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Epistemic Belief and Semantic Categorization

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Introduction

People tend to believe that membership in an artifact category (e.g., FURNITURE) is a subjectively decided matter of opinion, while membership in a natural category (e.g., FRUIT) is an objectively determined matter of fact (Malt, 1990). I argue that these different beliefs across domains affect categorization in important and predictable ways. If membership in a natural category is an objective, right-or-wrong matter, then categorization should be an absolute, all-or-none decision. But if membership in an artifact category is a subjective matter of opinion, then categorization need not be absolute, but rather may be a matter of degree. Epistemic belief may also affect the confidence with which category membership is judged. If membership in a natural category is objective, then it is possible for the category judgment to be incorrect, and therefore people may sometimes lack confidence in their category judgments. But if membership in an artifact category is subjective, then individuals are entitled their own opinions of the matter. Because opinions are not open to verification or rejection, people may have confidence in their category judgments. Thus, people may be more confident in their judgments of artifacts than of natural kinds.

Experiment 1

In Experiment 1, participants judged the category membership of artifacts and natural kinds, and also rated their confidence in those category judgments. Results indicated that artifact categories were more graded than natural categories. Artifact categories were also judged with more certainty than natural categories. This pattern of results is precisely what one would predict, given the prior evidence that people consider membership in artifact categories to be subjectively decided, while membership in natural categories is believed to be objectively determined. Thus, one may infer that belief affects categorization.

Experiment 2

Experiment 2 attempted to predict an individual's tendency to give graded membership ratings, on the basis of his or her epistemic beliefs. Epistemic beliefs were measured by Schommer's (1998) "certainty of knowledge" questionnaire, which consisted of statements intended to measure one's belief that truth is objective and certain (e.g., "truth is unchanging,"). Participants rated the extent to which they agreed with these statements. They then completed the same categorization task used in Experiment 1. The correlation between "certainty of knowledge" scores and the proportion

of graded responses to artifact categories did not approach significance, $r = -.01$. Critically, however, the correlation between participants' "certainty of knowledge" scores and their proportions of graded membership responses to natural categories was significant, $r = -.37$, $p = .02$. The more a participant believed that knowledge is certain or objective, the less likely she was to provide graded judgments for natural categories. Thus, the belief that knowledge is certain reliably predicted categorization behavior.

Discussion

People's categorization behavior was consistent with their epistemic beliefs (Experiment 1), and moreover, one's epistemic beliefs predicted his own categorization behavior (Experiment 2). Thus, epistemic belief may determine semantic categorization. The claim that lay philosophical beliefs affect categorization is not without precedent. Psychological Essentialism (see e.g., Medin & Atran, 1999) posits that people hold essentialist beliefs, and that these beliefs affect cognition. The present argument is similar. The belief that membership in a natural category is an objectively determined matter of fact leads people to provide absolute judgments of natural kinds, despite the fact that people have relatively low confidence in this objective knowledge. And the belief that membership in an artificial category is a subjectively decided matter of opinion leads people to provide graded judgments of artifacts, and people have high confidence in these subjective opinions. The present experiments, by showing a correlation between epistemic belief and categorization behavior, provide the first direct demonstration of the relation between epistemic belief and semantic categorization.

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