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Perceived Similarity Between Paired Items: The Influence of Category Type, Context, Typicality, and Self-Report

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Outside of experimental settings, people rarely make an assessment of similarity between two items for its own sake. Computation of similarity tends to be in the service of further cognitive processes such as categorisation, the projection of properties onto new category members, or problem solving. The process of making similarity judgments in an experimental setting is seen then as an active, constructive one. Participants are not passively observing and evaluating similarities but are engaged in an active search for similarity. The present study sought to investigate the influence of the type of category (ad hoc or common), the presence or absence of category label (which we call the context) and the typicality of the items under comparison upon ratings of similarity. Barsalou (1982) found that members of ad hoc pairs were rated as more similar with context (the presence of the category label) than without context (the absence of the category label) while the manipulation had no effect on the rating of taxonomic pairs (if anything, ratings seemed to be slightly depressed by the addition of context). In order to shed some light on the nature of the judgments made by subjects under these experimental conditions, subjects in this study were requested to describe the thoughts underlying their ratings in written self reports. This manipulation may in itself encourage subjects to reflect upon their ratings more carefully; it also necessarily extended the period of time over which the ratings were made which again could encourage deeper deliberation.

The design of the present study included three of the factors believed to exert an influence upon similarity ratings; (i) the presence or absence of an explicit context, (ii) the type of category from which the entities under comparison are drawn (common vs. ad hoc) and (iii) the relative typicality of the items being rated. Self-reports were collected from a subset of subjects, constituting a fourth factor.

Overall, main effects of typicality and category type were reliable but not those of self-report and context. Overall the interaction between category type and context, as first reported by Barsalou (1982) was replicated (see left panel of Figure 1), but the nature of the interaction changed as a function of the self-report condition. The middle and right panels of Figure 1 show that the mean ratings for items with an explicit context (the black bars) remain fairly stable across the SR (Self-Report) and NSR (No Self Report) conditions. The phenomena of greater interest are the ratings in the *absence* of explicit context (the white bars). In the case of common category members, the mean ratings

without context are higher in the SR condition than they were in the NSR condition. For ad hoc items, the Barsalou (1982) effect is lost at least partly because the mean ratings made in the absence of explicit context are higher than they were in the NSR condition. It appears then that an explanation of the results hinges largely on what is happening when subjects are asked to rate items in the absence of explicit context. Our proposal is that under these

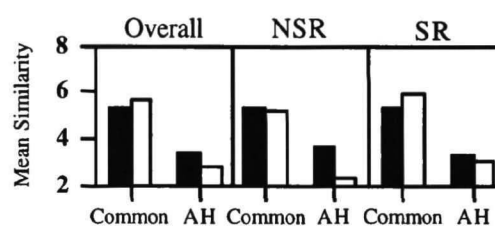


Figure 1. Mean similarity ratings for taxonomic and ad hoc pairs over all three pair types in the presence (black bars) and absence (white bars) of context over all conditions (left panel), in the No Self-Report condition (middle panel) and averaged from the two Self-Report Conditions (right panel). Note: AH = Ad hoc, NSR = No Self Report, SR = Self Report

circumstances, the active construal of similarity leads subjects to instantiate their own context, suggested by the co-presentation of the items. Items which are more typical of a category are more likely to evoke a context than items which are less typical. The effect of Context on the ratings of ad hoc items found in the NSR conditions was most marked for pairings of typical/typical items. It is our contention that all judgments are in effect made “in context”, whether it be the explicit context provided by the experimenter or the context instantiated by subjects in their search for similarity. It is anticipated that analysis of the protocols will provide support for this interpretation.

It is unclear from this study whether it is the extended time course of the judgments or the requirement to report on the thoughts underlying the rating or when subjects were asked to give protocols that explains the different effects of context. However, the results support the notion that different “kinds” of similarity judgments are made about the same entities depending upon the time and effort afforded to the task (Goldstone, 1995).

Barsalou, L. W. (1982). Context-independent and context-dependent information in concepts. *Memory and Cognition*, 10, 82-93.

Goldstone, R. L. (1995). Mainstream and avant-garde similarity. *Indiana University Cognitive science Technical Report 132*