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Tests of Remote Association

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Abstract

Do Remote Associates Test (RAT) problems measure the process of remote association? In the present study a new set of RAT problems was generated, and association norms were determined for each test word, providing an index of the remoteness of the association needed to solve each problem. The observed remoteness of each problem correlated with the difficulty of the problems.

Introduction

A *remote associate* is an unusual associate of a word. Remote association has been hypothesized to be the basis of all creative thinking (e.g., Mednick, 1962), including divergent thinking, or the discovery of alternative ideas (e.g., Guilford, 1967), because unusual ideas are often needed to solve unusual problems. Although this assessment may overstate the role of remote association in creative cognition, it nonetheless highlights its importance for accessing uncommon ideas.

A laboratory instrument used to assess remote association is the Remote Associates Test (Mednick, 1962). To solve Remote Associates Test problems, subjects supposedly must access uncommon associates of the test words. Each problem consists of a triad of words (e.g., *APPLE, HOUSE* and *FAMILY*), and the solution is a single word associated with each of the three test words (*tree: APPLE-tree, tree-HOUSE*, and *FAMILY-tree*). Accessing the solution word from the three test words is said to require *ideational fluency* (Guilford, 1967), the ability to reject or avoid common associates and retrieve many responses, including more uncommon, remote associates. Although this notion has been very popularly endorsed, there has been a remarkable absence of research on the process of remote association and the question of whether or not that process is involved when people solve Remote Associates Test problems.

Does solving Remote Associates Test problems involve remote association? Specifically, does a computational model that uses association hierarchies more accurately simulate human performance on a Remote Associates Test task than one that merely searches associates randomly?

Method

Remote Associate Test items were pretested for their suitability. The triads chosen were ones in which 1) The solution word forms a compound word or two word phrase with each test word, and 2) The solution word needs to be recognized by a high proportion of subjects as a legitimate solution.

A group of participants generated associates to each of the 36 test words (three words for each of 12 RAT problems). Association norms for test words were created.

A second group of participants was given the RAT problems to solve, with 20-sec allowed per problem.

Results & Conclusions

The *Remoteness* of a RAT problem was computed as the number of subjects giving the solution word as an associate in response to test word 1, plus the number for test word 2, plus the number for test word 3. The *Difficulty* of a problem was the proportion of subjects who solved the problem. The correlation between *Remoteness* and *Difficulty* was $r = .93$; more remote problems were solved less often. The RAT problems we generated appeared to measure the process of remote association, showing that problem difficulty increased when the solution word was more likely to be a remote associate of the test words, rather than a close associate.

References

Guilford, J.P. (1967). *The nature of human intelligence*. New York: McGraw-Hill.

Mednick, S.A. (1962). The associative basis of the creative process. Psychological Review, 69, 220-232.

Smith, S.M., & Blankenship, S.E. (1991). Incubation and the persistence of fixation in problem solving. *American Journal of Psychology*, 104, 61-87.