

# Connotations of psychology experiment titles

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Fifty-nine undergraduate psychology student volunteers rated three psychological studies, referred to only by title, on six semantic differential dimensions. The titles were "Dream Study," "Experiment in Attitudes," and "Visual Perception." The semantic differential scales were important/trivial, unscientific/scientific, experimental/clinical, boring/interesting, humanistic/behavioristic, and easy to do/difficult to do. For all scales but humanistic/behavioristic, overall tests of title differences were significant, and posterior comparisons showed nine significant differences among titles. Subjects *do* make connotative distinctions among psychology experiment titles, a factor of potential relevance in assessing the influence of the volunteer subject on the outcome of psychological research.

That the outcome of psychological research may depend in part on the preconceptions, attitudes, or other personal characteristics of its subjects has long been recognized and has been given explicit attention in recent years (Adair, 1973; Evans & Donnerstein, 1974; Jung, 1969; Rosenthal & Rosnow, 1975). A very few investigations have addressed the question of whether different titles of psychological studies attract volunteer subjects having different psychological attributes. In cases where personality differences as a function of experiment title have been demonstrated (Silverman & Margulis, 1973), this question would appear rather obviously to have been answered affirmatively. In cases where null results have been obtained (Howard & Strahan, Note 1), the question would appear to be moot: Perhaps the subjects did not perceive the connotative differences in title intended by the investigators. In either case, the nature of whatever differences subjects do detect among different experiment titles is a matter of both substantive and methodological interest. In the present research, the connotations volunteer subjects ascribed to three supposed psychological studies were assessed using six semantic-differential scales.

## METHOD

### Subjects

Fifty-nine undergraduate students at Iowa State University (38 men and 21 women) took part. These students, predominantly in introductory-level psychology courses, received credit toward their course grades in return for voluntary participation in this and various other research projects.

### Materials and Procedure

Three titles of supposed psychological experiments were written: "Dream Study," "Experiment in Attitudes," and "Visual Perception." The first was intended to suggest the "hard" ("biological," "scientific," "dry") pole of a presumed stereotypical continuum, and the second and third, the "soft"

("social," "humanistic," "interesting") pole. The latter end of this continuum was doubly represented because of the authors' special interest in dream research.

Six semantic-differential scales were constructed to represent aspects of this putative continuum. The 7-point scales were anchored at the extremes and presented in the order shown in Tables 1 and 2. Three sets of the six scales, one for each of the three titles, were printed on a single-page questionnaire. Heading the questionnaire were these directions: "Imagine that three psychological studies are to be conducted and that you know only their titles. On the basis of knowing the titles, please rate your feelings or expectations about the studies along each of the dimensions below. Circle the number that indicates the degree of your rating." The sets of scales were ordered from top to bottom according to a Latin square plan. Subjects were recruited by means of a standard bulletin-board announcement, which was itself titled "Variety of Studies."

## RESULTS

Based on informal observation of students' casual conversations, the authors expected to see a rather high degree of redundancy among the six semantic-differential scales, that is, some evidence for a general factor. This expectation was clearly not realized: Correlations among scales (Table 1) were generally low and, for the most part, nonsignificant.

Six randomized block analyses of variance, with title as the single, fixed factor, were then performed. All scales except humanistic/behavioristic were statistically significant (Table 2) at at least the  $p < .05$  level.

Newman-Keuls posterior comparisons among means showed "Visual Perception" to be more important than both "Dream Study" ( $p < .01$ ) and "Experiment in Attitudes" ( $p < .05$ ), and "Experiment in Attitudes," in turn, more important than "Dream Study" ( $p < .05$ ). Similarly, "Visual Perception" was considered more scientific than both "Dream Study" and "Experiment in Attitudes" ( $p < .01$ ), and "Dream Study" was seen as more scientific than "Experiment in Attitudes" ( $p < .01$ ). On the other hand, "Dream Study" was judged more interesting than both "Visual Perception" and "Experiment in Attitudes" ( $p < .01$ ). Finally,

Table 1  
Partial Correlation Coefficients (Adjusted for the Effects of the Psychological "Studies" Title Factor)  
Among the Six Semantic Differential Items

	Unscientific/ Scientific	Experimental/ Clinical	Boring/ Interesting	Humanistic/ Behavioristic	Easy to Do/ Difficult to Do
Important/Trivial	-.29*	-.04	-.49**	.02	-.07
Unscientific/Scientific		-.20	.20	.19	.12
Experimental/Clinical			-.11	-.27*	.11
Boring/Interesting				.04	.02
Humanistic/Behavioristic					.07

\* $p < .05$ . \*\* $p < .001$ .

Table 2  
Means, Standard Deviations, and F Values for Semantic Differential Scale Ratings of Three Psychological "Studies"

	"Dream Study"		"Experiment in Attitudes"		"Visual Perception"		F(2,115)
	Mean	SD	Mean	SD	Mean	SD	
Important/Trivial	3.19	1.58	2.66	1.41	2.20	1.32	8.52†
Unscientific/Scientific	4.73	1.47	4.07	1.44	5.53	1.19	24.36†
Experimental/Clinical	3.61	1.82	4.12	1.57	3.47	1.41	3.05*
Boring/Interesting	5.78	1.45	4.97	1.43	5.02	1.47	6.57**
Humanistic/Behavioristic	4.19	1.57	3.92	1.89	4.02	1.50	.41
Easy to Do/Difficult to Do	4.51	1.93	4.20	1.83	3.69	1.76	4.24*

Note—Ratings are based on a 7-point scale with the first item listed for each scale equal to 1, the second equal to 7.

\* $p < .05$ . \*\* $p < .01$ . † $p < .001$ .

"Dream Study" was thought more difficult to perform than "Visual Perception" ( $p < .05$ ).

## DISCUSSION

Clearly, these subjects recognized connotative differences among the three psychology study titles along a number of semantic dimensions. The reliability of these differences is supported and a measure of their generality suggested by a replication of this study. In the replication, the same titles questionnaire was distributed in class to 42 students of a statistical methods course. The new subjects were mainly graduate students rather than undergraduates, and they were from a variety of predominantly behavioral science disciplines. Here, all six analyses of variance showed significance for all six semantic-differential scales. Of the original nine significant comparisons among means, seven here were significant as well. (Not reaching significance were "Visual Perception"'s being considered more important than "Experiment in Attitudes," and "Dream Study"'s being thought more scientific than "Experiment in Attitudes." In addition, six other pairwise comparisons were statistically significant in the replication study. Perhaps the greater professional knowledge of the more advanced students led them to differentiate more sharply among the three study titles. Perceptions of the original undergraduate students are of greater methodological importance, of course, based as they are on a population more like that typically used in psychological research.

Surely a different pattern of results would have been observed had titles other than those used here been chosen instead. And while subjects' characterizations of "Dream Study,"

"Experiment in Attitudes," and "Visual Perception" are not without interest in themselves, their main significance lies rather in their demonstration of reliable differences, here in general accord with expectation, in the connotations subjects attach to differently titled psychological studies. Whether the preconceptions that subjects bring to these studies bear importantly on their outcome is, of course, a further question.

## REFERENCE NOTE

1. Howard, M. B., & Strahan, R. F. *On volunteer subject bias: Negative evidence for experiment title and time of participation*. Unpublished manuscript, 1979.

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