function of temporal construal. In the distant future: i) construals of prices and discounts are more structured, ii) Purchase intentions take more time to be constructed and finally iii) such evaluations are more stable across presentations of contextual and incidental information.