

The Effects of a Need Hierarchy Orientation and Motivation in Study Skills Training

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A need hierarchy orientation of individual compared to organisational needs and expectations, and individual differences were examined in relation to the persistence, performance, and satisfaction of 310 university students in a voluntary study skills course of videotaped lectures. An experimental orientation session promoted attendance at lectures, but orientation interacted in a complex manner with achievement motivation and sex differences for improvement in study skills. The orientation session was particularly effective in improving study skills for men with low achievement motivation and for women with high achievement motivation. Differences due to the interaction of achievement and affiliation motivation were not found. Expectation of benefit from the course had a significant effect on satisfaction ratings. The findings support the viability of a short orientation session specific to a skills-building programme, and indicate directions for the examination of motivation and other influences on the programme.

University counselling services frequently offer skill-building programmes such as study skills training or creative writing, which go beyond offering help with personal problems. The programmes are remedial, preventative and contribute toward a student's academic proficiency (Locke, 1977; Thackray & Thackray, 1979). A study skills programme usually involves techniques of listening to lectures, taking notes, studying, and taking examinations. The emphasis is on expectation of benefit from the programme and on achievement, but nowhere in the literature have the effects of expectation of benefit nor the personality variable of achievement motivation (for completing tasks successfully) been examined. In addition to varying degrees of expectation and achievement motivation, students come to a study skills programme with little introduction to how the programme fits in with their needs.

The present investigation assessed the effects of a brief orientation on students enrolled in a university study skills programme. It attempted to provide the students with an introduction to the programme in relation to their needs and the needs of the student counselling service. It was intended that the orientation influence the students' motivation to support the programme and to obtain benefit from it. The orientation was

derived from concepts found useful in the organisational literature, and related to the number of lectures attended, the improvement on a study skills questionnaire, and overall satisfaction with the course. The literature suggested that the students' expectations of benefit from the course, and the personality variables of achievement motivation and affiliation motivation (for social approval), interact with the orientation to influence outcomes on the dependent variables. (Birnbau, 1968; Clarke, 1976; Gruenfield, 1966; Hagebak, 1968; Heetderks, 1966; McKeachie, Lin, Milholland, & Isaacson, 1966; Wanous, 1972).

Orientation

Argyris (1964) first described a hypothetical orientation for new employees to an organisation, which emphasized the relationship of the orientees' needs and expectations to the organisation's needs and expectations. A review of the literature over the past three decades yielded some support for the need of an orientation when applied to organisational or counselling programmes and suggests a number of aspects for an effective orientation (Argyris, 1964; Gannon & Paine, 1972; Hagebak, 1968; Heetderks, 1966; Hood, 1967; Koontz, 1968; Lister & Ohlsen, 1965; Mellenbruch, 1961; Rose, 1962; Sheard, 1966; Vroom, 1960; Vroom, 1966; Wanous, 1972). First, personal contact with the organisational

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representative is more important for retention of information and satisfaction than are printed brochures, audio-visual presentations, and advertisements. Secondly, the representative can best help a prospective client to adapt and to form more realistic expectations about the organisational programmes if he or she takes into account the person's existing levels of expectation and motivation. He or she can also arouse the person's motivation to achieve in the programme and to understand the organisational expectations and goals. Thirdly, information provided should be relevant to individual goals, to allow the person to assess his or her individual needs and expectations in terms of the organisational needs and expectations. Fourthly, more emphasis needs to be placed on the fulfillment of social rather than basic needs. Basic needs include adequate financial resources and safety; social needs include belongingness, self-esteem, and opportunity for advancement. The emphasis can affect a person's determination either to work in co-operation with other people toward organisational goals, or to be preoccupied with inadequate basic needs.

Research on orientation (Birnbaum, 1968; Draper, 1965; Gannon & Paine, 1972; Hagebak, 1968; Heetderks, 1966; Lister & Ohlsen, 1965; Owens & Jewell, 1969; Sheard, 1966; Wanous, 1972) suggests that orientation is applicable only to training programmes, rather than for long term commitment and performance in an organisation, and that orientation is more effective on the persistence, performance and satisfaction of orientees with organisational learning programmes, than on their length of service, work performance and satisfaction within the organisation.

Orientation, Motivation and Expectation

Since orientation deals with people's expectations and needs, its effectiveness depends upon the levels of expectation and motivation that they bring to an organisational programme. People with high expectation of benefit from a training programme can be more satisfied with the programme regardless of the orientation, than people with low expectation of benefit (Gruenfield, 1966; Heetderks, 1966; Klein & Maher, 1968). A

second aspect involves motivation. People with high achievement motivation for completing tasks successfully, or with high affiliation motivation for social approval, react differently than people with low motivations (Clark, 1961; Herzberg, Mausner, & Snyderman, 1959; Lawrie, 1967; Porter, 1961). An orientation provides both achievement and affiliation cues which may interact with the orientees' motivation (Atkinson & O'Connor, 1966; Atkinson & Raynor, 1974; Birnbaum, 1968; Lister & Ohlsen, 1965; McKeachie et al., 1966). People with high achievement motivation may respond to the achievement cues present in the orientation to attend more of the training sessions and to try to learn more than people with low achievement motivation. Similarly, orientees with high affiliation motivation may be more interested in social approval from others by attending more sessions and by learning more than participants with low affiliation motivation. For example, Clarke (1976) found that university students with high achievement motivation who received feedback in the form of quizzes on lecture material (achievement related cues), attended more voluntary tutorials for an introductory psychology course, than students with low achievement motivation who also received the feedback. Achievement and affiliation motivation interacted significantly in a complex manner. Students with high achievement motivation and low affiliation motivation attended the greatest number of tutorials. Students with high achievement motivation and high affiliation motivation, or with low motivations, attend the least number of tutorials. The results seemed to be consistent with the Yerkes-Dodson (1908) law which states that there is an optimal level corresponding to high motivation on one, but not both variables; that a high score on both is too high a level of motivation and that a low score on both is too low a level of motivation for a given level of task complexity.

Atkinson and O'Connor (1966) hypothesized that achievement and affiliation motivation interact jointly, such that when tasks are undertaken in the immediate presence of an examiner, subjects who are low in achievement motivation and high in affiliation motivation persist longer at tasks which call

for rapid discrimination among competing response tendencies. For example, Clarke (1972) found that high school students who were low in achievement motivation and high in affiliation motivation persisted longer at insoluble figure-tracing tasks than students with high achievement and high affiliation motivation. The best persistence scores were obtained by the students with high achievement and low affiliation motivation. Similarly, Heilbrun (1962) found that the best persisters at first year college were students with high achievement and low affiliation motivation.

Hypotheses

On the basis of the literature reviewed above, the following hypotheses were tested: (1) Subjects in orientation groups attend more sessions, and are more satisfied with a study skills training programme, than subjects not receiving the orientation.

(2) Subjects with high expectation of benefit from the programme are more satisfied with the programme than subjects with low expectation of benefit.

(3) Subjects with high expectation of benefit receiving orientation are more satisfied with the programme than subjects with either high or low expectation of benefit, but not receiving orientation.

(4) Subjects with high achievement or high affiliation motivation in the orientation groups attend more sessions and improve more in study skills, than subjects with low motivations in the same groups.

(5) Subjects with high achievement or high affiliation motivation (but not both) in the orientation groups attend more sessions and improve more in study skills, than subjects with high motivations who do not receive orientation to the programme.

Since previous research (Atkinson & O'Connor, 1966; Clarke, 1976; Keleman, 1980; McKeachie et al., 1966) has indicated that there are sex differences in the findings with achievement and affiliation motivation, each hypothesis was tested separately for men and women. The experiment did not test support for the general need hierarchy model, but used it as a framework whose construct seems consistent with the concepts generated in the review of literature.

Method

Subjects

Two hundred and forty-three first year students and seventy-four students from other years at university enrolled in a psychological services voluntary study skills programme of eight forty-minute videotaped lectures (Vattano, 1967). Each student chose the times that he or she could attend the lectures with the same group. Twelve groups of approximately 30 students each were formed. The students completed a background information questionnaire and the testing materials described below. Background information included age, sex, father's occupation, and final grade average of secondary school or previous university examinations. Complete sets of data for both pre- and post-measures were obtained for 310 students. The average age of the 190 men and 120 women was 20.9 years.

Testing Materials

At the time of registration for the programme, each student completed the test materials after the background information questionnaire. Expectation of benefit from the programme was rated on a single nine-point scale. Achievement and affiliation motivation were measured by scores on the Personality Research Form (PRF) Ac and Af scales (Jackson 1967). Maximum possible score for each scale is 20. Odd-even reliability coefficients for the present sample were almost identical to the manual coefficients (Ac: .74 vs. .73; Af: .80 vs. .81). The PRF was chosen because of its ease in administration and scoring, its relatively high reliability and validity coefficients for the Ac and Af scales, and its usefulness as a measure of achievement and affiliation motivation compared to projective tests (Clarke, 1973).

Knowledge of study skills was measured by the Study Skills Questionnaire (SSQ), which consists of 80 statements describing study behaviours (Kusyszyn, 1969). Each behaviour was rated by the student on a five-point scale from "almost always" to "almost never", with reverse items randomly scattered throughout. Maximum possible score is 400. Based on the present sample, a significant odd-even reliability coefficient of .90 was obtained. After the last lecture, all students in attendance completed the SSQ again and a satisfaction questionnaire which rated the content of the lectures, the teaching approach used, and similar items of evaluation. Maximum satisfaction score was 21. For each lecture, attendance rolls were taken. Dropouts were contacted by mail to complete the post-SSQ and the satisfaction questionnaire.

Independent and Dependent Variables

One half of the twelve lecture groups were randomly chosen for a 20-minute orientation session before the first 40-minute videotaped lecture. The remaining six groups were shown the first videotape in the series without comment or introduction. The six orientation groups were the experimentals; the latter groups were the controls. Since the subjects were not randomly assigned to experimental or control conditions because of timetabling arrangements, the scores on the measures obtained from the experimental subjects were compared with the scores obtained from the control subjects, to determine if the two treatment groups were initially equivalent in terms of variables relevant to the study. Table 1 shows that there were no significant differences on the measures between the experimental and control groups. Nor were there significantly more men than women in the experimental vs. control groups. ($\chi^2 = .03$, $p > .05$, $df = 1$).

Expectation of benefit from the course and

Table 1 Means and standard deviations of scores on pre-measures for experimental ($n = 150$) and control ($n = 160$) groups

Variables	Orientation Groups		Control Groups	
	Mean	σ	Mean	σ
Age (Years)	20.8	4.2	20.9	4.3
Past Grade ^a	5.6	1.5	5.6	1.5
Expected Benefit	6.5	1.2	6.5	1.1
Achievement (Ac) ^b	11.8	3.8	11.8	3.6
Affiliation (Af) ^b	13.6	3.8	13.5	4.0
Study Skills Q.	255.3	39.3	252.5	41.4

Note Two-tailed *t*-test of significance of difference of means for each variable resulted in $t < 2.00$, $p > .05$, $df = 308$

^aEach subject's previous academic performance was rated on a nine-point scale.

^bPRF scales (Jackson 1967).

Table 2 Outline of Need Hierarchy for Orientation

Maslow's Hierarchy of Needs	Individual		Organisational	
	Needs	Expectations	Needs	Expectations
Self-actualization (Cognitive, Aesthetic)	Cognitive competition with self.	Methods of note-taking, listening, understanding. Improvement in programme.	Cognitive competition with past programmes.	Relations of individual differences. Suggestions for improvement.
Social (Love, social acceptance, friendship, self-esteem).	Self-esteem in competition with others. Attention from staff, peers.	Measured success in relation to others. Availability.	Social acceptance.	Summaries. Evaluation questions. Personality tests.
Basic (Food, shelter, safety, health, security).	Security of grades.	Methods of studying for and writing exams.	Security of programme.	Attendance.

motivation were defined as follows. Students with high expectation of benefit gave ranks above the average on the expectation of benefit rating scale; students with low expectation gave ranks below average. Students with high achievement motivation (nAch) scored above 11.8, the average PRF Ac score for all participants in the present study. Students with low nAch scored less than 11.8. Similarly, students with high affiliation motivation (nAff) scored above 13.6 on the PRF scale; students with low nAff, below 13.6. The cut-off points are comparable to Af than's norms in which higher raw scores for the Af than the Ac scales are needed for equivalent percentiles. Although high-low divisions are usually made from the median (Atkinson & Raynor, 1974), means were chosen to separate students into high or low motivation groups rather than medians since a relatively large number of subjects obtained the median scores on the motivation scales. By omitting subjects whose scores were medians on the Ac or Af scales, approximately 20% of the sample would have been lost for analysis with the motivational variables. Furthermore, the generalisability of the findings to the student population would have been limited by the use of extreme groups. By using means as cut-off points, a subject with a median score on the appropriate scale was classified as having high motivation.

Thus, the independent variables were orientation, expectation of benefit, achievement motivation and affiliation motivation. The dependent variables were persistence (number of study skills lectures attended), performance (improvement = difference of scores from pre-test to post-test on the SSQ), and satisfaction with the programme.

The Orientation

An adaptation of Maslow's need hierarchy (Alderfer, 1969; Hall & Nougaim, 1968; Maslow, 1970; Mitchell & Moudgill, 1976; Wahba &

Bridwell, 1976; Wanous & Zwany, 1977) was the framework used to give the twenty-minute orientation. Table 2 shows the summary of the orientation presented to each of the six orientation groups. The need hierarchy was explained, students were asked to share their needs and expectations from the study skills programme, and the lecturer outlined the counselling service's needs and expectations from the students.

Analysis of Data

Since the literature suggested that the independent variables interact in complex ways, analyses of variance (ANOVA) for cells with unequal numbers were performed on the appropriate dependent variables (Ferguson, 1971; Keppel, 1973). For persistence and performance the fixed effects of orientation, achievement and affiliation motivation were examined separately for men and women, as suggested by the literature (Atkinson & Raynor, 1974).

Results

Four of the five hypotheses were partially supported. For the first hypothesis, men and women in the orientation groups attended significantly more study skills lectures than people not receiving the orientation (Men: $F(1, 182) = 4.1, p < .05$; Women: $F(1, 112) = 6.2, p < .01$). However, students who received orientation did not give significantly higher satisfaction ratings of the programme than students in the control groups. Students with high expectation of benefit from the programme were significantly more satisfied with the programme than students with low expectation of benefit as stated in the second hypothesis ($F(1, 302) = 9.0, p < .01$). Hypothesis (3) was not supported. There were no significant interaction effects to indicate that students who had high expectation of benefit and who received orientation were more satisfied with the programme, than students who had either high or low expectation of benefit and who did not receive orientation.

For both sexes, the interaction effect of orientation and achievement motivation on performance was significant (Men: $F(1, 182) = 6.4, p < .05$; Women: $F(1, 112) = 4.6, p < .05$), but not on persistence in the programme. Hypotheses (4) and (5) were supported for achievement motivation but not

for affiliation motivation. Men with low achievement motivation who received orientation ($\bar{X} = 37.3, \sigma = 4.6$) improved more on the SSQ than men who had not received the orientation ($\bar{X} = 19.8, \sigma = 5.2$). Conversely, women with high achievement motivation who received orientation ($\bar{X} = 32.7, \sigma = 5.1$) improved more on the SSQ than women who did not receive the orientation ($\bar{X} = 20.6, \sigma = 4.8$). All other differences were not significant. In a comparison of pre-SSQ mean for all groups ($253.4, \sigma = 37.3$) with the post-SSQ mean ($279.9, \sigma = 36.3$), the difference was significant ($t = 5.51, p < .01$). Since all groups improved on the SSQ, the interaction effects of orientation and achievement motivation on performance were distinct from the effects of the videotaped lectures alone.

Discussion

The brief orientation to the programme of videotaped lectures on study skills was effective in promoting attendance at the lectures, for two reasons. First, included in the information communicated during the orientation was an explicit request for good attendance. In addition to the reasoning that more information about improving study habits is obtained by attending more study skills lectures, the students were confronted with the organisational need of good attendance for the survival of the programme. A second reason is the greater amount of special attention given to the orientation groups. The control groups received only the introduction in the first videotaped lecture. A personal concern for the individual is an important underlying variable in orientation and communication of information. In terms of Maslow's hierarchy, the orientees' social needs are partially satisfied by the approach, thus opening up their receptiveness for fulfilling cognitive needs. Although it could be argued that *any* special attention would account for the differences, Sommer (1968) disagrees:

To describe a phenomenon as resulting from a Hawthorne effect implies that the results are due to suggestion rather than to objective environment changes . . . environmental changes do not act directly on human organisms, they are interpreted according to the individual's need, set, and state of awareness. What has so disparag-

ingly been called the Hawthorne or placebo effect is the very heart of the subject matter of psychology — need, motivation, perception, and psychophysics. If monetary reward affected output in a direct and unequivocal manner, industrial psychology could merge with economics. (pp. 593-594).

Expectation of Benefit

Students with high expectation of benefit from the programme than students with low expectation of benefit, regardless of the orientation, thus agreeing with earlier findings (Gruenfield, 1966; Heetderks, 1966). Heetderks also found that orientation affected students' expectations toward counselling services. The greatest effects occurred in the area of personal problems rather than vocational ones. For the present investigation, the orientation before the study skills programme did not significantly affect expectation of benefit, as indicated by the lack of significant interaction effects of orientation and expectation of benefit on satisfaction ratings and on improvement in study skills. Heetderks' findings partially explain the absence of the interaction effects. The study skills programme was a vocational one, and involved large classes viewing impersonal videotaped lectures, as opposed to face-to-face counselling for personal problems.

Achievement and Affiliation Motivation

Most of the interaction effects between orientation and motivation, or between achievement and affiliation motivation, were not significant. Orientation interacted with achievement motivation to affect improvement in study skills, but had opposite results for men and women. The women with high achievement motivation in the orientation groups improved more on study skills than women with low achievement motivation in the same groups, as predicted from previous investigations in related areas (Atkinson & O'Connor, 1966; Atkinson & Raynor, 1974; Clarke, 1972, 1976; Heilbrun, 1962). Orientation had a depressing effect on improvement in study skills for men with high achievement motivation. There are various reasons why

the hypotheses were not supported. From Atkinson's theory, some of the conditions for the interaction effect of achievement and affiliation motivation were absent in the investigation: the students' option of taking notes on the videotaped lectures may not be considered a task which required rapid discrimination among competing response tendencies; there was no immediate presence of an examiner; and, the optional programme may not have exerted equivalent pressures on students to attend as compared to formal lectures which were examined for final grades. With concomitant achievement and affiliation cues thus absent except for the orientation, the effects on attendance and on study skills improvement did not reach acceptable levels of significance.

Further, another investigation could examine a possible sex bias effect (Orne, 1962; Rosenthal, 1963); that the sex of the experimenter in interaction with the sex of the subjects affects the outcome of results. The present investigation found some trends which point to the need for such an investigation: (1) women, but not men, with high achievement motivation attended more sessions than women with low achievement motivation; (2) women with high affiliation motivation receiving orientation attended more sessions than women with high affiliation motivation but not receiving orientation; (3) men with high achievement motivation and high affiliation motivation improved more on study skills than men with high achievement motivation and low affiliation motivation. Women may have reacted favourably to the social interaction with the male experimenter, while the men reacted differently. With the decreased emphasis on achievement and affiliation cues over the whole programme, the Yerkes-Dodson (1908) law which predicts that subjects with too high motivation have a decrement in performance did not strongly apply: the men with both high achievement and high affiliation motivation found conditions optimal for their improvement in study skills. However, when men with high achievement motivation received orientation, the emphasis on affiliation cues as well as achievement cues may have elicited an uncooperative reaction from them. Of all possible groupings, men in the orientation groups with

high achievement motivation and low affiliation motivation obtained the lowest improvement score.

Conclusions

The need hierarchy orientation, generated from concepts in the literature and applied specifically to a study skills programme, has received some support. Only some of the variables in persistence, performance, and satisfaction with a study skills programme have been probed. Variables such as demand characteristics and the intensity, duration, and kind of orientation need to be explored.

Unlike laboratory experiments (Atkinson & Raynor, 1974; Clarke, 1972) where the interaction effects were found, the experiment in the present investigation had to deal with many unknown and uncontrolled variables. Perhaps the greatest difficulty in examining the independent variables lies in the constant attempts to achieve rigorous experimental control in an applied situation. Some students from the control groups inquired why they did not receive the orientation treatment. The conflict between preciseness and meaningful service constantly arises.

In future applied research of study skills or other psychological services programmes of self-improvement, students could be given the choice of participating in the experiment. Those that opt to participate would be randomly assigned to experimental and control groups. The non-participants would have the choice of groups in which to partake of the programme, and could be used as another control, if they consented to have some measures taken of them. The approach suggested by Kelman (1967), in which a subject's positive motivation to co-operate in the experiment would be elicited to actively take an assigned role, could be tried to minimise ethical problems. In the present experiment, subjects could have been told that some groups would receive an introduction to the programme. Rigorousness may be sacrificed, but in agreement with Maslow, Argyris, and Sommer, personal consideration leads to more effective self-improvement by one's own criteria.

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