Persons as mediators: A three-stage paradigm¹

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Abstract

In the process of socialization the individual learns various responses from others. It is suggested that the socializing agent can serve as a mediator for learning in accordance with a mediated generalization analysis. The experimental analysis required Ss to learn nonsense syllables in connection with dolls representing different nations. Pairs of these syllables which previously were associated with the same doll were learned more readily than pairs associated with different dolls. The results demonstrate that persons can serve as mediators for learning.

Problem

Socialization of the individual is accomplished through the influence of a variety of people—parents, relatives, siblings, peers, teachers, etc. These agents of society may employ a variety of techniques in order to produce socially acceptable behavior, but the role of the agent himself as a mediator for learning has not been fully explored.

The purpose of this study is to determine whether persons serve as mediators in a simple learning situation. The basic principles are taken from mediational learning theory—more specifically, from the work of Jenkins (1963) and his associates.

If an agent, A, is associated with an individual's learning of a response, B, and the same agent is subsequently associated with the same individual's learning of a second response, C, then response B should have some association with response C. This classical paradigm for mediated association may be expressed in the form of a three-list experimental design as follows: A-B, A-C, B-C. Mediation is inferred if, under these conditions, the B-C association is learned more readily when the A member in both lists is the same person rather than different persons.

Method

Eighteen students were recruited from the Introductory Psychology classes at Indiana University. Their participation fulfilled a course requirement.

Representing the agents were eight dolls dressed in the distinctive costumes of eight different nations. Two sets of color slides were made of each doll holding a card with a nonsense syllable printed on it; each doll holds a different syllable in each set. A third set of color slides was made of just the cards containing the syllables. Finally, there was one set of slides of each doll without the nonsense syllable. The slides were projected on a screen by an automatic slide projector.

The Ss were run individually. The instructions for the experiment informed S that he was participating in

a study of the syllables used in languages. The purpose of the experiment was to determine whether the syllables used in ancient and modern languages were easier to learn than nonsense syllables. Each syllable that S would learn was taken from a language associated with a specific country. The country would be represented by a doll dressed in native costume. After each presentation of the series of slides, S would be tested to determine how many syllables he had learned. The series of slides would be presented again and the procedure would be repeated until S learned all the syllables perfectly (two consecutive errorless trials).

Before beginning the syllable learning phase, S was shown slides of each of the dolls which E identified by country. The slides were repeated until S could name the dolls correctly.

The experiment proper began after this familiarization phase. The doll-syllable slides were exposed for 5 sec. each, with a 1 sec. pause between slides. The test trials, interspersed between the training trials, consisted of a page listing all of the countries represented by the dolls. The S was to print the syllable that had been associated with the doll of that country in the appropriate space. The order of slide presentation was changed from trial to trial for each S and the order of listing the countries on the test sheets were also varied from trial to trial.

After S successfully completed the first series he was given a second series to learn. The countries were the same, only the syllables were changed. Otherwise the procedure was the same for this series.

Following this series was a third series of slides made up of eight pairs of syllables which appeared in the previous series. Four pairs were each associated with the same doll in the previous series, and each of the remaining four pairs of syllables were previously associated with different dolls. Thus, each S served as his own control. All Ss had to learn the same pairs of syllables, but by varying the countries associated with particular syllables in the second series, it was possible to counterbalance the two sets of four pairs in the third series so that for half of the Ss a given pair was associated with the same doll and for the rest the same pair of syllables was associated with different dolls.

Each syllable in the third series appeared on a different slide for 5 sec.; the pairs were separated by a blank space in the slide tray to keep the pairings isolated. Only two learning trials were given in this last series. Again, tests were interspersed. On the

test, the first syllable in each pair was listed and S had to print in the appropriate second syllable. The order of presentation was varied for both learning and test trials.

Results

Each S received two scores on the test series: (1) the total number of correct pairings over the two trials for pairs associated with the same doll; (2) the total number of correct pairings over the two trials for pairs associated with different dolls. The latter score was subtracted from the former score for each S and the Wilcoxon Signed-Ranks Test was applied to these difference scores for Ss. The statistically reliable differences ($T=12.5$, $p<.01$, $N=15$) indicate that Ss learned more pairs associated with the same doll than pairs associated with different dolls.

Discussion

The results demonstrate mediated generalization involving social objects as mediators in a three-stage paradigm; Ss learned more pairs of syllables when

each of the syllables was associated previously with the same agent than when each of the syllables was associated with a different agent. The counterbalancing procedure rules out the possibility that these results can be attributed to the effect of particular pairs of syllables.

After the experiment was over, E asked Ss how they learned the last series. Many Ss spontaneously reported that they associated the syllables with the dolls. Further research is underway to evaluate the mediating effects of different agents which have some degree of prior association.

References

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Note

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Reply

My associates and I saw event and temporal uncertainty as unclear variables in most studies of the one-channel hypothesis and we took on the untangling of them as a research challenge. At the outset we did not share the faith of some of our British colleagues that a decision center exists which is concerned with the resolution of event uncertainty. It was just as reasonable to assume that a single channel, if it exists at all, could become occupied with any event, uncertain or not. With event uncertainty eliminated we found in two studies (Adams, 1962; Adams & Chambers, 1962) the circumstances under which S processes two channels as efficiently as one, thus defining conditions of multi-channel responding which any eventual theory must specify along with the conditions of one-channel responding. Temporal uncertainty alone was found to produce a parent one-channel processing by inducing the second response to lag the first, but this is a product of temporal learning and bears on the one-channel view in clarifying that the same empirical result can be obtained for quite different reasons. In other studies (Adams & Chambers, 1962; Adams & Creamer, 1962; Creamer, 1963) we manipulated event uncertainty with temporal uncertainty

eliminated and here impairment in the second response was found, a finding that caused us to concur finally with the heretofore clouded hypothesis of a one-channel decision center dedicated to the processing of event uncertainty. Nickerson and I agree on this form of the hypothesis, and I hope I have clarified the research strategy that led me to it.

As for the condition of temporal uncertainty where an 800 msec. interval occurs on 80% of the trials, I can only express my watchful interest. Time and resources are finite; there are endless ways in which our studies could have been elaborated. I will look forward to Nickerson's data on this matter.

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See Comment by R. S. Nickerson, page 87.