

# Don't Vote Against the Recognition Heuristic

Julian Marewski (marewski@mpib-berlin.mpg.de)  
Wolfgang Gaissmaier (gaissmaier@mpib-berlin.mpg.de)  
Anja Dieckmann (dieckmann@mpib-berlin.mpg.de)  
Lael Schooler (schooler@mpib-berlin.mpg.de)  
Gerd Gigerenzer (gigerenzer@mpib-berlin.mpg.de)

Max-Planck-Institute for Human Development, Center for Adaptive Behavior and Cognition  
Lentzeallee 94, 14195 Berlin, Germany

The recognition heuristic (Goldstein & Gigerenzer, 2002) is a simple decision-making strategy for inferring which of two objects, one recognized and the other not, has a larger value on some quantitative criterion. If there is a positive correlation between the recognition of objects and their criterion values, the heuristic predicts that recognized objects are larger. The correlation between recognition and the criterion is presumed to arise through mediators in the environment. These make it more likely to encounter, and thus recognize objects with large criterion values.

## Deciding Against Recognition

Goldstein & Gigerenzer (2002) showed that people rely on the recognition heuristic when recognition and the criterion are correlated. They defined the recognition validity  $\alpha$  as the proportion correct where one object is recognized and the other not given the assumption that recognized objects are *always* chosen over unrecognized ones. However, a concept is missing to analyze decisions against recognition. We therefore propose to differentiate between the following accuracies: Let  $k$  be the accordance rate, that is, the proportion of decisions where recognized objects are chosen over unrecognized ones. The *accordance accuracy* ( $a^+$ ) is the proportion correct for the cases in which people follow the recognition heuristic. Analogously, the *discordance accuracy* ( $a^-$ ) is the proportion correct for the pairs in which people decide against the recognized object. The achieved accuracy ( $c_{ru}$ ), that is, the total proportion correct actually achieved in the cases where one object is recognized and the other not, can then be computed as:

$$c_{ru} = k a^+ + (1 - k) a^- \text{ (If } k = 1, a^+ = \alpha = c_{ru}\text{.)}$$

Goldstein and Gigerenzer (2002) defined the knowledge validity  $\beta$  as the proportion correct when both objects are recognized. They showed that if  $\alpha > \beta$ , people recognizing fewer objects can perform better than people recognizing more – less-is-more effects can arise. However, from  $c_{ru} = k a^+ + (1 - k) a^-$  it follows that less-is-more effects can occur even if  $\alpha < \beta$ , that is when  $c_{ru} > \beta > \alpha$ .

## Is Ignorance Useful in Predicting Elections?

Do voters rely on their ignorance to predict election outcomes? When do citizens decide against recognition? We

tested this by applying the recognition heuristic to a new real world environment, namely the 2004 parliamentary elections of the German federal state of Brandenburg. Additionally, we studied the pre-election environment to find out whether newspapers and local distributions of election advertisements could be mediators for a correlation between name recognition and election outcomes.

Using a questionnaire, we collected data on citizens' pre-election recognition of names of parties and candidates running in the elections and asked them to predict the election outcomes in paired comparisons and ranking tasks. For the environmental analyses, we counted how often candidate and party names appeared on election advertisements and in newspapers before the election.

We found very strong correlations between participants' name recognition, environmental frequencies of names, and the election outcomes. People heavily relied on recognition when predicting the election outcomes and were thereby highly accurate. Citizens who recognized fewer candidates came up with at least as good predictions as citizens who recognized more candidates.

Further analyses revealed that  $\beta$  as an indicator for knowledge correlated strongly with  $a^-$ ,  $a^+$ , and  $c_{ru}$ . We used the information whether someone regularly reads newspapers or not as a proxy of general knowledge. And indeed, newspaper readers were more successful in selectively deciding against recognition: they achieved higher values for  $a^-$ , and  $c_{ru} - \alpha$ , with the latter measuring the deviation from the accuracy expected when always relying on recognition. However, with  $\alpha$  being very large for both groups even newspaper readers did not achieve a higher  $c_{ru}$  than the maximum attainable when always relying on recognition (i.e. in both groups  $c_{ru} - \alpha < 0$ ).

In sum, reliance on recognition was ecologically rational, and the heuristic described most participants' predictions well. The findings additionally suggest that some people have and use knowledge on when *not* to rely on recognition. The concepts of discordance and accordance accuracy thereby proved useful analytical tools for such analyses.

## Reference

Goldstein, D. G., & Gigerenzer, G. (2002). Models of ecological rationality: The recognition heuristic. *Psychological Review*, 109, 75-90.