Need-for-approval, locus of reinforcement, and peer presence effects in goal-setting

Barbara Jean Hicks
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NEED-FOR-APPROVAL, LOCUS OF REINFORCEMENT, AND PEER PRESENCE EFFECTS IN GOAL-SETTING

A Thesis

Presented to the Department of Psychology and the Faculty of the Graduate College University of Omaha

In Partial Fulfillment of the Requirements for the Degree of Master of Arts by Barbara Jean Hicks

June, 1968
Accepted for the faculty of the Graduate College of the University of Omaha, in partial fulfillment of the requirements for the degree Master of Arts.

[Handwritten signatures and names]

Graduate Committee
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ABSTRACT

Recent studies, focusing on defensive qualities of approval-oriented individuals, have shown that persons high in need-for-approval are avoidant and defensive in self- and socially-evaluative situations. Most of these studies have investigated behavior in situations where social implications are fairly explicit. There is evidence, however, that some individuals respond to implicitly held cultural norms in an experimental situation.

Barthel extended the cultural-anchoring hypothesis to goal-setting behavior in a dart-throwing task and concluded that high PRI-scorers were more restrictive in choosing distances from the target than lows.

Based on previous work by Barthel (1963) and others, the investigator studied the effects of need-for-approval and locus of reinforcement, as measured by Crowne and Marlowe's PRI and James' I-E scales, in goal-setting where the sex and number of observers was varied.

Four hypotheses were tested:

1. High need-for-approval-externals choose lower mean distance than low need-for-approval-externals.

2. High need-for-approval-internals choose lower mean distance than low need-for-approval-internals.

3. High need-for-approval-internals choose lower mean distance than high need-for-approval-externals.
4. Low need-for-approval-internals choose lower mean distance than
low need-for-approval-externals.

The Ss were 329 male introductory psychology students who performed
a dart-throwing task in the presence of a female E only; E and two
females; E and two males; or E and one male and one female. Trained
"peers" pretending to be members of the group were chosen to score and
judge. Five practice throws, from 9, 14, 11, 2 and 6 feet were given,
in that order. Then S chose the distance, ranging in one foot intervals
from 1 to 20 feet. The criterion was distance chosen for one trial.
Crowne and Marlowe's PRI and James' I-E scales measured need-for-approval
and locus of reinforcement, respectively.

Planned comparison tests supported only Hypothesis 3. High need-
for-approval-internals chose nearer distances than high need-for-approval-
externals. A completely crossed, three-factor, unweighted means analysis
of variance yielded a significant main and interaction effect for observer
conditions and I-E X observer conditions. Simple main effects were sig-
nificant for low I-E scorers and observers. Post hoc comparisons showed
a significant difference between low I-E scorers (internals) in the pres-
ence of females and those in the presence of males, with the greater
distance being chosen in the presence of females.

Usefulness of further exploration of possible interactive effects
of locus of reinforcement, need-for-approval, and the sex of E and/or
other observers in a more extended experimental situation is indicated.
Introduction

The construct, "need-for-approval," has its foundations in studies on social desirability (e.g., Jackson, Messick and Solley, 1957; Edwards, 1957). Edwards (1957) defines social desirability as the scale value of any personality statement on the desirability continuum. He maintains that the direction of an individual's endorsement of a test item is often dictated by the social desirability of that item. Jackson, Messick and Solley (1957) contend that response style may reflect underlying stable personality patterns. Heilbrun and Goodstein (1961) suggest that response to social desirability of item content does not represent a response set and may well be a source of test validity.

Crowne and Marlowe (1960, 1961) explored the reasons for the tendency of some individuals to respond to test items in a socially sanctioned manner. They suggested that "need-for-approval" is a motivational determinant not only of a socially desirable response set, but for other types of approval-oriented social behavior. Christie and Lindauer (1962) reviewed studies employing need-for-approval as a predictive tool and found considerable evidence for predictive validity of the PRI.

Results of studies reviewed in Crowne and Marlowe's book, The Approval Motive: Studies in Evaluative Dependence (1964) led to the characterization of the approval-motivated individual as extremely sensitive
to explicit and implicit cues of social approval or disapproval in self- and socially-evaluative situations. Thus, persons high in need-for-approval tend to present themselves favorably, whereas persons with lower need-for-approval tend to exhibit more independence from social expectations.

Recent studies have shown that persons high in need-for-approval are avoidant and defensive in self- and socially-evaluative situations (Barthel and Crowne, 1962; Conn and Crowne, 1964; Strickland and Crowne, 1963; Tutko, 1962). These authors have investigated behavior in situations where social implications are fairly explicit. Horton, Crowne and Marlowe (1963) found, however, that some individuals respond to implicitly held cultural norms in responding to a word association test.

Barthel (1961) extended the cultural-anchoring hypothesis to goal-setting behavior in a dart-throwing task based on designs employed by Atkinson, Bastian, Earl and Litwin (1960) and Bruner and Rotter (1953). Bruner and Rotter (1953) used a dart-throwing task to study goal-setting among the Navajo Indians and found a minimal number of shifts in distances chosen. Based on the results of these studies (Atkinson, et al., 1960; Bruner and Rotter, 1953), Barthel concluded that if the behavior of the approval-motivated individual is anchored in cultural norms, he should vary little in goal-setting behavior and should choose an "intermediate level of risk" according to his ability. Atkinson, et al. (1960), defined "intermediate level of risk" as the statistically average position for all Ss. Standard difficulty was judged solely in terms of average group position. Individual differences in ability or expectancies of success were not considered important.
Where an individual has no opportunity to compare his performance directly with others, he must choose his own difficulty level on the basis of prior knowledge of social norms and his own experience or success. Barthel (1961) hypothesized that high PRI-scorers (high need-for-approval Ss) would be more restrictive in the range of their choices of distance from the target than lows. Forty male Ss were given 20 trials of 5 throws per trial from distances of 1 to 20 feet. The Ss chose the distance from the target. Score was distance multiplied by the dart-board values. The objective was to maximize score. The criterion was the variance of each S's choice. High PRI-scorers were more restrictive in choosing distances than lows. Correlation between need-for-approval and variability of the Ss' choices, with success controlled, was - .32 (P ≤ .05). Barthel concluded that high PRI-scorers were more influenced by implicit cultural norms than lows.

Barthel (1963), using a measure of generalized expectancy of success (the Rotter Level of Aspiration Board), administered the dart-throwing task under neutral, self-esteem-threatening, and positive self-esteem conditions. Conditions were induced by giving standard experimental instructions to the neutral group, negatively-toned personality evaluations to the threat group, and positively-toned personality evaluations to the positive self-esteem group. Barthel hypothesized that approval-motivated Ss (high PRI-scorers), especially those with a low generalized expectancy of success, would exhibit greater variability in choice of distance from the target than Ss dependent on approval, or approval-motivated Ss with a high expectancy of success. High PRI-scorers with low generalized expectancy of success were more affected by experimental conditions and
exhibited marked goal-setting rigidity, especially under threatening self-esteem conditions.

Nicholson (1967) investigated need-for-approval effects in a group setting. The Ss were presented with three timed trials of equivalent sets of arithmetic problems. The task was to choose one set and attempt to solve all the problems from among 11 sets of varying difficulty. The Ss were told that the problems would be scored and that they would be informed of success or failure in solving the problems. Success and failure were experimentally manipulated. Subjects were informed privately by a small card or publicly by responding when their names were called, whereupon success or failure was announced. As hypothesized, a significant mean difference was found between high and low PRT-scorers in the public feedback condition, with highs choosing lower difficulty levels than lows.

Hicks and Nicholson (1966) employed Barthel's dart-throwing task to investigate effects of need-for-approval and peer presence on caution in goal-setting. Since the peer group is the primary agent of socialization during adolescence and young adulthood (Riesman, 1950), they hypothesized that need-for-approval Ss would be more cautious, i.e., would select shorter distances from the target than lows in the presence of peers but not in the presence of E alone. The Ss were randomly assigned to perform the task in the presence of E alone or in the presence of E and a male and a female "peer." For the E-only condition, Ss completed the PRT and then performed the task individually while the others waited in another room. For the E-two peer condition, the "peers" were trained and appeared as members of the group. The Ss and the "peers" completed the
PRT and then E asked for two volunteers to score and judge. The purported "peers" were selected, and the task was performed individually in the presence of E and the "peers." The Ss chose from 6, 9, and 14 foot distances for 5 throws of the dart. Score was distance multiplied by dartboard values, and the objective was to maximize score. The criterion was the distance chosen. The E and the "peers" did not comment or indicate approval or disapproval of S's performance. The Ss were post-experimentally dichotomized on the basis of PRI scores to ensure approximately equal splits into sex and treatment combinations. Scores ranged between 7 and 27, with a score of 17 or above resulting in high PRI categorization (M=15.20; SD=5.31). A three-factor analysis of variance yielded no significant overall effects, but planned comparison tests supported both hypotheses for males and the hypothesis for low need-for-approval females. The hypothesis for high need-for-approval females was not supported.

Lichtman and Julian (1964) had Ss estimate their performance at each of a number of distances in a dart-throwing task. The Ss were asked to choose the distance from which they would prefer to throw, given the conditions that at the closer distance, they would be provided with five darts, while at the farther position, they would receive seven. The conditional probabilities of success were equated at the two distances, though they differed in the degree of actual control that the S could probably exert over the outcome. Using James' (1963) Internal Versus External Control Scale (I-E), Lichtman and Julian found a significant difference between persons who perceive events as determined by factors intrinsic to themselves (internals) and those who perceive events as determined by
extrinsic factors, such as fate, chance and the manipulation of others (externals). Internals more often chose the closer distance, while externals preferred the farther distance at a 4:1 ratio. Lichtman and Julian reported a correlation between the PRI and I-E scale of -.39 (P<.05). Lichtman and Julian concluded that internals preferred high-probability choices to maximize success. They also found a significant tendency for persons high in need-for-approval to be doubtful about their personal efficacy.

Problem

Hicks and Nicholson (1966) found, as hypothesized, that high male PRI-scorers chose nearer distances than lows in the presence of "peers." Male Ss, however, who were expected to choose greater distances in the presence of E alone, did not do so. Could this be explained by the fact that E is female? What effect, if any, does the sex of E and/or other observers have upon the performance of Ss in the experimental situation? Would more successful prediction of goal-setting behavior be achieved by using a double classification consisting of need-for-approval, as measured by the PRI, and internal-external control, as measured by the I-E scale? The investigator provided the following experimental situation to explore these questions.

The Experimental Situation

To investigate the effects of need-for-approval, locus of reinforcement, and peer presence in goal-setting, an experiment with the following features was developed:

1. Subjects, who had been pre-measured on the PRI and I-E scales,
were assigned a dart-throwing task under one of four experimental conditions: E alone, E and two females, E and two males, or E and one male and one female.

2. Subjects assembled in the experimental room in groups ranging from 7 to 13 in number.

3a. Those Ss who were to perform the task in the presence of peers were informed of the nature of the task and given instructions. The E then asked for volunteers to score and judge, whereupon trained "peers" were chosen. The Ss drew numbers for order of performance and completed the task individually, while the remainder of the group waited outside the room.

3b. Those Ss who were to perform the task in the presence of E alone were informed of the nature of the task. They then drew numbers for order of performance and were asked to wait their turn in the hall. They re-entered the room individually, where they received experimental instructions and completed the task.

4. To provide interest and motivation, Ss were told that the highest score would be announced to the class upon completion of the experiment.

5. All Ss were given 5 practice trials from 9, 14, 11, 2, and 6 feet, respectively, according to Barthel's (1963) procedure.

6. Subjects were then asked to choose the distance from which they wished to throw the darts in order to maximize score. Score was distance chosen multiplied by dart-board values.

7. The score was computed and Ss were informed of their scores.

8. Distance chosen and total score were recorded.
Hypotheses

Four hypotheses were tested. The dependent variate was defined as the mean distance chosen.

Hypotheses 1 and 2 Assumptions and Statements

Assumptions. Since score is multiplied by distance, success likelihood is approximately the same for each distance. Subjects who do not differ in locus of reinforcement (I-E), but do differ in need-for-approval (PRI), might reflect this difference by their choice of distance in a goal-setting situation. Since high PRI-scorers have been shown to be less confident of their personal efficacy, they are expected to choose nearer distances than lows.

Hypothesis 1. High need-for-approval-externals choose lower mean distance than low need-for-approval-externals. Specifically,

\[ \mu(\text{High PRI-E}) < \mu(\text{Low PRI-E}) \]

Hypothesis 2. High need-for-approval-internals choose lower mean distance than low need-for-approval-internals. Specifically,

\[ \mu(\text{High PRI-I}) < \mu(\text{Low PRI-I}) \]

Hypotheses 3 and 4 Assumptions and Statements

Assumptions. Where there are no differences in need-for-approval (PRI), but differences are found in the extent to which a person perceives events as determined by factors intrinsic or extrinsic to himself (I-E), goal-setting behavior might be affected. Thus, low I-E-scorers are expected to exert more cautiousness, i.e., choose nearer distances, than highs, who view events as a function of chance or luck.

Hypothesis 3. High need-for-approval-internals choose lower mean
distance than high need-for-approval-externals. Specifically,

$$\mu(\text{High PRI-I}) < \mu(\text{High PRI-E}).$$

Hypothesis 4. Low need-for-approval-internals choose lower mean
distance than low need-for-approval externals. Specifically,

$$\mu(\text{Low PRI-I}) < \mu(\text{Low PRI-E}).$$
METHOD

Pre-experimental Measures

The PRI and the L-E scales provided the bases for classification of Ss. These measures were obtained from the introductory psychology class in the fall of 1966, approximately nine weeks prior to the beginning of the experiment.

Personal Reaction Inventory

Crowne and Marlowe recognized the need for a scale which was independent of psychopathology and devised the PRI (1960) to measure need-for-approval. The PRI is composed of 33 items, 15 of which are probably true but undesirable statements to make of oneself and 18 of which are culturally sanctioned and approved but improbable of occurrence (e.g., "There have been occasions when I took advantage of someone," or "I never hesitate to go out of my way to help someone in trouble"). A set of 50 items, minimizing pathological or abnormal implications, was submitted to 10 judges for social-desirability ratings. Unanimous agreement was obtained on 36 items, and 90 per cent on 11 more. These items were administered to 76 students and an item analysis was undertaken. There were 33 items discriminating at the .05 level or better between high and low total scores. These items constitute the scale in the final form. Of the 33 items, 18 are keyed true and 15 false, making an acquiescence interpretation highly improbable. Internal consistency and test-retest reliability coefficients were .88. The PRI is shown in Appendix A.
DeKalb Survey Test

The James I-E Scale (1963) is a modified version of the original scale developed by James (1957). The scale was developed within the framework of Rotter's Social Learning Theory and is based on previous work by Rotter (1954) and Phares (1957). The scale provides a measure of the extent to which a person perceives events as determined by factors intrinsic to himself versus the extent to which he views events as determined by fate, chance or the manipulations of others. The scale consists of 60 Likert-type items, with four responses for each item: strongly agree, agree, disagree, and strongly disagree. Thirty of the items are scored, and the remaining 30 serve as "filler" items. A sample item is: "Wars between countries seem inevitable despite efforts to prevent them."

The I-E score can range from 0 to 90. With college subjects, the mean score was 37 and the standard deviation was 12. The instrument is scored in the external direction, i.e., the higher the score, the more the individual believes that reinforcements which might accrue to him are a function of fate, chance, or luck. The effects of response set are minimal, with the correlation between scores on the filler items and the relevant items being nonsignificant. The effects of social desirability appear minimal, as indicated by nonsignificant correlations with the PRI (James, 1966). Split-half reliabilities ranging from .84 and .96 have been obtained, and retest reliabilities ranging from .71 to .86 have been found (James, 1966). The scale is shown in Appendix B.
Experimental Measure

Since goal-setting situations offer few highly explicit cues of social approval or disapproval, dart-throwing was selected as the experimental task. Dart-throwing was also advantageous because previous work by Barthel (1961, 1963) provided bases for comparisons. The appeal of the task facilitated recruitment of Ss. Due to time limits for experimentation, the inherent simplicity of dart-throwing was mandatory.

Subjects

Subjects were male introductory psychology students from the University of Omaha. All students are required to participate in a total of three hours of psychological experimentation. The PRI and I-E scales were administered during the first week of class in the fall of 1966, and scores were obtained from 448 males. The Ss were recruited approximately three weeks later. Most of the 448 males volunteered, but due to schedule conflicts and failure of some to appear, the sample size was reduced to 329.

Conduct of the Experiment

Pre-experimental Procedure

Subjects were assigned to the following experimental conditions: E alone; E and two female "peers"; E and two male "peers"; or E and one male and one female "peer." The Ss were tested on 16 days, over a period of 7 weeks, with sessions ranging from 1 to 4 per day. The "peers" were University of Omaha students who were paid and trained. They were not known by the Ss and were approximately the same age as Ss. "Peers" were instructed to report to the experimental room and pretend to be fellow
class members of the group. When E asked for volunteers to score and judge, they were instructed to volunteer, whereupon they would be chosen. They were cautioned to remain silent and expressionless while S was performing the task.

A dart-board was constructed which was 18 inches in diameter and consisted of five concentric circles. The "bull's eye" was two inches in diameter and its value was five points. The remaining circles were each two inches wide and were worth four, three, two and one point respectively. Distances were marked off on the floor in one foot intervals ranging from 1 to 20 feet. The experiment was conducted in a classroom at the University, and all Ss were tested in the same room.

Experimental Procedure

Where Ss performed the task in the presence of "peers," the "peers" assembled in the experimental room with the Ss. The Ss were told that they were going to play a game of darts. The E asked for volunteers to score and judge. The "peers" raised their hands, as did other members of the group. The "peers" were chosen. Numbers were drawn for order of performance, and Ss were asked to wait their turn outside. All except the S who had drawn number one, and the "peers," left the room.

One of the "peers" was asked to determine the dart-board values. The other was asked to multiply the dart-board values by the distance chosen and record the total score. The E recorded the distance chosen.

The following instructions were given to the S:

Dr. ____________ is going to announce the top score to the class, so try to make a good score. The total score will be what you make on the dart-board multiplied by the distance that you choose to stand. As you can see, the bull's eye is worth five points. The next rings are worth four, three, two
and one point. Are there any questions about scoring? All right, first we will try a few practice shots. Please try five throws from nine feet. Now, please retrieve the darts and throw from 14 feet. Now try 11 feet. Now two feet. Now six feet. All right, this time it counts, and you may stand wherever you like. Remember, the idea is to make a good score. You must stand in the same place for all five darts, once you decide where you want to stand. Are there any questions? All right, then please begin.

Upon completion of the task, total score was computed and S was informed of his score. The S was asked not to discuss the nature of the experiment and was told that E would come to class when the data were collected and explain the purpose of the study. The S was then thanked for participating and dismissed.

The procedure was the same for Ss who performed the task in the presence of E only, except that "peers" were not present and E scored, judged and recorded the data.

Categorization Procedures

PRI Categorization

Pre-experimental scoring of the PRI s prevented loss of time spent in testing Ss who had not been pre-measured. Scores for the experimental sample ranged from 2 to 27, and the mean and standard deviation were 14.47 and 5.06, respectively. Norms for the experimental sample and other samples are shown in Appendix C.

Sample scores were dichotomized into high and low categories to ensure approximately equal cell ns. Low scores ranged from 2 to 14, and high scores ranged from 15 to 27.
I-E Categorization

The I-Es were also scored pre-experimentally. Scores for the experimental sample ranged from 5 to 65, and the mean and standard deviation were 40.96 and 9.31, respectively. Norms for the experimental sample and other samples are shown in Appendix D.

Subjects scoring from 5 to 41 inclusive and 42 to 65 inclusive were categorized as internals and externals, respectively.

Design

A completely crossed, three-factor analysis of variance was used. As factor levels were not randomly selected from treatment populations, use of a fixed-effects model was indicated. This model has the advantage of permitting clear interpretation of interactions, although it does not permit inferences beyond the scope of the experiment. Since unequal cell sizes did not result from treatment effects, an unweighted-means solution was employed (Winer, 1962).

The Pearson correlation coefficient was computed between PRI and I-E and was -.23 (P<.01). Since $r^2 = .053$, PRI and I-E approach orthogonality, clearer interpretation of the analysis of variance resulted.

To provide powerful tests of the hypotheses, planned comparisons were used. Probability of Type I Error for individual tests was 5% ($\alpha = .05$). A small number of planned comparisons kept the overall risk of Type I Error within reasonable bounds (Overall $\alpha = .19$).
RESULTS

Analysis of Variance, Simple Effects, and Post-Hoc Comparison

A summary of means and cell sample sizes is shown in Appendix E. Results of the overall analysis of variance are shown in Table 1.

Table 1
Analysis of Variance Summary

<table>
<thead>
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<th>Source</th>
<th>df</th>
<th>MS</th>
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<th>P</th>
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<td>PRI</td>
<td>1</td>
<td>7.366</td>
<td>.731</td>
<td>N.S.</td>
</tr>
<tr>
<td>I-E</td>
<td>1</td>
<td>3.393</td>
<td>.337</td>
<td>N.S.</td>
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<tr>
<td>Observers</td>
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<td>29.458</td>
<td>2.923</td>
<td>.05</td>
</tr>
<tr>
<td>PRI X I-E</td>
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<td>.380</td>
<td>.038</td>
<td>N.S.</td>
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<td>PRI X Observers</td>
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<td>3.784</td>
<td>.375</td>
<td>N.S.</td>
</tr>
<tr>
<td>I-E X Observers</td>
<td>3</td>
<td>22.630</td>
<td>2.245</td>
<td>.10</td>
</tr>
<tr>
<td>PRI X I-E X Observers</td>
<td>3</td>
<td>10.435</td>
<td>1.035</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>313</td>
<td>10.079</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since only one degree of freedom is involved in the significant observer main effect, further exploration was unnecessary. The significant interaction effect permitted tests on simple effects. The simple effects summary is shown in Table 2.
Table 2
Simple Effects Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-E for E only</td>
<td>1</td>
<td>25.990</td>
<td>2.579</td>
<td>N.S.</td>
</tr>
<tr>
<td>I-E for E and 2 females</td>
<td>1</td>
<td>4.556</td>
<td>.452</td>
<td>N.S.</td>
</tr>
<tr>
<td>I-E for E and 2 males</td>
<td>1</td>
<td>23.617</td>
<td>2.343</td>
<td>N.S.</td>
</tr>
<tr>
<td>I-E for E and 1 male and 1 female</td>
<td>1</td>
<td>17.124</td>
<td>1.699</td>
<td>N.S.</td>
</tr>
<tr>
<td>Observers for Internal</td>
<td>3</td>
<td>34.394</td>
<td>3.412</td>
<td>≤.05</td>
</tr>
<tr>
<td>Observers for External</td>
<td>3</td>
<td>17.688</td>
<td>1.755</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>313</td>
<td>10.079</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Newman-Keuls procedure was used to test the differences among ordered means. The means used for post-hoc comparisons are shown in Table 3.

Table 3
Mean Summary and Cell ns for Post Hoc Comparisons of Distance Chosen by Internals

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>E only</th>
<th>E and two females</th>
<th>E and two males</th>
<th>E and one male and one female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n=46</td>
<td>10.61</td>
<td>12.11</td>
<td>9.87</td>
<td>11.13</td>
</tr>
<tr>
<td>n=37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n=46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n=38</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>
The results showed significant differences between mean distance chosen for internals in the presence of E and two females and those in the presence of E and two males, with the greater distance being chosen in the E and two female condition. Results of post hoc comparisons are shown in Table 4.

Table 4

Post-Hoc Comparisons for Mean Distance Chosen by Internals for Observer Conditions

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Difference</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>E and 2 males minus E only</td>
<td>.74</td>
<td>N.S.</td>
</tr>
<tr>
<td>E and 2 males minus E and 1 male and 1 female</td>
<td>1.26</td>
<td>N.S.</td>
</tr>
<tr>
<td>E and 2 males minus E and 2 females</td>
<td>2.24</td>
<td>.01</td>
</tr>
<tr>
<td>E only minus E and 1 male and 1 female</td>
<td>.52</td>
<td>N.S.</td>
</tr>
<tr>
<td>E only minus E and 2 females</td>
<td>1.50</td>
<td>N.S.</td>
</tr>
<tr>
<td>E and 1 male and 1 female minus E and 2 females</td>
<td>.98</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

Planned Comparisons

Planned comparison tests of the hypotheses were made. Means for planned comparison tests are shown in Table 5.
Table 5
Mean Summary for Planned Comparisons

<table>
<thead>
<tr>
<th></th>
<th>High PRI</th>
<th>Low PRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>10.92</td>
<td>10.78</td>
</tr>
<tr>
<td>n=91</td>
<td>n=76</td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>11.37</td>
<td>10.88</td>
</tr>
<tr>
<td>n=60</td>
<td>n=102</td>
<td></td>
</tr>
</tbody>
</table>

Results of planned comparisons are shown in Table 6.

Table 6
Planned Comparison Tests of Hypotheses

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Difference</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>High PRI-E minus Low PRI-E</td>
<td>.49</td>
<td>45.28</td>
<td>≤ .01</td>
</tr>
<tr>
<td>High PRI-I minus Low PRI-I</td>
<td>.14</td>
<td>3.14</td>
<td>N. S.</td>
</tr>
<tr>
<td>High PRI-I minus High PRI-E</td>
<td>-.45</td>
<td>27.36</td>
<td>≤ .01</td>
</tr>
<tr>
<td>Low PRI-I minus Low PRI-E</td>
<td>-.10</td>
<td>1.71</td>
<td>N. S.</td>
</tr>
</tbody>
</table>

Hypothesis 1 stated that high need-for-approval-externals choose lower mean distance than low need-for-approval-externals. The difference was significant (P≤.01), with high PRI-externals choosing greater distance than lows. Thus, the hypothesis was not supported.

Hypothesis 2 stated that high need-for-approval-internals choose lower mean distance than low need-for-approval-internals. The hypothesis
was not supported. High need-for-approval-internals chose greater distances, but the difference was not significant.

Hypothesis 3 stated that high need-for-approval-internals choose lower mean distance than high need-for-approval-externals. Results indicated that the difference was significant ($P<.01$), and the hypothesis was supported.

Hypothesis 4 stated that low need-for-approval-internals choose lower mean distance than low need-for-approval-externals. The hypothesis was not supported.
DISCUSSION AND CONCLUSIONS

Hypothesis 1 stated that high need-for-approval-externals choose nearer distances from the target in a dart-throwing game than low need-for-approval-externals. Although the difference was significant (P ≤ .01), the direction of the difference was reversed, and the hypothesis was not supported. Hypothesis 2 stated that high need-for-approval-internals choose nearer distances than low need-for-approval-internals. Results indicated that the direction of the difference was correct but the difference was not significant; therefore, the hypothesis was not supported. Since score was multiplied by distance, there should be no differences in probability of success at the various distances. Locus of reinforcement was controlled so differences would be expected according to need-for-approval. High need-for-approval persons are expected to be more defensive and less confident and, therefore, should choose nearer distances. Since the results did not support the hypothesis, the explanation may lie in the nature of the task. Dart-throwing per se may not be that important. Another possible explanation may be that since Ss were forced to stay at the same distance, the task was performed very quickly. Therefore, there may not have been time for need-for-approval effects to be operative.

Hypothesis 3 stated that high need-for-approval-internals choose nearer distances than high need-for-approval-externals. The difference was significant (P ≤ .01), and the hypothesis was supported. Since
need-for-approval was controlled, the difference is explicable in terms of internal versus external orientation. This finding parallels the findings of Liverant and Scodel's (1960) and Lichtman and Julian's (1964) findings that internals prefer the high probability choices through which to maximize success.

Hypothesis 4 stated that low need-for-approval-internals choose nearer distances than low need-for-approval-externals. The hypothesis was not supported.

The results indicate that need-for-approval effects do not seem, as hypothesized, to be strongly operative within this experimental context. The strong internal-external effects, as evidenced by simple effects results, might have eliminated need-for-approval effects.

No predictions were made concerning the effect of the presence or sex of the "peers," since little research has been done in this area. Internals chose significantly greater mean distance in the E and two female condition than in the E and two male condition. Perhaps dart-throwing has more skill appeal for males than females. If so, it would seem reasonable that in the presence of other males, the point of concern would be the score on the dart-board. In the presence of females, however, male Ss might be more concerned with how they themselves appear, and reinforcement might be gained by choosing the farther distance in order to make a better impression. Since E was female, the E and two male condition was not "pure." It is difficult to draw conclusions regarding this effect. A research project to investigate these possibilities is in progress.

Usefulness of further exploration of possible interactive effects of locus of reinforcement, need-for-approval, and the presence or absence
and sex of E and/or other observers in a more extended experimental situation is indicated.
LIST OF REFERENCES


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James, W. H. Internal vs. external control of reinforcement as a basic variable in learning theory. Unpublished doctoral dissertation, Ohio State University, 1957.


James, W. H. Personal communication, 1966.

Lichtman, C. M. & Julian, J. W. Internal vs. external control of reinforcement as a determinant of preferred strategy on a behavioral task. Paper read at Midwest Psychological Association, St. Louis, 1964.


APPENDIX A

PERSONAL REACTION INVENTORY

Answer each of the items below as it pertains to you personally. Please answer all items.

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out at a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.

17. I always try to practice what I preach.

18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

19. I sometimes try to get even rather than forgive and forget.

20. When I don't know something I don't mind admitting it.

21. I am always courteous, even to people who are disagreeable.

22. At times I have really insisted on having things my own way.

23. There have been occasions when I felt like smashing things.

24. I would never think of letting someone else be punished for my wrongdoings.

25. I never resent being asked to return a favor.

26. I have never been irked when people expressed ideas very different from my own.

27. I never make a long trip without checking the safety of my car.

28. There have been times when I was quite jealous of the good fortune of others.

29. I have almost never felt the urge to tell someone off.

30. I am sometimes irritated by people who ask favors of me.

31. I have never felt that I was punished without cause.

32. I sometimes feel when people have a misfortune they only got what they deserved.

33. I have never deliberately said something that hurt someone's feelings.
APPENDIX B

DE KALB SURVEY TESTS

Student Opinion Survey - Form I-E, 1

Instructions

Below are a number of statements about various topics. They have been collected from different groups of people and represent a variety of opinions. There are no right or wrong answers to this questionnaire. For every statement there are large numbers of people who agree and disagree. Your answers to the items on this survey are to be recorded on a separate answer sheet which is loosely inserted in the booklet. REMOVE THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the survey until you are told to do so. Please indicate whether you agree or disagree with each statement as follows:

Blacken in (1) SA if you strongly agree
Blacken in (2) A if you agree
Blacken in (3) D if you disagree
Blacken in (4) SD if you strongly disagree

Please read each item carefully and be sure that you indicate the response which most closely corresponds to the way which you personally feel by finding the number of the item on the answer sheet and blacking in the space under the number 1, 2, 3, or 4.

(1) (2) (3) (4)

SA A D SD 1. I like to read newspaper editorials whether I agree with them or not.

SA A D SD 2. Wars between countries seem inevitable despite efforts to prevent them.

SA A D SD 3. I believe the government should encourage more young people to make science a career.

SA A D SD 4. It is usually true of successful people that their good breaks far outweighed their bad breaks.
(1) (2) (3) (4)
SA A D SD 5. I believe that moderation in all things is the key to happiness.
SA A D SD 6. Many times I feel that we might just as well make many of our decisions by flipping a coin.
SA A D SD 7. I disapprove of girls who smoke cigarettes in public places.
SA A D SD 8. The actions of other people toward me many times have me baffled.
SA A D SD 9. I believe it is more important for a person to like his work than to make money at it.
SA A D SD 10. Getting a good job seems to be largely a matter of being lucky enough to be in the right place at the right time.
SA A D SD 11. It's not what you know but who you know that really counts in getting ahead.
SA A D SD 12. A great deal that happens to me is probably just a matter of chance.
SA A D SD 13. I don't believe that the presidents of our country should serve for more than two terms.
SA A D SD 14. I feel that I have little influence over the way people should behave.
SA A D SD 15. It is difficult for me to keep well-informed about foreign affairs.
SA A D SD 16. Much of the time the future seems uncertain to me.
SA A D SD 17. I think the world is much more unsettled now than it was in our grandfathers' times.
SA A D SD 18. Some people seem born to fail while others seem born for success no matter what they do.
SA A D SD 19. I believe there should be less emphasis on spectator sports and more on athletic participation.
SA A D SD 20. It is difficult for ordinary people to have much control over what politicians do in office.
21. I enjoy reading a good book more than watching television.

22. I feel that many people could be described as victims of circumstances beyond their control.

23. Hollywood movies do not seem as good as they used to be.

24. It seems many times that the grades one gets in school are more dependent on the teachers' whims than on what the student can really do.

25. Money shouldn't be a person's main consideration in choosing a job.

26. It isn't wise to plan too far ahead because most things turn out to be a matter of good or bad fortune anyhow.

27. At one time I wanted to become a newspaper reporter.

28. I can't understand how it is possible to predict other people's behavior.

29. I believe that the U. S. needs a more conservative foreign policy.

30. When things are going well for me, I consider it due to a run of good luck.

31. I believe the government has been taking over too many of the affairs of private industrial management.

32. There's not much use in trying to predict which questions a teacher is going to ask on an examination.

33. I get more ideas from talking about things than reading about them.

34. Most people don't realize the extent to which their lives are controlled by accidental happenings.

35. At one time I wanted to be an actor (or actress).

36. I have usually found that what is going to happen will happen, regardless of my actions.
37. Life in a small town offers more real satisfactions than life in a large city.

38. Most of the disappointing things in my life have contained a large element of chance.

39. I would rather be a successful teacher than a successful business man.

40. I don’t believe that a person can really be a master of his fate.

41. I find mathematics easier to study than literature.

42. Success is mostly a matter of getting good breaks.

43. I think it is more important to be respected by people than to be liked by them.

44. Events in the world seem to be beyond the control of most people.

45. I think that states should be allowed to handle racial problems without federal interference.

46. I feel that most people can’t really be held responsible for themselves since no one has much choice about where he was born or raised.

47. I like to figure out problems and puzzles that other people have trouble with.

48. Many times the reactions of people seem haphazard to me.

49. I rarely lose when playing card games.

50. There’s not much use in worrying about things...what will be, will be.

51. I think that everyone should belong to some kind of church.

52. Success in dealing with people seems to be more a matter of the other person's moods and feelings at the time rather than one's own actions.

53. One should not place too much faith in newspaper reports.
54. I think that life is mostly a gamble.
55. I am very stubborn when my mind is made up about something.
56. Many times I feel that I have little influence over the things that happen to me.
57. I like popular music better than classical music.
58. Sometimes I feel that I don't have enough control over the direction my life is taking.
59. I sometimes stick to difficult things too long even when I know they are hopeless.
60. Life is too full of uncertainties.
## APPENDIX C

### Personal Reaction Inventory Scale Norms

<table>
<thead>
<tr>
<th>Sample</th>
<th>Sex</th>
<th>Number of Cases</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Omaha Introductory Psychology students (1964)</td>
<td>Males</td>
<td>433</td>
<td>13.53</td>
<td>5.36</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1964)</td>
<td>Females</td>
<td>409</td>
<td>15.05</td>
<td>5.42</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966)</td>
<td>Males</td>
<td>431</td>
<td>13.80</td>
<td>5.56</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966)</td>
<td>Females</td>
<td>378</td>
<td>14.61</td>
<td>5.65</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966)</td>
<td>Males</td>
<td>127</td>
<td>13.84</td>
<td>5.53</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966)</td>
<td>Females</td>
<td>100</td>
<td>14.05</td>
<td>5.83</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966-67)</td>
<td>Males</td>
<td>448</td>
<td>14.26</td>
<td>5.14</td>
</tr>
<tr>
<td>University of Omaha Introductory Psychology students (1966-67)</td>
<td>Females</td>
<td>390</td>
<td>16.04</td>
<td>5.08</td>
</tr>
<tr>
<td>Industrial Executives Tested at University of Omaha (1964-66)</td>
<td>Males</td>
<td>78</td>
<td>19.14</td>
<td>5.83</td>
</tr>
<tr>
<td>University of Omaha</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introductory Psychology</td>
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</tr>
<tr>
<td>students (1966)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>329</td>
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<tr>
<td>14.47</td>
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<tr>
<td>5.06</td>
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</tr>
</tbody>
</table>

As who participated in the experiment
### APPENDIX D

James (1963) I-E Scale Norms

<table>
<thead>
<tr>
<th>University of Omaha</th>
<th>Sex</th>
<th>Cases</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Psychology students (1966-67)</td>
<td>Males</td>
<td>448</td>
<td>41.31</td>
<td>9.22</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>390</td>
<td>38.86</td>
<td>9.04</td>
</tr>
<tr>
<td>Introductory Psychology students (1966)</td>
<td>Males</td>
<td>329</td>
<td>40.96</td>
<td>9.31</td>
</tr>
</tbody>
</table>

*Ss who participated in the experiment*
# APPENDIX E

Summary of Mean Distances Chosen
and Cell Sample Sizes

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>High Need-for-Approval</th>
<th>Low Need-for-Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal</td>
<td>External</td>
</tr>
<tr>
<td>Female E</td>
<td>10.29</td>
<td>12.09</td>
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<tr>
<td></td>
<td>n=24</td>
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<td>Female E and 2 Male Peers</td>
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<td>12.40</td>
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<td>n=20</td>
</tr>
<tr>
<td>Female E and 2 Female Peers</td>
<td>10.00</td>
<td>11.00</td>
</tr>
<tr>
<td></td>
<td>n=29</td>
<td>n=13</td>
</tr>
<tr>
<td>Female E and 1 Male, 1 Female Peer</td>
<td>11.73</td>
<td>9.88</td>
</tr>
<tr>
<td></td>
<td>n=15</td>
<td>n=16</td>
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