ASSOCIATION FOR CONSUMER RESEARCH

Labovitz School of Business & Economics, University of Minnesota Duluth, 11 E. Superior Street, Suite 210, Duluth, MN 55802

Does Time Fly When You’Re Counting Down? the Effect of Counting Direction on Subjective Time Judgment

Edith Shalev, New York University, USA

Vicki Morwitz, New York University, USA

The current paper demonstrates that subjective time judgments of experiences that involve counting can be biased by counting direction, i.e. whether people are asked to count upward or downward. Across four studies we find that (a) counting downward results in shorter time estimates and more favorable attitudes towards the counting task than counting upward, (b) the effect is stronger for individuals who are high in need-for-cognition, and (c) the effect is driven by one’s implicit goal. When individuals hold a completion goal towards the counting task, counting down feels shorter. However, when they hold an accomplishment goal, counting up feels shorter.

[to cite]:

Edith Shalev and Vicki Morwitz (2009) ,"Does Time Fly When You’Re Counting Down? the Effect of Counting Direction on Subjective Time Judgment", in NA - Advances in Consumer Research Volume 36, eds. Ann L. McGill and Sharon Shavitt, Duluth, MN : Association for Consumer Research, Pages: 1051-1051.

[url]:

http://www.acrwebsite.org/volumes/14398/volumes/v36/NA-36

Verlegh Peeter W.J. and Steenkamp Jan-Benedict E.M. (1999), "A Review and Meta-Analysis of Country-of-Origin Research," *Journal of Economic Psychology*, 20, 521-46.

Does Time Fly When You're Counting Down? The Effect of Counting Direction on Subjective Time Judgment

Edith Shalev, New York University, USA
Vicki G. Morwitz, New York University, USA

Web users watching video clips of commercials, news items, or music online can tell how much time has elapsed from the beginning of the video and the total duration of the video clip by looking at a digital counter usually located at the bottom of the pop-up media player. Are these video segments more entertaining when the timer counts the elapsed time downward or upward? Suppose your gym instructor asks you to do 25 sit-ups. Does time seem to pass by more quickly and are you more willing to do additional sets of sit-ups if you count down from 25 to 1 or up from 1 to 25?

This research examines the impact of counting events upward *vs*. downward on the perceived duration of the interval containing the events as well as on consequences associated with the duration of the interval. We propose that the end of a counting down sequence (7, 6, 5, 4, 3, 2, 1) evokes more favorable feelings than the end of a counting up sequence (for example 19, 20, 21, 22, 23, 24, 25) because it draws the counter's attention to the prospect of goal attainment at an earlier stage (assuming that adults do not consider the mere act of counting itself to be enjoyable or engaging, we suspect they hold an implicit goal of completion towards most tasks that involve counting). Past research suggests that an earlier perception of proximity to the goal results in greater positive emotions than a later one (Carver and Scheier 1990, Kivetz et al 2006, Nunes and Dreze 2006). Additionally, it has been shown that individuals tend to misattribute the favorability associated with the end of an experience to the overall favorability of that experience (Fredrickson and Kahneman, 1993). As a result, we hypothesize that individuals will interpret a counting down experience as more favorable and shorter than a counting up experience. Since individuals high in need for cognition (NFC) have been shown to devote more attention to their own thinking and meta-cognitive experiences (Petty et al, 2007), we expect the effect of counting up *vs*. down will be larger for individuals high in NFC.

In study 1 we asked participants to imagine doing twenty five sit-ups. Half were asked to count their sit-ups from 1 to 25 (upward) and half were asked to count from 25 to 1 (downward). Counting downward resulted in estimation of shorter exercise duration and in perception of faster completion pace compared to counting upward. Conversely, downward counters held more favorable attitudes towards the counting task and were more willing to continue counting sit-ups than upward counters.

In study 2 we asked participants to count twenty five geometrical shapes. We manipulated two factors between participants: counting direction–upward or downward and counting range–half counted between 1 and 25 and half counted between 26 and 50. We hypothesized that counting downward will be perceived as shorter and as more enjoyable than counting upward only for the 1-25 range where the final countdown sequence is indicative of the distance to one's completion goal (5, 4, 3, 2, 1), but not for the 26-50 range (where the countdown ends with 29, 28, 27, 26, 25). The results were consistent with our hypotheses. Downward counters estimated the duration of the counting task to be shorter than upward counters in the 1 to 25 ranges but not in the 26 to 50 ranges. This study also rules out task complexity as an alternative account for the downward counting effect. Regardless of the range counted, participants indicated that downward counting is more difficult than upward counting (yet the downward counting effect was not obtained in the 26 to 50 range).

In Study 3 participants were asked to estimate the duration of a waiting interval in which they counted either from 1 to 60 or from 60 to 1. They were asked to imagine waiting on the phone for a service representative. We manipulated the counting direction between participants and measured NFC. Consistent with our hypotheses, the counting direction effect was found only for individuals high in NFC.

In Study 4 we manipulated two factors between conditions: counting direction–upward vs. downward–and primed goal–completion vs. accomplishment. We also measured NC. Following the priming manipulation, we used the same procedure as in the sit-up study. The results replicated the NFC moderation obtained in study 3: only participants who were high in NFC demonstrated the downward counting effect on time perception. Furthermore, only for those high in NFC was the counting direction effect moderated by the primed goal. Specifically, participants who were primed with a completion goal perceived time to be shorter following downward counting. On the other hand, those who were primed with an accomplishment goal perceived time to be shorter following upward counting.

In sum we find across studies that counting down experiences are perceived as shorter and as more favorable than counting up experiences. Our results support the hypothesis that this effect depends on the implicit goal one holds towards the counting task. These findings have important managerial implications because they suggest that consumers may find the same experience more enjoyable and effective when the events or time units associated with it are counted downward. To mention just a few examples where this effect can be applied: managers of call centers, directors of fitness DVDs and designers of online video segments can improve the appeal and effectiveness of their products with hardly any effort.

References

Carver, C.S., Scheier, M.F. (1990). Origins and functions of positive and negative effect. A control-process view. *Psychological Review*, 97, 19-35.

Fredrickson, B. L., & Kahneman, D. (1993). Duration neglect in retrospective evaluations of affective episodes. *Journal of Personality and Social Psychology*, 65, 45-55.

Kivetz, Ran, Oleg Urminsky, and Yuhuang Zheng (2006), "The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention," *Journal of Marketing Research*, 43 (1), February, 39-58.

Nunes, J. C., Dreze, X. (2006). The Endowed Progress Effect: How Artificial Advancement Increases Effort. *Journal of Consumer Research*, 32, 504-512.