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AN EMPIRICAL STUDY OF SUPERSTITIONS AND UNFOUNDED BELIEFS

AGNES F. BELANGER

INTRODUCTION

Because behavior is influenced to some extent by intelligence, (1) and by feelings which are affected by beliefs (2) this study was made to determine the relationship existing between intelligence, grades in psychology and superstition as measured by a test.

METHOD AND PROCEDURE

An experimental form of the Multi-Attitude Scale developed by Lauer (6) was used. The particular scale used here is composed of seventy-four items of miscellaneous nature loaded with twenty-six superstitions and unfounded beliefs, making a total of one hundred items in all.

Brief specific instructions on the scale sheet directed the examinees to indicate on an answer sheet their feelings or attitudes suggested by listed categories, thus: 0, "most displeasing or very disagreeable"; 1, "displeasing or disagreeable"; 2, "neutral or no particular feeling"; 3, "agreeable or pleasing"; 4, "very agreeable or very pleasing."

For the correlation between intelligence and superstition, the former scores used were obtained from the college entrance examination used at Iowa State College. The scholarship marks for courses in psychology were taken from the quarter's final examination in the respective classes of general psychology and child psychology. These were composed of 175 items of objective tests requiring one hour working time and the grades were equated by application of the distribution curve.

The test items on the superstitions and unfounded beliefs were secured from a list of those handed in by students during a previous quarter.

The test was given to approximately two hundred men and women students at Iowa State College during the winter quarter of the current school year, 1943-44. About 86% of the examinees were women. This test was given before any required reading or discussion of superstitions were taken up in class. The students were told that the test would in no way affect their grade unless there was indication that they had not conscientiously marked the test and otherwise cooperated in the experiment as a part of their class work.

The reliability of the test was obtained by correlating scores from odd and even items corrected by the Spearman prophecy formula, (4). Although the reliability of $+0.59$ is not as high as would be desired for certain purposes it is thought adequate for the present use.

It may be shown that to secure a reliability of $+ .85$ the test should be increased about four times. This would mean that a test of satisfactory reliability should consist of one hundred items on superstitions alone.

RESULTS

The data were treated statistically and later studied for significant trends in the markings made. Table I shows the correlations obtained.

Table I

<i>Correlation of Variables</i>	r	P. E.
Grade-intelligence	$+ .342 \pm .046$	
Superstition-grades	$- .114 \pm .053$	
Superstition-intelligence	$- .109 \pm .050$	
Even-odds	$+ .410 \pm .042$	

Since a high score on the test indicates a high degree of superstition or ignorance (3) minus correlations with grades and intelligence might be expected. No partial or multiple correlations were calculated since the relatively low indices would not be appreciably different from zero order relationships.

An item analysis of the test results shows the following facts:

Table II

Item Evaluation from Markings on Test

No. of Sup'n.	0	1	2	3	4	Superstition	Average Rating %
62	0	3	81	101	14	"wishing on a star".....	2.63
59	2	6	89	75	27	"rainbow at night".....	2.59
45	0	1	111	76	11	"four-leaf clover".....	2.48
63	0	2	154	41	2	"finding a horseshoe".....	2.21
68	1	20	134	41	3	"circle around moon".....	2.12
65	0	6	170	18	5	"finding a hairpin".....	2.11
61	1	7	189	6	2	"move on Friday".....	2.04
44	1	15	167	15	1	"Friday the thirteenth".....	2.00
58	8	31	118	37	5	"girl who whistles".....	2.00
42	2	8	178	8	2	"thirteen at table".....	1.98
46	1	7	191	0	0	"step on a crack".....	1.95
49	3	21	169	5	1	"walk under ladder".....	1.87
11	12	45	114	26	2	"hen crowing".....	1.80
19	6	38	154	1	0	"spill salt".....	1.75
47	6	40	149	4	0	"black cat crosses path".....	1.75
16	20	49	96	29	5	"fortune teller".....	1.74
38	18	70	61	46	4	"games of chance".....	1.73
9	7	49	143	0	0	"break a mirror".....	1.68
14	19	66	87	25	2	"haunted house".....	1.62
97	15	62	113	8	1	"ghost".....	1.58
51	36	67	81	13	2	"spiritualistic medium".....	1.36
34	39	80	67	11	2	"snake charmer".....	1.24
94	38	73	84	4	0	"witch".....	1.22
57	57	50	91	1	0	"dream of flies".....	1.18
22	50	67	79	3	0	"kill a toad".....	1.17
30	28	118	97	6	0	"dog howling".....	1.10

1. Superstitions or beliefs which were checked the greatest number of times as being very agreeable or very pleasing, indicated as "4".

Items	Percentage of Markings
Rainbow at night	13.6
Wishing on a star	7.0
Four-leaf clover	6.0
Fortune teller	2.5
Girl who whistles	2.5
Finding a hairpin	2.5

2. Superstitions or beliefs which were checked the greatest number of times as being agreeable or pleasing, indicated by "3".

Wishing on a star	50.7
Four-leaf clover	38.1
Rainbow at night	37.6
Finding a horseshoe	20.6
Circle around moon	20.6
Girl who whistles	18.5
Fortune teller	14.5
Hen crowing	13.0
Haunted house	12.6

3. Superstitions or beliefs which were checked the greatest number of times as being most displeasing or very disagreeable, indicated by "0".

Dream of flies	28.6
Kill a toad	25.1
Snake charmer	19.5
Witch	19.0
Spiritualistic medium	18.0
Dog howling	14.0
Fortune teller	10.0
Haunted house	9.5
Games of chance	9.0
Ghost	7.5
Hen crowing	6.0

4. Superstitions or beliefs which were checked the greatest number of times as being displeasing or disagreeable, indicated by "1".

Dog howling	59.2
Snake charmer	40.2
Witch	36.6
Games of chance	35.1
Spiritualistic medium	33.6
Kill a toad	33.6
Haunted house	33.1
Ghost	31.1
Dream of flies	25.1
Fortune teller	24.6
Break a mirror	24.6
Hen crowing	22.6

5. Superstitions or beliefs which were checked the greatest number of times as being neutral or causing no particular feeling, indicated by "2".

Step on crack	95.4
Move on Friday	94.9
Thirteen at table	89.4
Finding a hairpin	85.4
Walk under ladder	84.4
Friday the thirteenth	83.9
Spill salt	77.3
Finding a horseshoe	77.3
Black cat crosses path	74.8
Break a mirror	71.8
Circle around moon	67.3
Girl who whistles	59.2
Hen crowing	57.2
Ghost	56.7
Four-leaf clover	55.7

The three superstitions rated the highest were "wishing on a star", "rainbow at night", and "four-leaf clover." Since "rainbow at night" has some scientific explanation (5), that leaves "wishing on a star" and "four-leaf clover" as the two superstitions rating highest in pleasure or agreeableness. These may have rated highest because eighty-six per cent of the examinees were women.

Those which were the most frequently marked neutral were "Friday the thirteenth" and "girl who whistles." This may be explained by the fact that a "girl who whistles" may have suggested work of art, whereas "whistling girl" may have suggested a superstitious belief. Also, "Friday the thirteenth" is heard and joked about very frequently. This latter explanation could probably apply to the next two most frequently marked neutral which were "move on Friday" and "thirteen at table." The superstition rating lowest in favor, "dog howling," has a possible scientific explanation.

SUMMARY AND CONCLUSIONS

This study on superstitions involved two hundred college men and women in psychology classes at Iowa State College. The following tentative conclusions may be given:

1. Grades and intelligence correlate only moderately as shown by the $r = +.342$.
2. The superstitions most agreeable to the greatest number of examinees were "wishing on a star," "rainbow at night," and "four-leaf clover."
3. The superstitions having a neutral effect on the greatest number of examinees were "move on Friday," "Friday the thirteenth," "girl who whistles," and "thirteen at table."

4. The superstition causing displeasure to the greatest number of examinees was "dog howling."

5. The variability was not great as one might expect from a more or less homogeneous group of college students.

6. The scale seems to have possibilities for measurement of specific attitudes such as superstitions, but the present form needs to be further refined and developed. The conclusions offered are assumed to hold only for the data and results obtained and treated in this study.

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