BACK TO THE FUTURE AND FORWARD TO THE PAST: EXPLORING RETROSPECTIVE BIASES AND CULTURE

Therese A. Louie, Lucas College and Graduate School of Business, San José State University, One Washington Square, San José, CA 95192, 408-924-3506, tlprofsj@cob.sjsu.edu

ABSTRACT

Individuals who feel they would have been able to predict the outcome to past events could be showing "hindsight bias," or the "Monday Morning Quarterback Syndrome." This research examines cultural influences on hindsight effects as they pertain to the successful completion of to-do list tasks. Based upon research that individuals in the Latino culture generally have a less strict, more relaxed view of time, it was predicted and found that they—relative to non-Latinos—would be less likely to provide hindsight estimates biased in the direction of their actual task completion. Discussion focuses on applications and future research.

INTRODUCTION

In a given week anyone feeling rushed or under deadline pressures has plenty of company. Research suggests that individuals show a "planning fallacy" by which tasks take longer to complete than originally expected [1]. Over time--despite increasing experience with task completion--planning skills tend to remain inaccurate. With the rapid increase of technological gadgets that promise efficiency, why does truthful scheduling remain so difficult? For a variety of professional and quality-of-life reasons, it behooves stressed consumers to be realistic in their planning.

Behavioral researchers in the Business and Social Science fields have investigated factors relevant to the planning fallacy. For example, individuals underestimate their own, but not others', task completion times; this pattern reveals self-serving/self-protecting biases [8]. At least two additional factors might affect planning accuracy. One is that individuals fall prey to retrospective biases that hinder learning from past completion times. Another possible influential factor is culture. This research examines how perceptions of to-do list completion are influenced by hindsight bias and cultural norms.

Retrospective Biases

Extant research has revealed retrospective biases that taint individuals' views of the past. One possible cause of the planning fallacy may be the "hindsight bias" wherein outcome information prevents accurate recollection or reconstruction [6]. To illustrate, suppose an individual predicts it will take 6 days to finish a task, but in fact it takes 12 days. Due to hindsight bias and to self-protective biases, his or her recollection of the prediction might be 9 days (i.e., somewhere in between the true prediction of 6, and the actual outcome of 12, days). If recollected predictions are moving targets biased by actual outcome information, learning from planning overestimations may prove difficult. Individuals might believe they are more accurate planners than they actually are.

Hindsight bias can be measured using within- or between-subjects experimental designs. The most conservative method uses a within-subjects "memory" design in which participants are asked to predict an event outcome. At a later date, one set of control group participants is asked to recall their predictions; the recollected estimates are referred to as "postdictions." A second set of participants is told of the outcome to the event; after being told to ignore that information, they are asked to recall their original predictions (i.e., to make post-outcome postdictions). Hindsight bias occurs when the postdictions of the second group are biased in the direction of outcome information. One goal of this research is to explore possible hindsight effects in planning situations using this stringent within-subjects measurement.

Cultural Effects

Another variable that may influence planning accuracy is culture. The traditional mainstream American norm has a monochromic view of time that stresses deadlines and is focused linearly (i.e., yesterday was before today, which is before tomorrow). In contrast, individuals from polychromic cultures emphasize social relationships, and have a more circular view of time (i.e., "day" will come around again, [5]. As Latino cultures are largely polychronic, they can be less likely than monochronic Caucasians to stress punctuality, and more likely to have broad based judgments of lateness (for a review see [7]). Latinos are an especially worthwhile group to research given their tremendous population growth in the United States and their subsequent increasing economic, social, and political influence [3].

Differences in monochronic and polychronic cultures might affect hindsight bias, especially because the outcome to scheduling efforts may differentially trigger self-serving mechanisms that influence retrospective estimates. For example, a monochronic individual might predict completing 10 tasks in a month but successfully complete only 5. Upon realizing that 5 tasks were finished, the person could attempt to learn from the past by trying to recall his/her original prediction. In the standard hindsight effect, the individual would provide a self-protective postdiction that is between the completed 5 tasks and the predicted 10 tasks. In contrast, for individuals in the polychronic culture maintaining relationships is more important than accomplishing tasks. They may not feel the need for self protection after completing 5 out of 10 listed items. Instead, they may readily admit having been optimistic by providing a postdiction close to 10 that does not show strong outcome effects.

Theoretically, exploring the effect of consumer norms on retrospective biases is meaningful due to the lack of strong cultural effects in hindsight research [6]. Perhaps the method and stimuli used in past studies (e.g., asking participants to estimate the likelihood that alternative trivia question outcomes were correct) were largely unlinked to cultural differences. In contrast, examining "time" in personally relevant settings may more naturally reveal the impact of social norms.

METHOD

Participants and Procedure

One-hundred and sixteen undergraduates in Marketing courses voluntarily participated in this study by first creating a list of tasks and chores they planned to complete within three weeks. To control for differences in academic loads or jobs, they were asked to note activities unrelated to school or work. Respondents also provided demographic information. In the course of this research two non-Latino participants provided outlier responses more than three standard deviations away from the mean; these individuals were eliminated from the data set.

Using the standard within-subjects memory design, three weeks later the remaining 114 participants were randomly assigned to two outcome groups. The 59 in the control "outcome-absent" group were each asked to recall the number of items on their to-do list; they then were given their lists, and marked which tasks they had completed. The remaining 55 participants comprised an "outcome-present" treatment group that first received their to-do lists and were asked to mark which items they completed. Then, they were asked to ignore what tasks they had finished, and to make postdictions as to how many items they would have recalled were on their lists if they had not seen their original materials.

At this point it should be noted that 9 participants (all non-Latino, and 7 in the control outcome-absent group) completed every one of their to-do list items. With no discrepancy between their predicted and eventually completed number of tasks it is not possible for those individuals to show hindsight bias. Due to difficulties in data interpretation those nine participants were dropped from the analysis; the results are virtually the same without their inclusion, although there is a decrease in statistical power.
The degree to which hindsight bias is evident in planning settings is calculated by taking the difference between the "original number of tasks listed" and the "postdicted number of tasks listed." Using this measure, positive numbers reflect hindsight bias (i.e., estimates biased by actual outcome information about task completion). No cultural differences were anticipated for participants asked simply to recollect the number of tasks on their lists. In other words, for those in the outcome-absent condition-- who made postdictions without having seen how many to-do list tasks they had completed--there should be no recall differences between Latinos and non-Latinos.

However, discrepant results are anticipated across cultural groups for those in the outcome-present treatment condition who were asked to provide recall estimates after noting how many tasks they had completed. The Latinos' estimates are anticipated to be less biased in the direction of outcome information due to their traditionally polychronic, more relaxed view of time and deadlines. The mean difference score between the original and recalled task lists should be lower for the Latinos than for the non-Latinos.

RESULTS

The sample, drawn from a campus wherein the Latino student population totals 21%, contained 20 Latino participants. Due to the inability to randomly assign participants to cultural conditions the results must be interpreted with caution, and viewed as a starting point to examining social norms and retrospective biases in planning settings. As anticipated, there is evidence that culture can influence after-the-fact postdictions. Following the specified hypotheses, mean postdiction estimates were contrasted across cultural groups within outcome conditions. As expected, for the outcome-absent control participants there is no difference in recall estimates between the Latino ($M = -2.50$, $SD = 6.53$) and non-Latino ($M = -1.95$, $SD = 4.45$) groups, $t(1) = 0.33$, ns. However, and again as anticipated, within the outcome-present treatment condition the mean estimate of the Latino group ($M = -7.50$, $SD = 7.41$) is less biased in the direction of outcome information than that of the non-Latino group ($M = -1.27$, $SD = 6.55$), $t(1) = 2.43$, $p < .02$.

Again, the results should be viewed cautiously. In particular, a further look at the data suggest that they are as predicted for the outcome-present treatment group in that the Latino group's mean estimate is lower than that for the non-Latino group. Yet, it was anticipated, and not found, that the cultural difference would be driven by hindsight bias by the non-Latino group relative to the Latino group. Using non-parametric statistics, 34% of the non-Latino participants comprise a marginal level of

hindsight bias rather than a strong statistical effect, Fisher's Exact Test, $p < .09$. And while the percentage of Latino participants showing hindsight bias (12.5%) as anticipated is not statistically significant (Fishers Exact Test, $p > .45$), their postdiction estimates unexpectedly are even further away from the outcome information than anticipated. In short, although the Latino and non-Latino groups' hindsight estimates differ significantly, the latter group showed less hindsight bias and the former group unexpectedly showed "reverse" hindsight effects.

DISCUSSION

Although the significant findings are not precisely as anticipated, they do suggest that culture can influence retrospective judgments. While the non-Latinos participants did not show as much hindsight distortion as expected, outside of controlled research settings there may still be consequences of the bias. For example, in real life settings consumers may not formally write complete to-do lists, preferring instead to hold such chores in memory. Without recorded documentation by itself, let alone that which has been shown to others (i.e., to the students' professor), it would likely be harder to recall how many items were initially on the list. If so, a tendency to show hindsight bias could be magnified in everyday life. Hindsightful recollections could, in turn, foster overly-confident planning.

It is not uncommon in studies that use the conservative within-subjects methodology (such as this one) to have weak hindsight findings [4]. Future research could test the amount of bias prompted by informal to-do lists by having one group make predictions only (i.e., about how many tasks they plan to complete in three weeks). A separate group could be asked how many tasks they completed in the past few weeks, and then could be asked to estimate how many items they would have predicted they would finish had they been asked three weeks prior. Hindsight bias would be evident if the postdictions overall are lower than the predictions. This between–subjects method of measuring retrospective distortion typically produces larger effects [2].

The Latino participants' lack of hindsight bias is an interesting contrast. It appears as if those in the outcome-present treatment group are claiming that without seeing outcome information they would have recalled predicting even *more* tasks to do. Such an interpretation is congruent with the polychronic norm of having a full plate of multiple activities, and of de-emphasizing deadlines [5] [7]. However, future efforts could focus on the cause of such reverse hindsight effects. For example, it is possible in this research that some of the Latino students were non-native English speakers who had difficulty understanding the postdiction instructions. This alternative hypothesis is considered unlikely because (a) the participants were juniors and seniors who had completed two years of English-speaking college classes, and (b) the test for equal variances within the outcome-present treatment condition suggests that the cultural groups did not differ strongly ($p > .50$). Nonetheless, a subsequent study could test for effects of language or of self-presentation that may have influenced the findings.

More generally, this project's findings do reflect cultural differences in the perception of time and task completion, and therefore may help students learn and develop time management skills in this increasingly fast and competitive era. Business students are often taught, "When in Rome…" but the application is not always so obvious. It may be second nature to set a financial budget when doing work overseas, but a similar "time budget" for professional interactions may also be helpful. Monochronic business travelers to polychromic countries might want to more consciously build sociability in their work scheduling, to pad their time estimates, and to expect flexibility. Those from polychronic cultures with careers in monochronic environments might best plan for firm deadlines and focused working conditions with less sociability.

Although consumers are taught to learn from past purchase and investment outcomes, there is room to improve learning from temporal events. It is hoped that this paper is move toward that objective with insights into cultural differences.

REFERENCES

[1] Buehler, R., Messervey, D., & Griffin, D. Collaborative planning and prediction: Does group discussion affect optimistic biases in time estimations? *Organizational Behavior and Human Decision Processes,* 2005, *97*(1), 47-63.
[2] Bukszar, E., & Connolly, T. Hindsight bias and strategic choice: Some problems in learning from experience. *Academy of Management Journal*, 1988, *31*(3), 628-641.
[3] Cartagena, C. Hispanics are creating a new baby boom in the United States. *CNN*, 2013, October 14, retrieved September 1, 2014, from http://www.cnn.com/2013/10/14/opinion/cartagena-latino-boom/
[4] Fischhoff, B., & Beyth, R. 'I knew it would happen'—Remembered probabilities of once-future things. *Organizational Behavior and Human Performance*, 1975, *13*(1), 1-16.
[5] Hall, E.T. *The Dance of Life*. New York, NY: Anchor Books, 1983.
[6] Pohl, R. F., Bender, M., & Lachmann, G. Hindsight bias around the world. *Experimental Psychology*, 2002, *49*(4), 270-282.
[7] Stone-Romero, E. F., Stone, D. L., & Salas E. The influence of culture on role conceptions and role behavior in organizations. *Applied Psychology,* 2003, *52*(3), 328-362.
[8] Taylor, S. E., & Brown, J. D. Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin,* 1988, *103*(2), 193-210.