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**Author**

Oppenheimer, Daniel M.

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# Fluency in Categorization

Daniel M. Oppenheimer (Oppenheimer@psych.stanford.edu)

Stanford University, Department of Psychology  
Building 420 – Jordan Hall, Stanford, Ca 94305 USA

The meta-cognitive experience of ease of processing, also known as fluency, is a central element of our reasoning repertoire and influences a wide array of judgments. Fluency has been shown to have an effect on a wide array of judgments such as intelligence (Oppenheimer, under review), frequency (Tversky & Kahneman, 1973), familiarity (Monin, 2003), risk for disease (Rothman & Schwarz, 1998) and confidence (Norwick & Epley, 2002).

As the widespread impact of fluency becomes more recognized, researchers have begun accumulating evidence that fluency plays a part in classification. For example Whittlesea and Leboe (2000) have proposed a heuristic model of categorization learning in which fluency plays a central role. In an elegant set of experiments, Whittlesea and Leboe (2000) constructed a set of words that varied in fluency and demonstrated that the fluency of an item had a tremendous impact on categorization judgments.

One potential shortcoming of this set of studies is that Whittlesea and Leboe (2002) restricted their stimuli to artificial words. While this was essential to ensure rigor and avoid confounds, it leaves open the question of what would happen if participants had access to more information than fluency and perceptual similarity of features. When people reason about categories about which they already know a great deal, will fluency still play a role, or is it only used in novel situations when there are few other cues available? This question is the impetus for the current study.

## Method, Results, and Discussion

71 Stanford University undergraduates participated as part of a course requirement. Participants rated how good a category member a given exemplar was on a nine-point scale. Four categories (bird, mammal, vehicle, and unusual foods) with 15 exemplars each were used. Exemplars were selected so as to vary in both typicality and commonness.

A standard font manipulation was used to operationalize fluency (Norwick & Epley, 2002). A third of the questionnaires were printed in standard 12 point, Times New Roman font. A reduced fluency condition was created by printing a third of the questionnaires in 10 point, Mistral font. An example of the fonts can be seen in Figure 1.



Figure 1: Examples of the different fonts used.

Results are summarized in Figure 2. For all categories, participants in the fluent condition rated the exemplars as

better category members than participants in the nonfluent conditions. ( $t(14) = 4.7$  to  $1.5$ ,  $p = .000$  to  $.07$ ).

These results suggest that even in a domain about which individuals know a great deal and likely have pre-experimental notions about what features are relevant to category membership, fluency still plays a significant role.

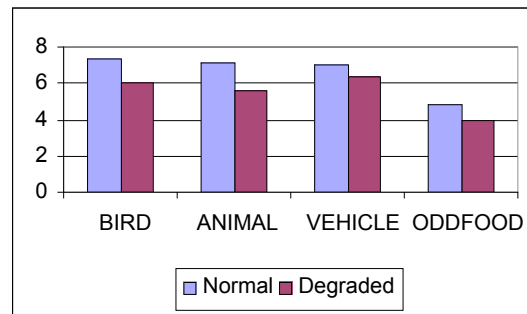


Figure 2: Results of Study 1.

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