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ABSTRACT

Previous research has suggested the existence of a primacy effect in the attribution of ability. To test if the primacy effect occurs in situations where specific cues about the person and nature of the test materials are lacking or greatly reduced, college students corrected a multiple-choice test in which a phantom stimulus person correctly answered 15 of 30 questions in a descending or ascending pattern of success. Subjects were then asked to make judgments concerning the person's performance, intelligence and gender. Contrary to expectations, the lack of cues enhanced, rather than diminished, the primacy effect for ability attribution found by earlier investigators. The performer with descending success was perceived as having solved more problems and being more intelligent, and was expected to perform better in the future. An overall bias toward perceiving the stimulus person as a male also occurred. The findings reflect the importance of person cues for confidence in making ability attributions. (Author/JAC)

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Primacy Effects in Attributions

In a series of experiments, Jones, Rock, Shaver, Goethals, and Ward (1968) and Newtson and Rindner(1979) have demonstrated a primacy effect in the attribution of ability. In these studies, subjects who observed a stimulus person's(SP) performance on a series of 30 problems rated that person as having more ability and intelligence when the SP exhibited a "descending" pattern of success as opposed to a random or "ascending" pattern of success, even when the SP correctly solved the same total number of problems in each case. A descending pattern consisted of many correct answers early in the trial followed by a deterioration in performance, while the ascending pattern was marked by a poor initial performance followed by steady improvement. The performer with the descending success rate was consistently perceived as having correctly solved more of the problems, as having greater ability, and subjects predicted that the descending performer was more likely to solve other similar problems. The results of Newtson and Rindner(1979), based on the subjects' analysis of the stimulus person's behavior sequence in relatively fine or large units, led them to conclude that this primacy effect resulted from the subjects ceasing to process information when they reached a point of subjectively sufficient information for making attributions about ability.

In all of the above experiments, subjects were either in the presence of the SP or viewing him/her on videotape, and in some cases were even attempting to solve the problems along with the SP(Jones, et.al., 1968). These procedures provided the subjects with a wealth of information other

than the pattern of performance, and may well have allowed the individuals to more quickly reach a point of "subjectively sufficient information", making them more confident in their attributions of ability and predictions of future performance than might have been the case if they had only a "lifeless" pattern of results to base their judgments on. It seems reasonable to believe that knowledge of a person's sex, age, physical attractiveness, manner of dress, etc as well as familiarity with the specific problems being attempted might lead a person to feel that there is enough information present to allow a reasonably accurate attribution. This is not to say that the primacy effect is not real, but only that it may be limited to those situations in which the subject feels that he/she has enough information to make a judgment. The primary purpose of the present experiment was to test the robustness of the primacy effect, that is, to find out if it occurs even in those situations where specific cues about the person and nature of the test materials are lacking or greatly reduced.

A secondary aim of this study was to see if the pattern of success in a problem solving situation might be used to infer characteristics of the SP other than ability. Specifically, would subjects be willing/able to attribute a specific gender to an individual, based on nothing but the pattern of success on a test? Based on several studies demonstrating that the success of competent women is generally attributed to luck or temporary effort while male success is more often attributed to ability or skill (Deaux and Emswiller, 1974; Feldman-Summers and Kiesler, 1974), it was thought that the descending success pattern usually associated with high ability might also be associated with the perception of the SP as a male, while the ascending success pattern would be associated with perceptions of the SP as a female.

Method

Subjects

Subjects were 92 undergraduates(46 males, 46 females) enrolled in psychology and freshman preceptorial courses at Knox College. All subjects were volunteers receiving neither money nor credit for participation.

Materials

Each subject received a two page questionnaire. The first page of the questionnaire appeared to be a completed thirty item multiple choice answer sheet identified only by a number. Each item consisted of five alternatives(lettered a through e), one of which was circled. The second page consisted of a brief written introduction followed by four questions. It read as follows:

> Listed below you will find four questions about the student whose test you have just corrected. Despite the fact that you have very little information about this person, please try to answer each of the questions. It has been found that people can often make very accurate impressions from even a small bit of information such as performance on a test, so just follow your intuition and answer even if you don't feel very sure of yourself.
>
> 1. Out of the 30 problems, how many would you estimate that this student answered correctly?
> 2. On the next set of 30 problems, how many do you predict that the student will answer correctly?
> 3. On the scale below, circle the "X" that best reflects your estimate of this student's general intelligence.
>
> X X X X X X X X X
> unintelligent very intelligent

4. Do you think that this student is more likely to be male or female?

Experimental Design

The experimental design was a 2X2 factorial with sex of subject and pattern of performance(ascending-success vs. descending success) as the independent variables. The ascending and descending patterns of success were identical to those used by Jones and his colleagues(1968). All subjects were exposed to a phantom-SP who correctly answered 15 out of 30 questions. The dependent variables were the subjects' estimates of how many problems the phantom student correctly solved, the subjects' predictions of how many would be correctly solved out of the next 30 items, an estimate on a nine point scale of the phantom student's intelligence, and the subjects' impressions as to whether the student was male or female. All of these attributions were based on nothing more than 30 circled alternatives on a piece of paper.

Procedure

The experiment was run in a large classroom in six different groups of varying size, with the two different patterns distributed randomly to the subjects in each group. A male experimenter gave each subject a questionnaire, emphasizing to the subjects that they should not turn to page two until instructed to do so. Then orally introduced the experiment as follows:

The multiple choice answer sheet you have in front of you is the first half of a 60 item test taken at some time in the past few years by a Knox College student. In the interest of privacy, the student is identified only by a number. This test is a very difficult test used by many graduate schools for admissions, and it consists

of vocabulary and analogy type questions. The average score on this test nationally is approximately 12 correct out of the first 30. Each year, this test is taken by a random sample of Knox College students to see how students here compare to other students across the country. We will be using the answers from these tests in this experiment. Basically, we are interested in determining how well people can form impressions about others based on nothing but a test performance, and their ability to correctly predict future performance on this basis.

Subjects were then told that after grading the first 30 responses they would be asked a few questions about what the student was like, and that they would be asked to predict how well the student would do on the next thirty items of the test which were of equal difficulty. The Experimenter then asked the subjects to correct the first 30 items by putting a check mark near the wrong answers as he read through the list of "correct" responses. (These answers were read relatively rapidly so as to prevent the subjects from trying to count the correct answers.)

Immediately after the last answer was corrected, subjects were ordered to turn the questionnaire over. They were then instructed to answer the questions on page two without referring back to page one.

At no point during the experiment were subjects asked to identify their answers with their names; this insured that all responses would be private. At the conclusion of the experiment, all subjects were completely debriefed.

Results

Analyses of variance indicated that the subjects in the descending pattern condition perceived that the SP had solved more problems correctly than those in the ascending pattern condition (means: 16.9 vs. 12.5),

a finding that was highly significant, $F(1,88) = 37.48$, $p < .0001$. Similarly, subjects in the descending pattern condition predicted that the SP would correctly solve significantly more problems on the second part of the test than subjects in the ascending condition did (means: 17.5 vs. 13.9), $F(1,88) = 17.38$ $p < .0001$. There was also a significant sex difference in this prediction with females predicting a greater number of correct responses (16.99 vs. 15.03) on the second part of the test than males, $F(1,88) = 4.93$, $p < .027$. This was the only sex difference to appear in any of the data

The descending performer was also judged to be significantly more intelligent than the ascending performer, with $F(1,88) = 22.28$ $p < .000$ (Means: 5.95 vs. 4.96)

The hypothesis that the descending SP would be more likely to be perceived as a male than would the ascending SP was not supported. $X^2(3) = 1.68$, n.s., for either males or females. However, asking subjects to attribute a gender to the SP did reveal a couple of interesting findings. First of all, there was a definite bias toward perceiving the SP as a male, regardless of the subject's sex or the pattern of performance (The male/female ratio at Knox College is roughly one.) Of the subjects who answered the question, 53 thought that the student was a male while only 30 thought the SP was a female, a difference which was significant $X^2(1) = 6.37$, $p < .02$. Also, of the 92 subjects in the experiment, nine refused to answer the question concerning gender, saying they did not have enough information to answer the question. All nine were subjects in the ascending success pattern condition (constituting about 20% of subjects in this condition), while none of the subjects in the descending condition refused to answer the question. This difference proved to be highly significant $X^2(1) = 9.98$, $p < .01$.

Discussion

These data support the findings of Jones, et.al.(1968) and Newtson and Rindner(1979) of the existence of a primacy effect in the attribution of ability. In fact, the results of this experiment indicated an even stronger primacy effect than evidenced by earlier studies. While it was originally thought that familiarity with several characteristics of the SP and test problems would cause subjects to feel more confident about their attributions and for that reason fall prey to the primacy effect, this has been shown not to be the case. On the contrary, having no knowledge about the SP other than pattern of performance seems to enhance the primacy effect. It may very well be that this occurs because the subject can focus complete attention on the performance of the SP and not be distracted by the nature of the test problems or other characteristics of the person that might serve to temper the subject's reaction to the pattern of correct answers.

Although the predicted relationship between the pattern of performance and the gender attributed to the SP failed to materialize, there did seem to be a relationship between the pattern of performance and the subject's willingness to make such an attribution. Since all of the subjects in the descending condition were willing to make a gender attribution, and a significant number of subjects in the ascending condition were not, it would seem as though something about the descending pattern made subjects more comfortable about making such an attribution. Perhaps the difference results from the descending pattern supplying the subject with more relevant subjective information than the ascending pattern. Another finding was that of a male bias in attributing a gender to the SP. There is not enough information in this experiment

to provide a compelling interpretation of this. It may be that subjects construed a graduate school test as something a male would be more likely to take, even though they were told that it was a "random sample" of Knox College students taking the test. Admittedly, this is just speculation.

In summary, presenting subjects with the performance of an SP in the absence of any other personal cues did not in any way diminish the subjects' tendencies to attribute more correct answers, higher intelligence, and better future performance to the SP exhibiting the descending pattern of success. Subjects were also more willing to attribute gender to the descending SP than to the ascending SP. Future research should pursue possible differences in the subjective value of the information provided to subjects by the two patterns, as well as checking the generalizability of this primacy effect to other kinds of tasks. It would also be of interest to uncover how other information about a stimulus person might interact with the information provided by patterns of performance.

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Footnotes

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