

# Are You in Control? Effects of Information Control on Human Judgment

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## Introduction

One recently emerged factor of interest in the domain of judgment research is the amount of control operators wield over the information they use to make their judgments. Previous work in consumer research has suggested that a high amount of control (over information presented, time, and sequence) is beneficial to performance in judgment tasks under the guise of product comparison (Ariely, 2000). The explanation is that people with high control are able to adapt their strategies in response to changing information needs, while those with low control cannot. However, more control often implies higher information access costs, which could induce suboptimal strategies and performance (Fu & Gray, 2006; Gray, Sims, Fu, & Schoelles, 2006; Payne, Bettman, & Johnson, 1993). As our interests focus more on the phenomenon rather than consumer choice, we have altered the design of Ariely (2000) to emphasize the effects of information access costs while de-emphasizing the effects of preferences.

## Experiment

A simple simulation was created based off of a navy radar task (Fu et al., 2006) in which subjects were to combine information on four attributes of various unidentified aircraft, or tracks, in a linearly additive fashion to judge its overall level of threat. Subjects performed this task under either high or low levels of information control. Hi-Control condition subjects had complete freedom in selecting the sequence, timing, and specific track attributes to be displayed. Lo-Control condition subjects had no such freedom and were instead yoked to a Hi-Control subject, passively viewing the same attribute information in the identical sequence and timing as their Hi-Control counterpart chose, much like a movie.

Fifty-two subjects participated in this experiment for class credit. An additional cash prize of \$5 was awarded to the best overall performer. During the task, subjects examined the attributes and rated the threat levels of ninety tracks, taking approximately one hour.

## Results

Three performance measures were calculated. For subjects with scores exceeding 1.5 of the interquartile range on any of these measures, the pair of the subject and their yoked counterpart was removed as an outlier.

A measure of cognitive control, how consistently subjects used the four cues, indicated that performance was better in the Lo-Control condition ( $R = 0.87$ ) than the Hi-Control one ( $R = 0.82$ ,  $t(18) = 2.12$ ,  $p = .048$ ). A measure of rating error, the average absolute difference between subjects' and the objective overall ratings, was marginally significant in indicating that performance was better in the Lo-Control condition ( $M = 6.77$ ) than the Hi-Control one ( $M = 9.50$ ,  $t(18) = 1.955$ ,  $p = .066$ ). A measure of weighting error, the fit between subjects' and the objective weights, indicated better performance for the Lo-Control condition ( $B = 0.07$ ) than the Hi-Control one ( $B = 0.10$ ,  $t(18) = 2.48$ ,  $p = .023$ ).

## Discussion

To summarize, we found that Hi-Control subjects were less consistent in their strategies and showed more variability in their weighting of the cues during judgment, consequently performing worse than the Lo-Control subjects. One possible explanation is that the interaction between higher information access costs and the feeling of control may lead to an "illusion of competence" and thus a weaker encoding of information during cue integration and ultimately less consistent and reliable judgment. Current and future work is aimed at investigating the merit of explanations such as this.

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