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ABSTRACT

A topic of increasing interest in social cognition is the manner in which individuals organize information about others in their memories and then access the information when making a decision. In the first study, subjects made both negatively and positively phrased judgments; trait set size was then varied as a within-subjects factor while decision type (success or failure) was varied as a between-subjects factor. Results suggest that people search their memory for disconfirming evidence when making memory-based judgments. A second experiment manipulated the type of judgment subjects had to make as a within-subjects factor. When subjects did not know what kind of judgment they would have to make, the congruency hypothesis was not supported. The opportunity to functionally encode information as potentially incongruent with a future decision may determine whether a search for disconfirming evidence will occur. Only in those relatively infrequent cases when individuals clearly know what future judgment is needed will information be encoded as potentially incongruent and be examined for disconfirming evidence prior to reaching a decision. (JAC)

The Search for Disconfirming Information in Memory-Based Person Judgments[1]

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The Search for Disconfirming Information in Memory-Based Person Judgments

A topic of increasing interest in social cognition is how people organize information about other individuals in memory and then access this information when making a decision. Such research is distinct from much earlier impression formation research in its focus on processes involved in memory-based impression judgments where all stimulus information about a person is removed before a subject is asked to make a judgment. Thus, such judgments depend on a selective sampling of information from a cognitive representation that has been formed about a person and stored in memory. Recent research on memory-based judgments by Lingle and Ostrom (1979) indicate that when people make such decisions they tend to access and rely on memory for previous judgments that they have made about a person rather than memory for originally presented factual information. However, as a supplement to this reliance on memory for previous judgments, Lingle and Ostrom suggest that subjects also systematically search their memory for negative factual information. Such a selective memory search for negative information is plausible in light of the abundance of literature indicating that people generally weigh negative information more heavily than positive information (e.g., Kanouse & Hanson, 1972; Fiske, 1980) in impression judgments.

Lingle and Ostrom's (1979) conclusions concerning a negativity effect can best be understood within the framework of their methodology. Their task consisted of having subjects make pairs of memory-based occupational suitability judgments about stimulus persons based on varying numbers of

positive or negative trait characteristics. Using decision time as their dependent variable, they found that when positive traits were presented, decision times increased as set size (i.e., the number of descriptive stimulus traits) increased. However, when negative traits were presented, decision times decreased slightly as set size increased. They attributed this effect to a selective search for negative information. The larger the set of positive information items, the longer subjects needed to complete a representative search of the set for negative traits; the greater the number of negative traits, the quicker subjects were able to search for and find negative information items.

While Lingle and Ostrom's interpretation is plausible and consistent with existing literature indicating a negativity bias, an alternative explanation of their results is possible. It is conceivable that their pattern of decision times resulted from subjects selectively searching their memory for disconfirming or incongruent evidence relative to the decision they had to make, rather than their searching for negative traits per se. In their research Lingle and Ostrom only asked subjects to make judgments concerning whether or not a stimulus person would be successful at a particular occupation. Since only success judgments were made, negative traits were those most likely to provide disconfirming evidence so it is unclear whether subjects were searching their memory for negative information or possibly searching their memory for information that was incongruent with the occupational judgment they had to make.

The present studies examined these two alternatives by having subjects make both negatively- and positively-phrased judgments (that is, "Would this person be a failure as a judge?" as well as "Would this person be a

success as a judge?"). According to a congruency hypothesis -- the hypothesis that Lingle and Ostrom's subjects were searching their memory for disconfirmatory information -- only when the valence of the traits matches the nature of the judgment should decision time increase with the number of traits in the stimulus set. That is, when subjects are making success judgments, the congruency effect predicts the pattern of results found by Lingle and Ostrom where with increasing set size subjects take increasingly more time when considering positive traits but less time when considering negative traits. When making failure judgments, however, a congruency hypothesis predicts just the opposite pattern of results. Subjects should take increasingly longer to reach a decision as set size increases when they are considering negative trait sets, but less time when they are considering positive traits which are the traits that are now incongruent with the failure decision they have to make.

Two initial studies were conducted to test the congruency hypothesis. Subjects in the first experiment were 32 Ohio State University students who participated in partial fulfillment of a course requirement. In this experiment, trait set size was varied as a within-subjects factor while decision type (success or failure) was varied as a between-subjects factor, resulting in each subject making only one type of judgment. Subjects viewed sets of 1, 3, 5, or 7 positive or negative traits describing stimulus persons and then, after removal of the traits, were asked to make an occupational judgment. For half of the subjects the judgment asked if the person would be a success in a particular occupation; for the other half the question asked if the person would be a failure in the occupation. Subjects indicated their decision by pressing a "yes/no" response button.

This procedure was repeated with new sets of traits and occupations until each subject had made 16 occupational judgments. Traits and occupations were counterbalanced across set size and decision order. The dependent variable of interest was how long subjects took to make each decision.

As indicated, the congruency hypothesis would be supported by finding that regardless of the type of judgment (success or failure), response time increased over set size when subjects were considering congruent or confirmatory evidence, but decreased when they were considering incongruent or disconfirmatory evidence. If each judgment were coded according to whether the stimulus traits (positive or negative) were congruent or incongruent with the type of judgment being made (success or failure), the statistical prediction would then be one of a two-way interaction between judgment congruency and set size. The negativity hypothesis, holding that subjects simply search their memory for negative traits, would predict a three-way interaction between judgment type, judgment congruency, and set size. That is, for success judgments the congruency by set size interaction would be the same as that found by Lingle and Ostrom; for failure judgments, however, the congruency-by-set-size interaction would be reversed with congruent or negative-trait decisions being reached faster as set size increases.

Results of the study produced a two-way interaction between congruency and set size (F (3, 90) = 5.47; $p < .005$), but not a three-way interaction between judgment type, congruency, and set size (F (3, 90) = 2.20; $p > .05$) thereby supporting the congruency, but not the negativity hypothesis. Figure 1 in the handout presents a graph of subjects' mean decision times as a function of set size and whether the trait sets were congruent or

incongruent.

The results of the first study suggest people search their memory for disconfirming evidence when making memory-based judgments. Such a conclusion, however, appears inconsistent with other reported evidence, such as that by Snyder and Swann (1978), suggesting that people search for confirmatory, rather than disconfirmatory, evidence when testing an hypothesis. We were left wondering what it might be about this particular judgment task that led subjects to search their memory for disconfirming evidence. A possible explanation that occurred to us was that since subjects made only one type of judgment (success/failure) they knew what kind of decision they were to make before they received the information and thus were able to functionally encode the stimulus information as potentially disconfirmatory. Such encoding of information may be a prerequisite to subjects engaging in this type of memory search. If this were true, changing the judgment task so that subjects could not know whether they would have to make a success or failure judgment -- thereby preventing them from functionally encoding the stimulus traits as potentially disconfirmatory -- should have the effect of eliminating the congruency effect.

To test this possibility, Experiment 2 manipulated the type of judgment subjects had to make as a within-subjects factor. The stimulus materials and procedures were identical to the first experiment except that subjects now made 8 success and 8 failure judgments randomly interspersed with one another, rather than 16 failure or 16 success judgments as they had done in Experiment 1. Subjects were not told prior to encoding each person description what type of judgment they would have to make.

The outcome of this second study was that when subjects did not know what kind of judgment they would have to make, the congruency hypothesis was not supported. The congruency by set size interaction produced an F of less than 1. The three-way interaction between judgment type, congruency and set size was also non-significant such that there was again no support for the negativity effect. Figure 2 presents mean judgment times as a function of set size and judgment/trait congruency.

We have just recently completed yet a third study in which whether or not subjects made blocked or mixed judgments was varied as a within-subjects factor with all subjects making sets of judgments in both ways. Initial analyses of these results are consistent with the results of the two studies I have just reported. During their blocked judgments, subjects showed a congruency effect, producing an interaction between the congruency and set size factors; when making mixed judgments this interaction disappeared. Again, for neither blocked nor mixed judgments does there seem to be any support for the negativity effect.

In summary, a somewhat lengthy list of researchers such as Fischhoff, Slovic, and Lichtenstein (1977), Nisbett and Ross (1980), Snyder and his associates (Snyder & Swann, 1978; Snyder & Cantor, 1979; Snyder & White, 1981), and Wason and Johnson-Laird (1972) have discussed judgmental biases that appear to result from people's tendency to consider supportive, but not potentially disconfirming information, when making decisions. In light of the clear utility for accurate decision making of carefully considering both confirmatory and disconfirmatory information, one can ask why it is people do not seem to be better at considering disconfirming information. One can also ask what types of variables might increase the

probability that a person would make this type of memory search. Our initial investigations using decision time to study memory-based occupational judgments suggests that the opportunity to functionally encode information as potentially incongruent with a future decision is an important determinant of whether a search for disconfirming evidence will occur. This finding suggests one possible reason why people in general are not better at considering disconfirming evidence during decisions. In their efforts to organize and categorize stimuli, people may generally encode events according to the categories they represent and are consistent with, rather than according to the events and categories with which they are incongruent. Only in those relatively infrequent cases that it becomes clear what kind of future judgment will have to be made may people begin to functionally encode information as potentially incongruent and in turn representatively search for disconfirming evidence prior to reaching a decision.

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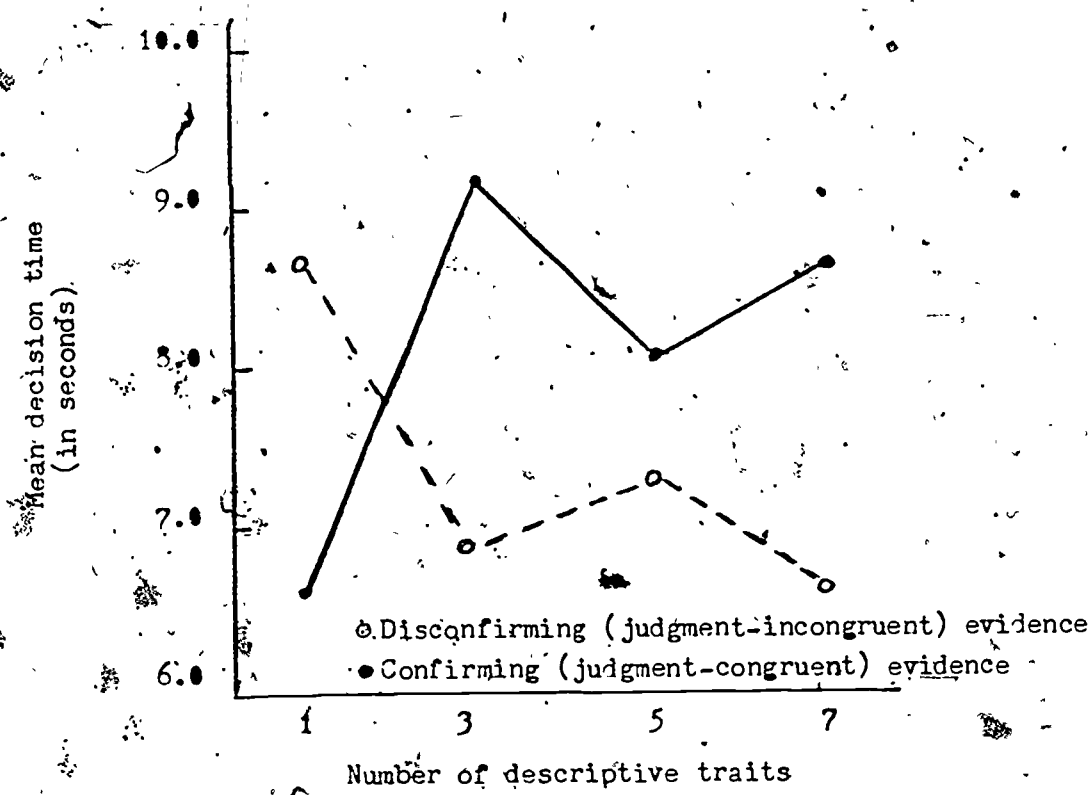

Figure 1. Mean occupational judgment times in Experiment 1 as a function of congruency and information set size.

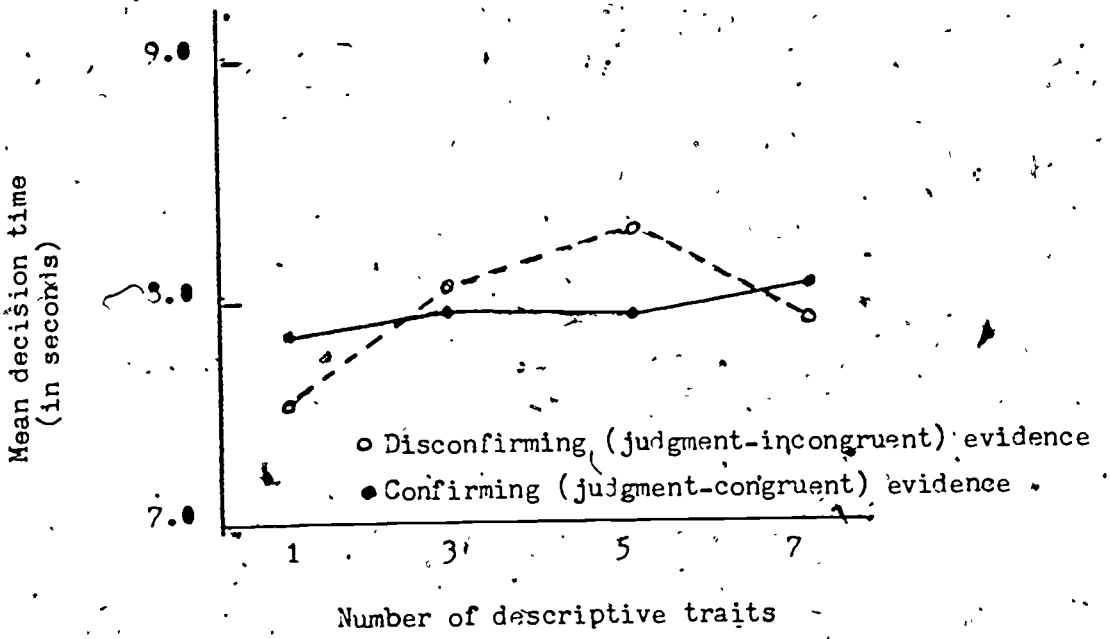

Figure 2. Mean occupational judgment times in Experiment 2 as a function of congruency and information set size.