Proceedings of the Indiana Academy of Science
(1987) Volume 97 p. 459-463.

Attributions for Examination Success or Failure in an Undergraduate Sociology Course

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Introduction

Attribution theorists and researchers are interested in individuals' perceptions of "causes" of events or outcomes. Such perceived causes are termed "attributions." Attribution work has been summarized and used by Heider (3) and Weiner (7). Attributions have been grouped into several dimensions. The major dimensions are: stable or unstable (e.g., ability or luck), internal or external (e.g., effort or task difficulty), and controllability or uncontrollability (Weiner, (6)). The researcher may then want to know how the individual develops from these attributions, explanations for life occurrences. Attributions for successes and failures have been found to be related to self-esteem (1) and school performance (4). In some cases gender differences have been reported (2). It has also been suggested that these sex differences may depend upon the sex typing of the specific task.

Whitley, McHugh, and Frieze, in 1986 (8), reported a metaanalysis in which they examined all the available literature on sex differences in attributions. Only two consistent sex differences were found: 1) men made more attributions to ability both when they succeeded and when they failed, and 2) men made less use of luck both in success and failure.

One problem with these conclusions is that this analysis did not take into account the specific task involved in each study. Tasks may be categorized according to sex type. This refers to how expected or acceptable it is for a male or female to do, or achieve in that task. Another task distinction is whether the task is real life or artificial.

One suggestion that this might make a difference comes from a study done by Nicholls (5). This study involved the collection of attributions first for a practice test, and then for a true test. Findings showed women more likely to attribute failure to lack of ability in the practice test condition, but there were no significant sex differences in the ability attributions after the true test.

This paper is concerned with success and failure among college students in relation to "before" and "after" exam attributions. That is, it looks at how expectations affect attributions for successful or unsuccessful performance on an exam. For purposes of this study, success is defined as whether or not the students' performance matched their expectations. Students could perform higher than, equal to, or lower than they expected. In keeping with prior research, sex differences in attribution is also of interest. That is, we asked whether or not men and women differ in their patterns of attributions based on their expected performance.

Methods

Subjects and Design

Data for this study were collected during the Spring semester of 1985, using the population of students enrolled in one section of Introductory Sociology at Purdue University. Before the first exam the subjects were given a four page questionnaire that contained questions about the following: general background information (i.e., age, race, grade point average, school classification, etc.); self-esteem as a student; expectations about grades in this particular course; probable attributions for hypothetical test results that did not match expectations; and perceived images of subjects as students held by significant others. After the first exam a second questionnaire was distributed to obtain the reported exam scores and the explanations for those scores. This sequence of before and after questionnaires was repeated for the subsequent two exams, with the final questionnaire to be mailed to the researchers when the subjects obtained their final exam scores. Because of the low return rate on the final questionnaire, only the first five questionnaires were analyzed. Complete sets of five questionnaires were obtained from 134 students, representing 29.7% of the enrolled class. The subjects were mainly white (97.5%), and three-fourths were freshmen or sophomores. About 55% were females and 45% were males.

Measures

For the purposes of this paper, only a portion of the questionnaire was analyzed. The following information was used:

A summated score was developed for the following series of 10 questions to obtain a self-esteem score. With the four point scale, 40 was the highest self-esteem score possible.

> Now we would like to ask you some questions about how you feel about yourself as a *student*. For each of the following statements, please indicate how strongly you agree or disagree.

AS A STUDENT	SA	A	D	SD
a) At times I think I am no good at all				
b) I certainly feel useless at times. . . .				
c) On the whole, I am satisfied with myself. . . .				
d) I wish I could have more respect for myself. . . .				
e) I take a positive attitude toward myself. . . .				
f) I feel I do not have much to be proud of. . . .				
g) I am able to do things as well as most other people. . . .				
h) All in all, I am inclined to feel that I am a failure. . . .				
i) I feel that I have a number of good qualities. . . .				
j) I feel that I'm a person who's worth something, at least equal to others				

> Assuming a total of 100 points on the exam, how many points do you expect to get? ____ points out 100
>
> From the "after" questionnaire the following information was used:
>
> Was your grade on this exam:
>
> ____ Higher than expected?
>
> ____ About what was expected?
>
> How many points? ____
>
> To what extent was the grade you received due to your academic ability?
>
> weakly 1 2 3 4 5 6 7 strongly

How much personal control did you have over the grade you received?
very little 1 2 3 4 5 6 7 a great deal
To what extent do you feel that the grade you received was really based on chance factors such as good or bad luck?
very little 1 2 3 4 5 6 7 a great deal
To what extent was the grade you received due to your own personal efforts, such as studying hard, reading all the material, coming to class, etc.?
very little 1 2 3 4 5 6 7 a great deal
To what extent was the grade you received due to how difficult you thought the exam was going to be?
very little 1 2 3 4 5 6 7 a great deal

Results

Mean self-esteem scores were figured for males and females at all three time periods. There were no differences in the means for the sexes, with mean esteem scores for the various times and sexes ranging from 30.3 to 32.1. Means were then figured for each attribution category (ability, personal control, luck, effort, and task difficulty) by success level as well as by sex. As the responses were based on a seven point Likert scale, a value of four is neutral. (See Tables 1 and 2.) Overall, luck was not viewed as a major component of outcomes.

For purposes of analysis, the subjects were divided into success categories according to whether their grades were "higher than expected," "expected," or "lower than expected." In the "grade higher than expected" and "grade expected" categories,

TABLE 1. Means and Standard Deviations of Attributions by Sex and Success Level.

Time 1

Grade higher than expected

	Male			Female		
	Mean	S.D.	N = 8	Mean	S.D.	N = 8
Ability	5.4	.74		5.6	1.06	
Pers. Cont.	5.4	.92		5.6	1.06	
Luck	2.9	1.46		3.3	1.91	
Effort	5.3	1.58		6.3	1.04	
Task	4.4	1.92		4.6	1.60	

Grade expected

	Male			Female		
	Mean	S.D.	N = 33	Mean	S.D.	N = 36
Ability	5.2	.91		5.5	1.18	
Pers. Cont.	5.5	1.09		5.5	1.13	
Luck	2.8	1.56		2.9	1.33	
Effort	5.9	.93		6.1	.97	
Task	4.0	1.44		4.4	1.52	

Grade lower than expected

	Male			Female		
	Mean	S.D.	N = 20	Mean	S.D.	N = 28
Ability	4.1	1.50		3.8	1.39	
Pers. Cont.	5.1	1.21		4.8	1.55	
Luck	3.1	1.36		3.0	1.67	
Effort	5.3	1.38		5.0	1.59	
Task	3.7	1.48		4.4	1.45	

TABLE 2. Means and Standard Deviations of Attributions by Sex and Success Level.

Time 2

Grade higher than expected

	Male Mean	S.D. N=8	Female Mean	S.D. N=9
Ability	5.4	1.41	5.9	.78
P.C.	6.0	.00	6.2	.67
Luck	3.1	.99	2.8	1.20
Effort	5.9	.35	6.4	.53*
Task	4.8	1.17	4.4	.88

Grade expected

	Male Mean	S.D. N=27	Female Mean	S.D. N=32
Ability	4.8	1.24	5.3	1.05
P.C.	5.6	1.01	5.8	.87
Luck	2.7	1.30	2.8	1.25
Effort	5.7	1.14	5.9	.84
Task	4.0	1.32	4.3	1.36

Grade lower than expected

	Male Mean	S.D. N=22	Female Mean	S.D. N=28
Ability	4.0	1.32	4.0	1.63
P.C.	4.9	1.58	4.2	1.64
Luck	3.6	1.84	3.9	1.56
Effort	4.8	1.44	4.4	1.97
Task	4.0	1.60	4.4	1.22

for both sexes, the attributions with the consistently highest mean values were ability, personal control, and effort. For both Time 1 and Time 2 attributions, in the "grade lower than expected" category, the highest values were still given to effort and personal control, implying that there was a lack of effort on the part of the respondents and that the respondents felt that they had personal control over the outcome.

One way to test for sex differences is to do t-tests. When this was done, the only significant sex difference occurred in the strength of Time 2 attributions to effort in the "grade higher than expected" category. Females made significantly higher attributions to effort ($M = 6.4$) than did males ($M = 5.9$) ($t = 2.58$ and $p = .02$). However, with 30 comparisons this is likely to be a chance finding.

An analysis of variance by sex and success level for each attribution category showed six significant main effects, two for Time 1 and four for Time 2. In each of these six cases, the attribution difference was explained not by the sex but by the success level of the respondent.

At Time 1, attributions to ability and effort differed by success level. At Time 2, these factors as well as personal control and luck differed by success level. Ability had slightly weaker attributions in the "lower than expected" results category than in the "higher than expected" or the "expected" categories. This means that the subject who performed at an expected or higher level said that the cause was an inherent ability but those who performed poorly did not say that the results were caused by a lack of ability. Rather, those who performed at a level "lower than expected" said that the results were caused by a lack of effort. At Time 2 only, the lowest rating for personal control was in the "lower than expected" category. Instead, respondents were more likely to use luck as an explanation.

Discussion

The findings of this study are consistent with those of other researchers (8), with the exception of a lack of sex differences. There were no differences between the sexes in the self-esteem levels across the time periods. In this study, women and men reported comparable levels of feelings of worth as students. Despite past suggestions of some sex differences in attribution patterns, in this study, using attributions concerning a real life event, the determining factor for attribution pattern was the level of success achieved by the subject.

The discrepancy between earlier findings of sex differences and the lack of sex differences in this study may be a result of any or all of three factors. That is, one possiblity is that the women in college are now making attributions more similar to those traditionally made by men. Another possibility is that an Introductory Sociology class has no specific sex typing, and therefore neither gender is "supposed to" perform in a particular manner. Finally, the use of a real life situation may, as in the Nicholls study (5), lessen sex differences.

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