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ABSTRACT

Three experiments were conducted investigating information processing in a person perception task. A sequential judgement paradigm was employed in which subjects judged the suitability of stimulus persons for two different occupations. Traits describing each person were present for subjects' first judgements but not their second. Second decision times increased when the first occupation judged was dissimilar (as opposed to similar) to the second occupation. However, the number of descriptive traits initially used to describe the stimulus person did not affect second judgement times. Implications for the manner in which people process information when making person judgements are discussed. (Author)

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Abstract

Three experiments were conducted investigating information processing in a person perception task. A sequential judgment paradigm was employed in which subjects judged the suitability of stimulus persons for two different occupations. Traits describing each person were present for subjects' first judgments but not their second. Second decision times increased when the first occupation judged was dissimilar (as opposed to similar) to the second occupation. However, the number of descriptive traits initially used to describe the stimulus person did not affect second judgment times. Implications for the manner in which people process information when making person judgments are discussed.

# Influences of Information Availability on Cognitive Processes in Person Perception

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A question of increasing interest in person perception concerns the way in which impressions are represented and organized in memory. Proponents of integration theory (e.g. Anderson, 1974; Himmelfarb, 1973) imply that person judgments consist primarily of assigning different weights and scale values to recalled stimulus items. Other theorists (e.g. Fishbein & Ajzen, 1975; Ostrom, 1975) argue that judgments may be based on inferred characteristics rather than individual items of stimulus information. Consistent with this latter position, Lingle, Geva and Ostrom (1975) found that having subjects make initial occupational judgments influenced later recalled stimulus information as well as inferred characteristics.

The present paper reports three studies conducted to further investigate the nature of remembered information people rely upon when making person judgments. Each study employed a sequential judgment paradigm in which subjects judged the suitability of different stimulus persons for two sequentially presented occupations. In each case, the traits describing the person were present when subjects made their first judgment but not their second. It was reasoned that if judgments are based primarily on recalled items of stimulus information, the amount of time subjects spend in making their second judgment should be a monotonic increasing function of the amount of information they receive describing a person (cf. Sternberg, 1969). Furthermore, in accordance with the findings of Lingle, et. al.(1975), increases in decision time across set size should be greater when the second occupation is dissimilar as compared to similar

to the first occupation since additional time must be spent trying to recall nonsalient stimulus traits relevant to the second judgment but not the first.

On the other hand, to the degree that sequential judgments tend to be based on integrated impressions consisting of a core of inferred characteristics of a consistent size or values along a fixed number of criterial dimensions, decision time would not be expected to increase as a function of the amount of initially available information.

## Experiments 1 and 2

### Method

#### Procedure

Experiments 1 and 2 were conducted in an identical manner except for the selection of the stimulus traits used, as discussed below. In each experiment 24 introductory psychology students served as subjects in partial fulfillment of a course requirement. Upon arriving, each subject was seated in a desk chair beside a slide projector. A toggle switch was mounted on the arm of the chair which could be moved to the right (labeled "good") or to the left (labeled "bad"). As part of a study on job counseling, subjects were asked to role play a job placement counselor and make a series of decisions concerning the suitability of hypothetical individuals for different occupations. It was explained that at the beginning of each trial an initial occupation would be projected followed by a slide containing several traits describing a stimulus person. The subject was to consider the suitability of the person for the job previously shown. Following the traits, the initial occupation was again presented and the subject was to indicate his decision

by moving the toggle switch to the "good" or "bad" position. Next, a second occupation was shown and the subject was asked to judge the suitability of the same stimulus person for this second profession. Finally, a blank slide was presented to indicate the end of the trial and the process was repeated with a new set of traits and occupations until each subject had made two occupational judgments each for 12 different stimulus persons. Subjects were given three practice series to assure that they understood the procedure correctly.

Design and Stimulus Materials

Twelve groups of three occupations were selected from the occupations used by Lingle, et. al.(1975). Each of these triads consisted of one occupation arbitrarily selected to be used as a second occupational judgment and two that would be used for the first judgment, one similar and one dissimilar to the second occupation. In both experiments 24 subjects made two sequential judgments for each of twelve different stimulus persons. For half of these stimulus persons the second judgment was preceded by a similar occupational judgment and for half by a dissimilar occupational judgment. Likewise, one third of the stimulus persons judged were described by two traits; one third by four traits; and one third by six traits, thus providing two replications of the 2 x 3, within subject design (type of first judgment x set size). Subjects always judged the same set of second occupations in an identical order. Each subject was matched with another who saw identical sets of stimulus materials except that if one subject judged the similar first occupation in a triad, the second subject judged the dissimilar occupation. These subject pairs then formed the unit of counterbalancing in the rest of the design.

For each experiment four lists of 12 traits were selected from Anderson's (1968) trait adjective list. In Experiment 1 two of the lists were selected from the positive half of the scale and two from the negative half of the scale providing relatively homogeneous sets of traits. In Experiment 2 traits for all four lists were selected from the middle 3/5 of the scale providing heterogeneous descriptions containg both positive and negative adjectives.

Counterbalancing of scale values across set size for the 12 subject pairs was achieved by the method of "cyclical" replications. Traits within each list were randomly ordered from 1 to 12. The items of each list were then sorted into the three experimental set sizes in 12 unique ways by simply moving the first item to the end of the list and grouping the remaining items, in order, into sets of 2, 4 and 6. For example, (1, 2), (3, 4, 5, 6) and (7, 8, 9, 10, 11, 12) was the first group of sets; (2, 3), (4, 5, 6, 7) and (8, 9, 10, 11, 12) was the second, and so fourth. Three person descriptions were therefore obtained from each of the four lists, providing the twelve trait sets needed for each subject. The 144 stimulus persons generated in this manner were counterbalanced so that each trait appeared equally often in each set size and for the similar/dissimilar prior judgment factor. This counterbalancing scheme assured that none of the traits were presented to a subject more than, or less, than once.

## Results

### Experiment 1

Mean decision time scores for Experiment 1 are presented in figure 1. A log-E transformation of subjects' response times was used in the data analysis to eliminate a correlation between the cell means and variances.

The transformed data was analyzed using the multivariate analysis of variance approach for repeated measures as discussed by Poor (1973). The analysis yielded a highly significant effect for type of initial judgment, $F$ (1,23) = 14.6, $p < .001$. However, no significant main effect or interaction for set size emerged (both $F$s < 1).

Experiment 2

Subjects' scores were analyzed in an identical manner to the scores from Experiment 1. The analysis again produced a highly significant effect for type of judgment ($F$ (1, 23) = 30.8, $p < .001$) as well as a nonsignificant effect for set size ($F < 1$; see figure 2). The interaction term approached, but did not reach, a traditional level of significance, $F$ (2,22) = 2.38, $p < .10$.

Experiment 3

Neither Experiment 1 or 2 produced the set size main effect or interaction expected if subjects had been considering individual items of stimulus information when making their second judgments. Because of the unexpected nature and borderline significance of the interaction in Experiment 2 when heterogeneous traits were used, it was decided to conduct a third replication in which heterogeneity of the person descriptions was included as a separate within subject factor.

Method

The procedure and experimental design was identical to that used in the first two experiments except for the following changes: (a) set sizes of 1, 3, 5, and 7 were employed making it necessary to use 16 pairs of subjects each making 16 pairs of occupational judgments, and (b) trait heterogeneity was introduced as a within subject factor (for one replication traits were selected from the complete range of the Anderson list, while for the second replication traits were selected from either the positive or

negative half of the list).

## Results

The data was analyzed similarly to the data from Experiments 1 and 2. The type of judgment x set size x trait replication interaction was not significant($F$ (3,29) = 1.96, $p < .15$) indicating that the relative heterogeneity of the trait sets did not significantly affect the pattern of response times. Subjects' mean response times combined across trait replications are presented in figure 3. Again, the effect for type of judgment was highly significant ($F$ (1,31) = 31.9, $p < .001$), while neither the set size main effect nor the set size by judgment type interaction reached significance ($F$ (3,29) = 2.27, $p < .15$ and $F < 1$, respectively).

## Discussion

The persistent finding across three studies that decision times for subjects' second judgments were not influenced by the amount of information (1, 2, 3, 4, 5, 6, or 7 traits) used to initially describe a stimulus person suggests that person impressions are represented in memory in some manner which precludes the necessity of recalling and evaluating a proportional sample of the original information items. Such a finding is clearly more consistent with the notion that person impressions consist of summary inferred characteristics or values along a relatively fixed number of criterial dimensions, although other possible explanations exist. It may have been that subjects focussed on and remembered one or two key stimulus traits considered to be representative of the total stimulus information and later used this limited information to make their second judgments. It is also conceivable that subjects did not seek to recall the original descriptive traits, but merely based their second

decisions on whether or not they thought a person suitable (or not suitable) for the first occupation would be suitable for the second. This seems especially plausible in the case of similar sequential judgments. Whatever the exact process, it is clear that subjects were not systematically recalling and evaluating representative amounts of the stimulus information unless they were somehow able to contact judgment relevant information directly without searching all of the stimulus traits. This seems unlikely since substantial evidence exists that stimulus items are not content addressable in tasks similar to the one used in these experiments (cf. Sternberg, 1969; Kintsch, 1974).

Finally, the present data suggest that the consistent differences in decision time resulting from having made a similar or dissimilar first occupational judgment is a function of considering a limited number of cognitions relative to a new set of criteria characteristics rather than accessing and considering greater amounts of stimulus information.

References

Anderson, N. H. Likableness ratings of 555 personality trait words. Journal of Personality and Social Psychology, 1968, 9, 272 - 279.

Anderson, N. H. Cognitive algebra: Integration theory applied to social attribution. In L. Berkowitz (Ed.), Advances in experimental social psychology. Vol. 7. New York: Academic Press, 1974.

Fishbein, M. & Ajzen, I. Belief, attitude, intention, and behavior: An introduction to theory and research. Massachusetts: Addison-Wesley Publishing Company, 1975.

Himmelfarb, S. General test of a differential weighted averaging model of impression formation. Journal of Experimental Social Psychology, 1973, 5, 379 - 390.

Kintsch, W. The representation of meaning in memory. New Jersey: Lawrence Erlbaum Associates, 1974.

Lingle, J. H., Geva, N., & Ostrom, T. M. Cognitive processes in person perception. Paper presented at the American Psychological Association Convention, Chicago, 1975.

Ostrom, T. M. Cognitive representation of impressions. Paper presented at the American Psychological Association Convention, Chicago, 1975.

Sternberg, S. Memory scanning: Mental processes revealed by reaction-time experiments. American Scientist, 1969, 57, 421 - 457.

Figures 1, 2, & 3: Mean decision time for subjects' second judgments as a function of type of initial judgment and trait set size.

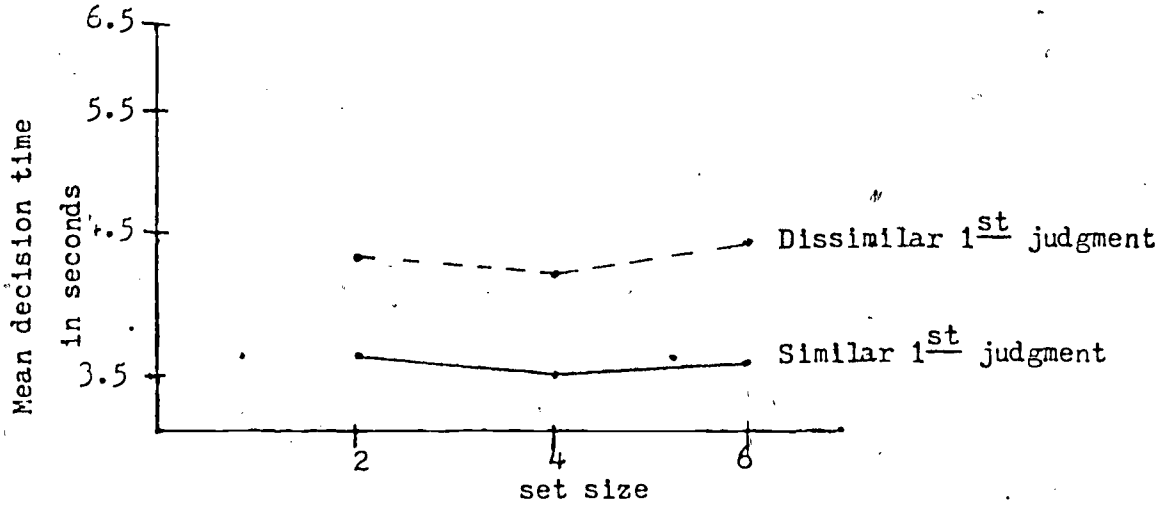


Figure 1: Experiment 1

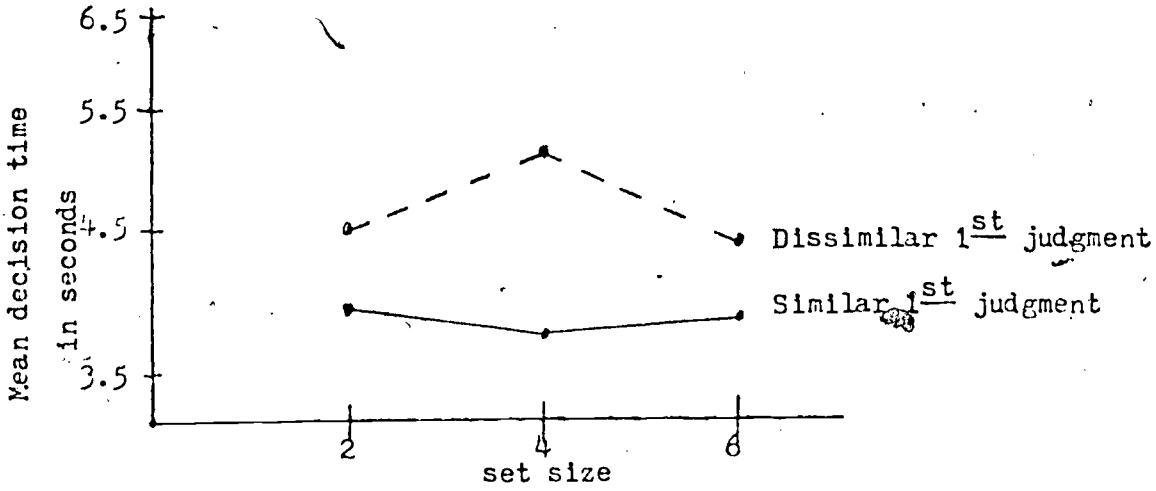


Figure 2: Experiment 2

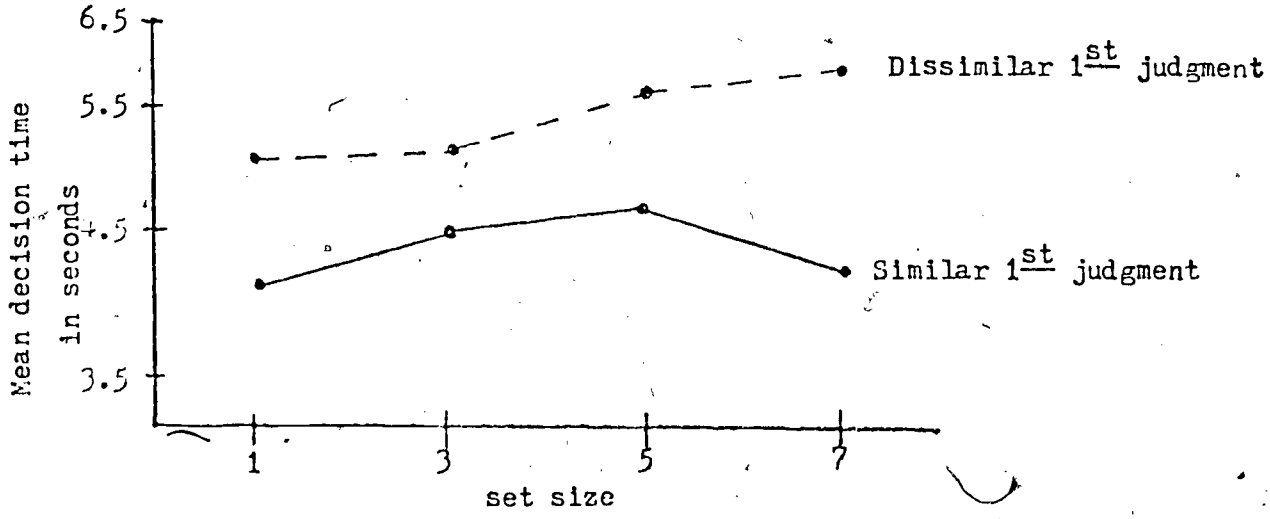


Figure 3: Experiment 3