THE EFFECTS OF SUBDIMENSIONS OF SAFETY AND ESTEEM NEEDS ON ROLE DIFFERENTIATION IN SMALL GROUPS

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
JOHN PRESTON WILSON
1971

ABSTRACT

THE EFFECTS OF SUBDIMENSIONS
OF SAFETY AND ESTEEM NEEDS
ON ROLE DIFFERENTIATION IN SMALL GROUPS

By

John Preston Wilson

The present research investigated the effects of subdimensions of safety and esteem needs on role differentiation in mixed-sex small groups. Using a Sentence Completion Test, 72 undergraduates were selected: 24 high safety (and low esteem) females; 12 high safety (and low esteem) males; 24 high esteem (and low safety) females; and 12 high esteem (and low safety) males. The subdimensions were manifest anxiety, dominance, dependency and motive-related values which were measured respectively by the Ma, Do and Dy subscales of the MMPI and the Rokeach Value survey. The subjects were constituted into 24 groups, 12 safety-oriented and 12 esteem-oriented, each containing 2 females and 1 male. All groups were given a standardized set of tasks, and members' task-oriented behaviors were coded using Borgatta's IPS coding system.

The first aspect of the study was concerned with assessing the differences between safety- and esteem-oriented groups on the various motive subdimensions. As predicted, safety-oriented subjects were significantly higher in manifest anxiety and dependency and lower in dominance than esteem-oriented subjects. Furthermore, it was also found as predicted that the basic motivational orientations were reflected in the terminal and instrumental values of the subjects. Ranked higher by esteem-oriented subjects were the values of A Sense of Accomplishment, Imaginative, An Exciting Life and Ambitious. On the other hand, safety-oriented subjects ranked Loving, True Friendship and Pleasure higher than did esteem-oriented subjects.

A second part of the study attempted to ascertain the effects of the motive subdimensions on leadership behavior. The data indicated that manifest anxiety and dependency were positively correlated with leadership behavior for safety-oriented males. Moreover, safety-oriented leaders were found to be significantly higher in manifest anxiety and dependency than the other group members. The implications of these results were discussed and it was concluded that cultural sex-role expectations interact with the motive constellation in determining leadership behavior in safety-oriented groups. However, no significant correlations were found between the motive subdimensions and leadership behavior in esteem-oriented groups.

Moreover, no significant differences were found between the leaders and the other group members on manifest anxiety, dominance and dependency. It was suggested that role differentiation within esteem-oriented groups is not related to sex-role expectations. Instead it would appear that the personal attributes of demonstrated competency and effectiveness with the task are more salient criteria related to the distribution of leadership acts in esteem-oriented groups.

The third portion of the study explored the effects of motivation and leadership on values. In safety-oriented groups, subjects with the greatest leadership scores ranked the value Pleasure significantly higher and the value Polite significantly lower than the other group members. In esteem-oriented groups, on the other hand, subjects with the greatest leadership scores ranked the value Self-Respect significantly higher and the value Equality significantly lower than the other group members. The analysis of these results suggested that the respective rankings of the values in each motivational orientation provided an index of the intensity to obtain need relevant gratification.

Approved by Thesis Committee:

Dr. Joel Aronoff, Chairman _____

Dr. Lawrence Messé _____

Dr. Andrew Barclay _____

Date: _____

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John Preston Wilson

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Psychology

1971

To Dr. S. L. Whiteman,

inspirational teacher and personal friend,

who kindled my interest in psychology.

ACKNOWLEDGMENTS

There are many people to whom I wish to express my appreciation for assistance with various aspects of the thesis. First, I wish to thank Joel Aronoff for many enjoyable hours of theoretical discussion and for his enthusiasm and support throughout the work. Much gratitude extends to Larry Messé for unbounded help with the quantitative analysis and excellent critiques of the various revisions made. Next, I would like to thank Andrew Barclay for thoroughly reading the thesis. Thanks are also due to Terry Furman, Ken Economy, and Al Hartman for assistance in organizing and analyzing the data during the early phases of the study. Finally, I would like to thank my father-in-law, Mr. Charles A. Pistone, for giving generously of his time and effort to print the thesis.

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CHAPTER I

INTRODUCTION

The influence of personality upon small group structure has received relatively little attention in recent years. As Carter (1951) pointed out, the variables affecting behavior in small groups are of three types: personality, situational and group characteristics, with the latter two receiving the most attention in research. In his comprehensive review of the literature, Mann (1959) found that most correlations between single personality variables and performance in small groups have been low and often insignificant. In a review of small group research, McGrath and Altman (1966) note that in only 16 of 250 studies were personality factors of any significant concern. However, despite the somewhat disappointing research with personality characteristics in the past, a number of studies have shown that personality does have a significant influence upon group structure when the personality variables are clearly conceptualized and the outcome measures precisely defined.

Several studies specifically demonstrate the effect of personality upon group structure and the process of role differentiation. Carter, Haythorn, Shriver and Lanzetta (1950) found that the leaders of emergent groups tended to be somewhat authoritarian and established leadership positions by supporting their own task-relevant proposals more forcefully than other potential leaders. Haythorn, Couch, Haefner, Langham and Carter (1956), studying authoritarian and equalitarian leadership styles, found highly authoritarian (high F) leaders to be less concerned with group approval, more autocratic, and less sensitive to other group members than the less authoritarian leaders (low F). Further, Haythorn et al. noted that high F followers, as opposed to low F followers, were more satisfied with the autocratic leader.

Amidjaja and Vinacke (1965), in a study of female triads, found that those high in nurturance played less active and recipient roles in the group. In a similar study, Mussen and Porter (1959) found that subjects who were rated as effective group leaders scored higher in need for affiliation and achievement and lower on aggression on the TAT than the other group members, as well as having stronger feelings of adequacy and fewer negative self-concepts.

Recently, there have been several studies demonstrating the role of personality factors on the development of different types of

social structures. In two naturalistic studies, Aronoff (1967, 1970) found that different motivational levels can affect the nature of emergent social structures. Using Maslow's (1970) hierarchical conceptualization of motivation, he found that persons high on safety needs typically worked in groups with authoritarian leadership and hierarchically arranged social structures. However, persons high on esteem needs tended to have democratically shared leadership, and equalitarian rather than hierarchical social structures. Moreover, in a follow-up study, Aronoff (1970) found that when esteem-motivated persons entered a hierarchical social structure, it tended to change toward an equalitarian one.

Similar results were found in two experimental studies by Tuckman (1964, 1967), who investigated the relationship between the level of cognitive complexity, as described by Harvey, Hunt and Schroeder (1961), and emergent social structure. In the first study, 12 three-man groups were composed of individuals at each of the four nodal points of cognitive complexity. Stage 1 individuals (highly concrete) established hierarchical social structures and were formal and authoritarian interpersonally. Stage 4 individuals (highly abstract) developed equalitarian social structures and were characterized by open, informal supportive relationships. The intermediate group (stages 2 and 3) also structured and functioned in the predicted

direction. Tuckman concluded that the degree of social structure (hierarchical-equalitarian) was inversely related to the level of cognitive complexity.

In the second study, Tuckman (1967) studied 12 three-man groups in which half of the groups contained more abstract members than concrete, while the remaining groups had the opposite composition. The groups were given two tasks, one demanding more structure than the other for best performance. It was found that in the task demanding the less structure, groups composed primarily of abstract persons outperformed groups composed primarily of concrete persons. There were no significant differences on the task requiring greater structuring. Tuckman concluded from his research that the nature of group composition interacts with the task demand in determining performance.

In a more recent study, Aronoff and Messé (1971) further refined the nature of personality influence upon social structure. Operationalizing social structure in small groups as the distribution of task-oriented communicative acts, Aronoff and Messé found that five-man groups, homogeneous with respect to either safety or esteem needs, developed different social structures. In safety-oriented groups task-oriented behaviors were concentrated in fewer members than in esteem-oriented groups. The results indicated

that small homogeneous groups tend to organize themselves in ways that are most gratifying to their members.

From the studies discussed above, it is clear that personality does significantly influence various aspects of group functioning, especially the nature of the emergent social structure. The present study sought to investigate the influence of specific subdimensions of the motive constellations described as safety and esteem by Maslow (1970) on the distribution of task-oriented communicative acts in mixed-sex small groups. The motive subdimensions were anxiety, dominance, dependency and motive-related values

The research of Aronoff (1967, 1970) and Aronoff and Messé (1971) suggested that motivational determinants affect the type of emergent social structure and the distribution of leadership acts. The data from these studies indicated that groups that are primarily safety-oriented tended to be hierarchical while groups primarily esteem-oriented were equalitarian in social structure.

The question arises, however, as to what motivational characteristics influence the assumption of specific roles in the two groups. Why does one person seem to emerge as the group leader in safety-oriented groups while several persons seem to share the leadership function in esteem-oriented groups?

Some insight may be found into the motivational dynamics of safety- and esteem-oriented persons by considering them in

broader perspective. The constellations form two distinctly different sets of motivations and behavioral consequences. Safety-oriented individuals are characterized by concern with uncertainty as to their ability to cope with social relationships, tasks of competency and mastery, and general mistrust and anxiety. As Maslow states:

> If the physiological needs are relatively well gratified, there then emerges a new set of needs, which we may categorize roughly as the safety needs (security; stability; dependency; protection; freedom from fear, from anxiety and chaos; need for structure, order, law, limits; strength in the protector; and so on). (1970, p. 39)

On the other hand, esteem-oriented individuals are characterized by strong concern to demonstrate competency, both interpersonally and in terms of achievements. Typically, these needs are expressed in desire for mastery, prestige, achievement, dominance and personal recognition. Maslow writes:

> All people in our society (with a few pathological exceptions) have a desire for a stable, firmly based, usually high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others. These needs may therefore be classified into two subsidiary sets. There are, first, the desire for strength, for achievement, for adequacy, for mastery, and competence, for confidence in the face of the world, and for independence and freedom. Second, we have what we may call the desire for reputation or prestige (defining it as respect or esteem from other people), status, fame and glory, dominance, recognition, attention, importance, dignity, or appreciation. (1970, p. 45)

It may be seen, then, that within the framework of the two motivational constellations there exists a range of related motivational

characteristics that define the general class of motives. Clearly it is possible for the safety-oriented person to be more concerned with anxiety than dependency, anger and personal inadequacy rather than anxiety, mistrust more than inadequacy and so on. Similarly, the esteem-oriented person may be more prepotently motivated for respect from others than for independence, for personal competency more than for status, for dominance more than for equality and so on. Thus, within each motive constellation there exists an interrelated subset of personality dimensions that affect the direction of behavior in obtaining gratification. In other words, although the motive class clearly distinguishes easily recognizable differences in behavior, the specific motivational differences within the constellations may vary.

It is interesting to note that while there has been previous research with such personality variables as anxiety, dominance and so forth, few have ever been studied in the context of a more encompassing aspect of personality. Perhaps one explanation for the low correlations between personality and various performance measures in group situations has been the failure of the investigators to study a given set of personality dimensions as an integrated set of variables belonging to a larger motivational orientation, such as that suggested by Maslow (1970). Clearly, if the nature of the interrelationships

among the variables composing the motive constellations is understood, unambiguous predictions can then be made regarding behavior under different conditions. Certainly the work of Tuckman (1964, 1967) and Aronoff and Messé (1971) point to the predictive strength of such a theoretical approach, especially when comparing differences in social structure and interaction patterns for groups that are homogeneous for a motive constellation.

Given this heuristic utility and predictive value, it is now possible to study more precisely the specific determinants within a motive constellation for different role behaviors in small groups. The logical step investigated in this study was to examine specific dimensions of safety- and esteem-motivation to ascertain their effects upon the leadership function in small groups.

Anxiety, dominance and dependency were in three subdimensions of the motive constellations studied as to their effects upon leadership behavior. Anxiety and dependency are characteristic of safety motivation while dominance is more indicative of esteem motivation.[1]

The highly anxious person is typically characterized by feelings of inadequacy, uncertainty as to his ability to cope with

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[1]It might be asked why only three subdimensions were studied, two subdimensions of safety and one of esteem. At the time of the experiment a student strike was in progress on the campus and the available time for testing was severely limited.

stressful situations, mistrust and doubt. Further, the highly anxious person is often highly dependent upon others for support and uses them for anxiety reduction (Schacter, 1959). On the other hand, the highly dependent person is more passive in his relationships with others. While also highly anxious, uncertain and mistrustful, the highly dependent person establishes dependency relationships as a means of gratifying a need for security. Although he may or may not be as anxious as others, the salient dimension of this safety need is the consistency with which dependent relationships are formed as a means of interacting with others and gratifying safety needs.

Dominance is a motivational dimension most often found in the esteem constellation, but not exclusively so. The highly dominant person is assertive, and persistent in support of his belief in a given situation. As Gough (1951) notes, dominance is distinctly different from domineering, the latter denoting a quality of derisiveness as a compensation for personal inadequacy. Rather, the highly dominant person is characterized by a sense of competency and ability to cope with personal and social situations.

The Effects of Anxiety on Group Performance

A number of previous studies have been concerned with the effects of such variables as anxiety and dominance upon performance

in small groups. A review of some of the relevant studies is appropriate here. In a summary of the literature, Shaw (1971) points out that the results of various studies of anxiety and performance in small groups are generally consistent. The anxious individual is highly uncertain of his role in the group and consequently is ineffectual in interpersonal relationships. Typically, he conforms readily to group norms and is unusually dependent upon the group for support in decision making.

It is important, however, to distinguish between the two types of anxiety studied most frequently in the literature: test anxiety and manifest anxiety. Alpert and Haber (1960) found that test anxiety, usually measured by the Test Anxiety Questionnaire (TAQ), Mandler and Sarason (1952), and general anxiety, usually measured by the Manifest Anxiety Scale (MAS), Taylor (1953), clearly measure two different things. Test anxiety is specifically related to concern about academic achievement or intellectual performance. Sarason (1960) provides an excellent review of the literature on test anxiety. The present study, however, was concerned with manifest anxiety as a specific dimension of safety needs.

While it appears that text anxiety is related to the avoidance of failure, manifest anxiety seems to express general emotional responsiveness and chronic anxiety (Eriksen, 1955; Cervin, 1956).

Developed from Hullian theory, the manifest anxiety scale was designed to measure differences in the total effective drive state of an individual. As Taylor notes:

> The use of the MAS to select groups that are postulated to differ in drive level in an experimental situation has rested on the assumption that scores on the scale are in some manner related to emotional responsiveness, which, in turn, contributes to drive level. (1956, p. 306)

Further, there are many studies correlating manifest anxiety with other MMPI scales. In general, it may be said that highly anxious individuals tend to have low self-esteem, are hysterically inclined, highly dependent, passive, and highly mistrustful (Brackbill and Little, 1954; Siegeman, 1956; Bendig, 1957; Cowen, Axelrod and Alexander, 1957; Kassebaum, Couch and Slater, 1959).

Several studies have investigated the effects of manifest anxiety upon performance in small groups. Mangan, Quarterman and Vaughn (1960) found high anxious subjects to be suspicious, hostile and less conforming than low anxious subjects in an Asch-type perceptual experiment.

Smith (1964) compared high and low anxious authoritarian groups (high F) with high and low anxious non-authoritarian groups (low F). She found that high anxious authoritarians were influenced by majority opinion to a greater degree than were non-anxious authoritarians. She also found that authoritarian groups conformed

in an Asch-type experiment more than did non-authoritarian groups. Further, highly anxious authoritarians demonstrated more minority group prejudice than non-authoritarian control groups.

Siegel (1954) found that individuals with high and low F scale scores were significantly different on manifest anxiety as measured by Taylor's scale. High anxiety was positively related to high authoritarian scores as well as intolerance of ambiguity. In a similar finding, Rokeach (1960) and Fillenbaum and Jackman (1964) both reported that dogmatism and anxiety are positively correlated and concluded that they are factorially similar.

Weller (1963) found that highly anxious subjects tended to reject those group members who did not conform to the group norm. Similar to the findings of Schacter (1959), he also found that simply being with others reduced anxiety more for high anxious subjects than low anxious subjects.

Armilla (1964), in a study of Peace Corps trainees, found that individuals rated as leaders by peers were significantly higher in anxiety than the peers themselves. Armilla concluded that taking the role of the leader involved more exposure to threat and anxiety than did a non-leadership role.

From the studies discussed above, it is clear that a consistent pattern does emerge for the effect of anxiety upon performance

in groups. Anxious persons tend to be mistrustful, conforming, suspicious, low in dominance and highly dependent upon other group members. This is congruent with the finding of Kassebaum, Couch and Slater (1959), who found high anxiety correlated positively with dependency, impulsivity, and femininity while being negatively correlated with status, tolerance for ambiguity, originality, achievement, responsibility, independence and role-playing ability.

The Effects of Dominance on Group Performance

The influence of dominance upon leadership behavior has also been widely studied. Stogdill (1948), in an excellent review of the literature, noted that leaders were typically rated more dominant than other group members. Carter et al. (1950) found that leaders of emergent groups more strongly supported their own proposals in competition with other group members. Gough (1951), in the development of the dominance scale from MMPI items and later adapted to the CPI, found that high dominance differentiates leaders from non-leaders in high school activities. In a later study, Carter (1954) factored out individual assertiveness as related to the leadership function in small groups.

Mann (1959), in his inclusive review of the literature, noted that dominance was positively related to the total number of task

contributions and leadership, while being negatively related to conformity. Borg (1960), in a study predicting small group role behaviors from personality factors, found assertiveness positively correlated with popularity, creativity, and overall leadership while being negatively related to followership roles. In a similar finding, McDavid and Sistrunk (1964) found conformity negatively correlated with dominance. Nonconformers were characteristically more persistent in completing the task as well as more concerned with obtaining respect from the other group members.

Smelser (1961) studied the relationship of personality and roles. Selecting subjects on the basis of dominance as measured by Gough's CPI scale, the subjects were paired with others who were either similar or dissimilar to themselves on dominance. The subjects were then assigned roles (dominant or submissive) that were either compatible or incompatible with their personality. The results indicated that dominant-submissive congruent roles were the most effective in performing a task. Smelser's finding is an interesting one in that it clearly suggests the importance of motive influence upon effective performance in a group situation.

In a similar study, Altman and Haythorn (1967b) expected that heterogeneous need-dominance dyads would perform significantly better than homogeneous ones due to the competitiveness in the latter.

Contrary to prediction, Altman and Haythorn found that homogeneous need-dominance dyads performed better than the heterogeneous ones.

It is interesting to note that there is a consistent trend that dominance, assertiveness, and the like, are all positively related to leadership performance. Kassebaum, Couch and Slater (1959) have found that dominance is highly correlated with ego strength, role playing ability, originality, achievement, independence and tolerance for ambiguity. Yet, as Mann (1959) pointed out, the correlations between dominance and performance criteria have been low. Further, the literature contains contradictory findings in similar studies with the same variable. It is probably for these reasons that many investigators have given up the study of the personality determinants of leadership behavior. However, when it is noted that investigators did not know the relationship of dominance or any other personality variable within the context of a general motivational constellation, it then becomes easy to see why such attempts failed. It was therefore the purpose of this research to investigate the relation of specific subdimensions of safety and esteem needs to role differentiation in mixed-sex small groups.

The research used a systematic scoring schema for the definition of task-oriented acts, first provided by Bales (1951) and later modified by Borgatta (1962). Two types of three-person groups

were formed, one composed entirely of safety-oriented persons and the other composed entirely of esteem-oriented persons. Every group contained one male and two female members.[2]

Borgatta's (1962) Interaction Process Scores (IPS) was used to classify task-oriented leadership and activity within a group. The IPS[3] categories scored for leadership behavior were (6) procedural suggestion, (12) draws attention, (8) gives opinion, (11) gives orientation, and (13) asks for opinion. The remaining IPS task-oriented category, (7) suggests solution, was not expected to reflect differences in role differentiation, since past research (Aronoff and Messé, 1971) has indicated that suggesting of a solution is a followership act as well as a leadership act. It was expected that the assignment of the leadership role would be manifested in the differential frequency with which members emitted these acts.

Hypotheses

The hypotheses for the study are as follows:

1. Safety- and esteem-oriented persons can be clearly differentiated on the dimensions of manifest anxiety,

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[2]It might be asked why the groups were constituted with two females and one male. The reason is that the present research was part of a larger cooperative effort studying motivational influences upon small group structure. (See Messé, Aronoff and Wilson, 1971.)

[3]The IPS categories are those characterized by Borgatta (1962).

dominance and dependency as measured by the Ma, Do, and Dy subscales of the MMPI.

a. Safety-oriented persons will score significantly higher on manifest anxiety and dependency and lower on dominance than esteem-oriented persons.

2. The motive subdimensions of manifest anxiety, dominance and dependency will be related to leadership behavior within safety- and esteem-oriented groups.

a. Manifest anxiety will be positively related to leadership behavior in safety-oriented groups and negatively related in esteem-oriented groups.

b. Dominance will be positively related to leadership behavior in both safety- and esteem-oriented groups.

c. Dependency will be positively related to leadership behavior in safety-oriented groups and negatively related in esteem-oriented groups.

3. The terminal and instrumental values of the subjects, as measured by the Rokeach Value Survey, will be positively related to the prepotent motivational orientation.

a. There will be significant differences in the ranking of the terminal and instrumental values for subjects with the greatest leadership proportion.

CHAPTER II

METHOD

Selection of Subjects

Male and female subjects were recruited through an advertisement in the university newspaper, The State News, soliciting for undergraduates interested in earning money by participating in motivational research. The advertisement presented a number of times and places where pre-employment interviews were to be held. In response, approximately 850 undergraduate students appeared for an interview.

The interview, which lasted for about one hour, consisted of a 60-item sentence completion test (SCT) which assesses the degree to which persons are concerned with safety- or esteem-needs. Previous research has shown the SCT to distinguish reliably between safety- and esteem-oriented individuals (Aronoff, 1967, 1970; Aronoff and Messé, 1971). Three trained coders scored the responses to the SCT by recording each time a person expressed concern for safety or esteem needs and a person's total scores on each dimension

across the 60 items were used as indices of level of motivation. Two coders scored each SCT and each coder was paired with the others approximately equal number of times. The interjudge reliabilities (as measured by product-moment correlation coefficients) for the three coder pairs ranged from .66 to .85, with means of .78 and .73 for safety and esteem scores, respectively.

Subjects were selected by the criteria that they were in the upper fifteenth percentile for one motive and the lower fifteenth percentile for the other motive, as scored by both coders. In all, 72 persons participated in the study: 24 high safety (and low esteem) females; 12 high safety (and low esteem) males; 24 high esteem (and low safety) females; and 12 high esteem (and low safety) males.

Design

Subjects were run in three-person groups composed of two females and one male, all members being homogeneous for either safety or esteem needs. There were 12 groups of each type and the subjects were paid $2.50 for each hour of participation in the experiment.

Setting and Tasks

The experiment was conducted in an observation room which permitted video-taping of the entire group session. When the

subjects arrived for the experiment, they were greeted by an experimental assistant who did not know their motivational orientation. The subjects were then taken on a tour of the television control room and shown the remote control cameras, monitoring screen and other technical apparatus used in the experiment. Questions about the technical equipment and its functioning were answered, but no verbal directions or discussion of the experiment itself were given. The subjects were then informed that all the necessary directions were described on an instruction sheet in the "work" room. They were then brought to that room and told that the experiment would last approximately two hours. The subjects were seated at a small, rectangular table. The table was located in the middle of a carpeted and comfortably appointed room that was well lighted and pleasant to be in. Three chairs were arranged around the table so that one person (in seat B) always faced the wall, located approximately 8 feet away, that contained the observation window through which the remote-controlled cameras televised the room. The remaining subjects sat (in seats A and C) to the right and left of the person in seat B, facing each other with their profiles to the camera. All necessary materials were located on a small, round side table located equidistant from seats A and C directly below the observation window.

As the subjects entered the "work" room, the experimental assistant assigned each a seat. The experimenter pointed out the instruction sheet, which had been placed face down in the middle of the rectangular table, indicated the presence of a back-up tape recorder and informed the subjects of his return at the end of the experiment before leaving the room.

The instruction sheet gave the directions for the experiment and read as follows:

> In this study we are trying to find out what group structures best allow executives to produce creative solutions to the problems which confront them. To do this, we are asking you to work at several jobs for the next two hours. Below is an outline of the tasks we would like you to do. You will find all the necessary materials at the side table against the wall.
>
> 1. The first job we would like you to do is to design and sketch out a living-learning dormitory, using the paper pads, and colored pencils on the side table.
>
>   a. Before you begin work as a group, take a pad and spend about 10 minutes working out preliminary designs individually.
>
>   b. Together decide on a design and then sketch it out, using a large sheet of paper from the side table. Plan to spend about 40 minutes deciding on and sketching out this group design.
>
>   c. We would like to have a general record of what is happening, so we would like to have notes taken throughout the session.
>
> 2. You will notice coffee and cookies in the corner. After finishing the sketch, feel free to help yourself to these and relax for about a 10 minute coffee break.

3. Plan and sketch out a community in much the same manner as you did the living-learning dormitory. That is, spend about 10 minutes working alone, and then get together for the group's effort. Again, notes should be taken. Take the remainder of the period for this task.

Coding and Analysis

These procedures permitted the observation of the social interaction of the 24 groups in a variety of conditions: independent work, group discussion and planning, gross physical activity and social as well as task-oriented behavior. In effect the instructions asked subjects to work through a sequence of eight different tasks: (a) work on individual plans for a living-learning dormitory; (b) discuss individual plans; (c) drawing a group plan for a living-learning dormitory; (d) coffee break; (e) work on individual plans for a community; (f) discuss individual plans; and (g) drawing a group plan for a community. Each of the different tasks required different frequencies of behavior.

Five coders, unaware of the nature of the study, were trained in the use of Interaction Process Scores (IPS) (Borgatta and Crowther, 1965). They were instructed to use the video tapes made of each group and observe the behavior of the subjects during the eight tasks.

Two coders scored every group using six interaction categories of behavioral acts: (6) procedural suggestion, (7) suggests

solution, (8) gives opinion, (11) gives orientation, (12) draws attention, and (13) asks for opinion. Each coder was paired with all others at least once, and each coded equal numbers of safety- and esteem-oriented groups. The interjudge reliability for the coder pairs ranged from .72 to .99, with a mean of .92.

Personality Testing and Design

Approximately one week after the group experiment, the subjects were given a battery of personality tests which included: (a) the Rokeach Value Survey (Rokeach, 1968); (b) the Manifest Anxiety Scale (Taylor, 1953), Dominance (Gough, 1951) and Dependency (Navran, 1954) subscales from the MMPI. Standard instructions were given as specified by each test, and the testing session lasted for one hour.

Subjects' scores on each of the MMPI subscales, Ma, Do and Dy, were rank ordered from lowest to highest, irrespective of motivational orientation. They were then classified as high if they were above the 80th percentile, low if they were below the 20th percentile, or medium if they were in between the 20th and 80th percentiles on each of the three subscales. Similarly, subjects were rank ordered within each group based on the distribution of leadership acts. The subject with the greatest leadership proportion in his

group ranked "highest," the person with the next greatest proportion ranked "medium," and the person with the least proportion ranked "low." This procedure then provided for a 2 (motivational orientation: safety or esteem) × 3 (leadership acts: high, medium or low) analysis of variance design for each of the personality variables. Further, the same design was also employed to ascertain the effects of motivational orientation and leadership on the terminal and instrumental values of the subjects.

CHAPTER III

RESULTS

The results are organized into five sections. The first section contains the results of t-tests comparing safety- and esteem-oriented groups on manifest anxiety, dominance and dependency. Following next are the intercorrelations of manifest anxiety, dominance and dependency. The third section reports the correlations between manifest anxiety, dominance, dependency and leadership behavior. The fourth section contains the results of the analyses of variance which examine the effects of subdimensions manifest anxiety, dominance and dependency on motivational orientation and leadership. The last section contains similar analyses of variance for the effects of motivation and leadership on values.

Mean Scores for Manifest Anxiety, Dominance and Dependency

Tables 1, 2 and 3 present the mean scores for safety- and esteem-oriented groups on manifest anxiety, dominance and dependency. As predicted from hypothesis 1a, safety-oriented

subjects scored significantly higher on manifest anxiety and dependency and lower on dominance than did esteem-oriented subjects.[1]

Table 1

Mean Manifest Anxiety, Dominance and Dependency Scores for Safety- and Esteem-Oriented Groups

MMPI Subscale	Group Means		
	Safety-Oriented	Esteem-Oriented	t
Manifest Anxiety	22.83	16.80	3.23*
Dominance	16.11	18.94	4.04**
Dependency	29.22	19.58	4.80**

* $p < .005$
** $p < .0005$

Table 2 indicates the mean score for males within safety- and esteem-oriented groups on manifest anxiety, dominance and dependency. As predicted from hypothesis 1a, safety-oriented males scored significantly higher on manifest anxiety and dependency and lower on dominance than did esteem-oriented males.

Table 3 presents the mean scores for females within safety- and esteem-oriented groups on manifest anxiety, dominance

[1]All reported t-values are two-tailed tests.

Table 2

Mean Manifest Anxiety, Dominance and Dependency Scores for Safety- and Esteem-Oriented Males

MMPI Subscale	Group Means		
	Safety-Oriented	Esteem-Oriented	t
Manifest Anxiety	24.08	15.25	2.64**
Dominance	16.33	19.50	2.10*
Dependency	30.50	17.66	2.59**

* $p < .025$
** $p < .01$

Table 3

Mean Manifest Anxiety, Dominance and Dependency Scores for Safety- and Esteem-Oriented Females

MMPI Subscale	Group Means		
	Safety-Oriented	Esteem-Oriented	t
Manifest Anxiety	22.21	17.58	2.09*
Dominance	16.00	18.67	2.81**
Dependency	28.58	20.54	4.76***

* $p < .025$
** $p < .005$
*** $p < .0005$

and dependency. As predicted from hypothesis 1a, safety-oriented females scored significantly higher on manifest anxiety and dependency and lower on dominance than did esteem-oriented females.

To test for possible within-group sex differences on manifest anxiety, dominance and dependency, further t-tests were calculated. Table 4 summarized the t-values for each personality variable and indicates that no significant differences were found between males and females within either safety- or esteem-oriented groups.

Table 4

t-Values for Comparison of Males and Females within Safety- and Esteem-Oriented Groups on Manifest Anxiety, Dominance and Dependency

MMPI Subscale	Motivational Orientation	
	Safety	Esteem
Manifest Anxiety	.42	1.07
Dominance	.27	.69
Dependency	.31	1.00

Intercorrelations of Scores on Manifest Anxiety, Dominance and Dependency within Safety- and Esteem-Oriented Groups

Table 5 summarizes the intercorrelations of scores on manifest anxiety, dominance and dependency for males within safety- and esteem-oriented groups. Inspection of Table 5 reveals that for safety-oriented males manifest anxiety was negatively correlated with dominance and positively correlated with dependency. Further inspection of Table 5 indicates that for esteem-oriented males manifest anxiety was negatively correlated with domiance and positively correlated with dependency. Moreover, dominance was negatively correlated with dependency.

Table 5

Intercorrelations of Scores on Manifest Anxiety (Ma), Dominance (Do), and Dependency (Dy) for Males within Safety- and Esteem-Oriented Groups

MMPI Subscale	Safety-Oriented			Esteem-Oriented		
	Ma	Do	Dy	Ma	Do	Dy
Ma	--	-.52*	.89**	--	-.51*	.69**
Do		--	-.37		--	-.65**
Dy			--			--

* $p < .05$
** $p < .005$

Table 6 summarizes the intercorrelations of scores on manifest anxiety, dominance and dependency for females within safety- and esteem-oriented groups. Examination of Table 6 reveals that for both safety- and esteem-oriented females manifest anxiety was positively correlated with dependency.

Table 6

Intercorrelations of Scores on Manifest Anxiety (Ma), Dominance (Do), and Dependency (Dy) for Females with Safety- and Esteem-Oriented Groups

MMPI Subscale	Safety-Oriented			Esteem-Oriented		
	Ma	Do	Dy	Ma	Do	Dy
Ma	--	-.12	.84*	--	-.07	.62*
Do		--	-.15		--	-.11
Dy			--			--

* $p < .005$

Correlations of Manifest Anxiety, Dominance and Dependency with Task-Oriented Leadership Acts

Pearson Product-Moment Correlations were employed to examine the degree of correlation between manifest anxiety, dominance, dependency and the composite mean proportion of

task-oriented leadership activity (hereafter referred to as LA). LA is an index of the overall leadership proportion contributed by an individual in the group. The index was derived by averaging the mean leadership proportion for each task in an IPS category, then summing the proportions across all task-oriented categories and obtaining the mean of them. This procedure yields the average proportion of task-oriented communicative acts contributed by a group member.

Table 7 presents the correlations of manifest anxiety, dominance, dependency and LA, for males within safety- and esteem-oriented groups.

Table 7

Pearson Product-Moment Correlations of the Mean Proportion of Task-Oriented Leadership Acts with Manifest Anxiety, Dominance and Dependency for Males within Safety- and Esteem-Oriented Groups

MMPI Subscale	Motivational Orientation	
	Safety	Esteem
Manifest Anxiety	.62*	.31
Dominance	-.36	.07
Dependency	.82**	-.20

* $p < .05$
** $p < .025$

Table 7 indicates that, as predicted in hypotheses 2a and 2c, the obtained correlations between manifest anxiety, dependency and LA were significant for safety-oriented males. There were no significant correlations between the personality variables and LA for esteem-oriented males.

Table 8 presents the correlations between manifest anxiety, dominance, dependency and LA for females with safety- and esteem-oriented groups. Inspection of Table 8 reveals that dominance was positively correlated with LA, as predicted from hypothesis 2b.

Table 8

Pearson Product-Moment Correlations of the Mean Proportion of Task-Oriented Leadership Acts with Manifest Anxiety, Dominance, and Dependency for Females within Safety- and Esteem-Oriented Groups

MMPI Subscale	Motivational Orientation	
	Safety	Esteem
Manifest Anxiety	-.03	-.08
Dominance	.38*	-.12
Dependency	-.10	-.13

* $\underline{p} < .10$

Analysis of Variance for Motivational Orientation and Leadership Behavior for Manifest Anxiety

Tables 9 and 10 summarize the results of 2 (motivational orientation: safety or esteem) × 3 (Leadership Acts: high, medium or low) repeated measures analysis of variance for manifest anxiety. The results for the separate IPS categories may be found in Appendix C.

Table 9 summarizes the results of the analysis of variance for manifest anxiety.

Table 9

Analysis of Variance of Motivational Orientation × Leadership Acts for Manifest Anxiety

Source	df	MS	F
Motivational Orientation (A)	1	654.0	13.91**
Subjects Within	22	46.86	
Leadership Acts (B)	2	41.00	.68
A × B	2	273.0	4.58*
B × Subjects Within	44	59.54	

* $p < .025$
** $p < .005$

The significant main effect for motivational orientation indicates that safety- and esteem-oriented groups are significantly different on manifest anxiety. Further inspection of Table 9 reveals a significant interaction between motivational orientation and leadership.

As predicted from hypothesis 2c, tests of simple effects (Winer, 1962) confirmed that there were significant differences in manifest anxiety for safety-oriented subjects high, medium or low in LA ($\underline{F} = 3.66$, $\underline{df} = 2, 44$; $\underline{p} < .05$). No significant differences were found in manifest anxiety for esteem-oriented subjects. Table 10 presents mean manifest anxiety scores for both safety- and esteem-oriented groups.

Table 10

Mean Manifest Anxiety Scores for Safety- and Esteem-Oriented Subjects with High, Medium, and Low Leadership Scores

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	26.67	18.25	23.58
Esteem	15.83	20.00	14.58

The Newman-Keuls statistic (Winer, 1962) for safety-oriented groups indicated that the mean manifest anxiety score for high LA

subjects was significantly higher ($p < .01$) than that for medium LA subjects. Further, the mean manifest anxiety score for low LA subjects was also significantly higher ($p < .05$) than that for medium LA subjects. However, no significant differences were found between the means of subjects with high and low LA.

Analysis of Variance for Motivational Orientation and Leadership Behavior for Dominance

The results of the analyses of variance for dominance were not significant and these were contrary to hypothesis 2b. Appendix C contains the results of the analyses for all IPS categories.

Analysis of Variance for Motivational Orientation and Leadership Behavior for Dependency

Tables 11 and 12 summarize the results of 2 (motivational orientation: safety or esteem) × 3 (Leadership Acts: high, medium or low) repeated measures analysis of variance for dependency. The results for the separate IPS categories may be found in Appendix C.

Table 11 summarizes the results of the analysis of variance and dependency. The significant main effect for motivational orientation indicates that safety- and esteem-oriented groups are significantly

different on dependency. Further inspection of Table 11 reveals a marginally significant interaction between motivational orientation and dependency.

Table 11

Analysis of Variance of Motivational Orientation × Leadership Acts for Dependency

Source	df	MS	F
Motivational Orientation (A)	1	1672.0	27.20**
Subjects Within	22	61.45	
Leadership Acts (B)	2	14.50	.30
A × B	2	180.50	2.86*
B × Subjects Within	44	75.75	

* $p < .10$
** $p < .0001$

As predicted from hypothesis 2c, tests of simple effects confirmed that there were marginally significant differences in LA scores for safety-oriented subjects high, medium and low in dependency ($F = 2.57$, $df = 2, 44$; $p < .10$). However, no significant effects were found in LA for esteem-oriented subjects. Table 12 presents mean LA scores for both safety- and esteem-oriented groups.

Table 12

Mean Dependency Scores for Safety- and Esteem-Oriented Subjects with High, Medium and Low Leadership Scores

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	32.75	24.83	30.08
Esteem	17.91	21.67	19.16

The Newman-Keuls statistic for safety-oriented groups revealed that the mean dependency score for high LA subjects was significantly higher ($p < .05$) than that for medium LA subjects. Further, the mean dependency score for low subjects was also significantly higher ($p < .05$) than that for medium LA subjects. However, no significant differences were found between the means of subjects with high and low LA.

Analysis of Variance for the Terminal and Instrumental Values of Safety- and Esteem-Oriented Subjects

Tables 13-29 summarize the results of 2 (motivational orientation: safety or esteem) × 3 (Leadership Acts: high, medium or low) analyses of variance for the terminal and instrumental values

that revealed significant effects. Appendix D contains the results that indicated no significant effects.

Analysis of Variance for
Motivational Orientation and
Leadership Behavior for
Terminal Values

Tables 13-23 summarize the results of the analyses of variance for the terminal values. As predicted from hypothesis 3, Table 13 indicates a significant difference between safety- and esteem-oriented groups on the mean ranking of the value A Sense of Accomplishment, which was ranked higher (6.63) by esteem-oriented groups than by safety-oriented groups (11.44).

Table 13

Analysis of Variance of Motivational Orientation × LA for the Value A Sense of Accomplishment

Source	df	MS	F
Motivational Orientation (A)	1	406.13	35.01*
Subjects Within	22	11.59	
Leadership Acts (B)	2	2.68	.17
A × B	2	.88	.05
B × Subjects Within	44	15.78	

* $p < .001$

Table 14 reveals a significant interaction between motivational orientation and LA for the value A World at Peace. The test of simple effects, however, showed no significant effects for differences in leadership in either safety- or esteem-oriented groups.

Table 14

Analysis of Variance of Motivational Orientation × LA for the Value A World at Peace

Source	df	MS	F
Motivational Orientation (A)	1	4.50	.17
Subjects Within	22	26.40	
Leadership Acts (B)	2	15.79	.82
A × B	2	76.04	3.96*
B × Subjects Within	44	19.20	

* $p < .05$

Table 15 summarizes the results for the value Equality. Inspecting Table 1 , it can be seen that there is a significant main effect for LA and a marginally significant interaction between motivational orientation and leadership. Tests of simple effects confirmed that there were significant differences in the ranking of Equality for esteem-oriented subjects with high, medium and low LA scores ($F = 7.35$, $df = 2, 44$; $p < .001$).

Table 15

Analysis of Variance of Motivational Orientation × LA for the Value Equality

Source	df	MS	F
Motivational Orientation (A)	1	2.00	.12
Subjects Within	22	17.29	
Leadership Acts (B)	2	101.72	4.50**
A × B	2	54.0	2.39*
B × Subjects Within	44	22.59	

* $p < .10$
** $p < .02$

Table 16 summarizes the mean rankings of Equality for safety- and esteem-oriented subjects with high, medium and low LA scores.

Table 16

Mean Rankings of Equality for Safety- and Esteem-Oriented Subjects with High, Medium and Low LA

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	10.33	7.75	6.08
Esteem	12.08	7.91	4.66

As predicted from hypothesis 3a, the Newman-Keuls statistic revealed that esteem-oriented subjects with high LA ranked Equality significantly lower ($p < .05$) than subjects with medium LA and significantly lower ($p < .01$) than subjects with low LA. Furthermore, subjects with medium LA also ranked Equality significantly lower ($p < .05$) than did subjects with low LA.

Table 17 summarizes the results for the value Pleasure and indicates that there was a significant main effect for motivational orientation, a significant effect for leadership, and a significant interaction effect between motivational orientation and leadership.

Table 17

Analysis of Variance of Motivational Orientation × LA for the Value Pleasure

Source	df	MS	F
Motivational Orientation (A)	1	180.5	19.47***
Subjects Within	22	9.27	
Leadership Acts (B)	2	22.10	3.54**
A × B	2	17.38	2.79*
B × Subjects Within	44	6.24	

* $p < .08$
** $p < .05$
*** $p < .0005$

As predicted from hypothesis 3, Table 17 indicates a significant difference between safety- and esteem-oriented groups on the mean ranking of Pleasure, which was ranked higher (11.97) by safety-oriented groups than by esteem-oriented groups (15.13).

As predicted from hypothesis 3a, tests of simple effects confirmed that there were significant differences on the ranking of Pleasure by safety-oriented subjects with high, medium and low LA ($F = 5.92$, $df = 2, 44$; $p < .001$), which are summarized in Table 18.

Table 18

Mean Rankings of Pleasure for Safety- and Esteem-Oriented Subjects with High, Medium and Low LA

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	10.25	11.91	13.75
Esteem	14.41	15.66	15.33

The Newman-Keuls statistic for the safety-oriented groups revealed that the mean ranking of Pleasure for subjects with high LA was significantly higher ($p < .05$) than that for subjects with medium LA or low LA ($p < .01$). Further, subjects with medium LA also ranked Pleasure significantly higher ($p < .05$) than subjects with low LA.

Table 19 reveals a significant interaction between motivational orientation and LA for the value Self-Respect.

Table 19

Analysis of Variance of Motivational Orientation × LA for the Value Self-Respect

Source	df	MS	F
Motivational Orientation (A)	1	20.05	1.35
Subjects Within	22	14.76	
Leadership Acts (B)	2	1.29	.10
A × B	2	50.09	3.82*
B × Subjects Within	44	13.10	

* $p < .05$

Table 20

Mean Rankings of Self-Respect for Safety- and Esteem-Oriented Subjects with High, Medium and Low LA

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	7.41	8.33	5.83
Esteem	5.50	4.91	8.00

As predicted from hypothesis 3a, tests of simple effects confirmed that there were marginally significant differences in the ranking of Self-Respect by esteem-oriented subjects with high, medium and low LA ($F = 2.44$, $df = 2, 44$; $p < .10$), which are summarized in Table 20.

The Newman-Keuls statistic revealed that the mean ranking of Self-Respect for esteem-oriented subjects with high and medium LA was significantly higher ($p < .05$) than that for subjects with low LA.

Table 21 indicates a significant difference on the mean ranking of the value Social Recognition. As predicted from hypothesis 3, esteem-oriented subjects ranked (12.77) Social Recognition significantly higher ($p < .02$) than did safety-oriented subjects (14.47).

Table 21

Analysis of Variance of Motivational Orientation × LA for the Value Social Recognition

Source	df	MS	F
Motivational Orientation (A)	1	51.68	6.83*
Subjects Within	22	7.57	
Leadership Acts (B)	2	27.13	1.86
A × B	2	17.68	1.21
B × Subjects Within	44	14.57	

* $p < .02$

Table 22 indicates a significant difference on the mean ranking of the value True Friendship for safety- and esteem-oriented groups. As predicted from hypothesis 3, the mean ranking (6.50) for safety-oriented groups was significantly higher than the mean ranking (8.16) of esteem-oriented groups.

Table 22

Analysis of Variance of Motivational Orientation × LA for the Value True Friendship

Source	df	MS	F
Motivational Orientation (A)	1	51.68	6.83*
Subjects Within	22	7.57	
Leadership Acts (B)	2	27.13	1.86
A × B	2	17.68	1.21
B × Subjects Within	44	14.57	

* $p < .05$

Table 23 summarizes the results for the value Wisdom and indicates a significant main effect for leadership. The Newman-Keuls statistic revealed that irrespective of motivational orientation, subjects with high LA ranked Wisdom (5.58) significantly higher than did subjects with low LA (8.50). However, no significant

difference in ranks was found between subjects with high and medium (7.41) LA.

Table 23

Analysis of Variance of Motivational Orientation × LA for the Value Wisdom

Source	df	MS	F
Motivational Orientation (A)	1	3.56	.19
Subjects Within	22	18.32	
Leadership Acts (B)	2	60.17	4.09*
A × B	2	15.72	1.07
B × Subjects Within	44	14.71	

* $p < .05$

Analysis of Variance for Motivational Orientation and Leadership Behavior for Instrumental Values

As predicted from hypothesis 3, Table 24 reveals a significant difference in the mean rankings of the value Ambitious for safety- and esteem-oriented groups. The mean ranking for esteem-oriented groups (8.97) was higher than that for safety-oriented groups (13.02).

Table 24

Analysis of Variance of Motivational Orientation × LA for the Value Ambitious

Source	df	MS	F
Motivational Orientation (A)	1	296.05	16.59*
Subjects Within	22	17.85	
Leadership Acts (B)	2	33.38	1.28
A × B	2	19.26	.69
B × Subjects Within	44	27.68	

* $p < .001$

Table 25

Analysis of Variance of Motivational Orientation × LA for the Value Forgiving

Source	df	MS	F
Motivational Orientation (A)	1	51.68	2.24
Subjects Within	22	23.10	
Leadership Acts (B)	2	21.68	1.12
A × B	2	48.10	2.49*
B × Subjects Within	44	19.33	

* $p < .09$

Table 25 summarizes the results for the value Forgiving and indicates that there was a marginally significant interaction between motivational orientation and leadership. However, the tests for simple effects indicated that there were no significant differences in the mean rankings of Forgiving for either safety- or esteem-oriented subjects.

Table 26 indicates a significant difference in the mean ranking of the value Imaginative for safety- and esteem-oriented groups. As predicted from hypothesis 3, the mean ranking for esteem-oriented groups (8.08) was significantly higher than the mean rankings of safety-oriented groups (9.88).

Table 26

Analysis of Variance of Motivational Orientation × LA for the Value Imaginative

Source	df	MS	F
Motivational Orientation (A)	1	58.68	3.27*
Subjects Within	22	17.95	
Leadership Acts (B)	2	19.26	1.08
A × B	2	27.76	1.56
B × Subjects Within	44	17.80	

* $p < .08$

Table 27 reveals a significant difference in the mean rankings of the value Loving for safety- and esteem-oriented groups. As predicted from hypothesis 3, the mean ranking for safety-oriented groups (4.50) was significantly higher than the mean ranking of esteem-oriented groups (7.38).

Table 27

Analysis of Variance of Motivational Orientation × LA for the Value Loving

Source	df	MS	F
Motivational Orientation (A)	1	141.68	8.28*
Subjects Within	22	17.11	
Leadership Acts (B)	2	14.68	.89
A × B	2	10.43	.63
B × Subjects Within	44	16.51	

* $p < .009$

Table 28 indicates a significant interaction between motivational orientation and leadership for the value Polite. As predicted from hypothesis 3a, the tests for simple effects confirmed that there were significant differences in the mean ranking of Polite by subjects within safety-oriented groups.

Table 28

Analysis of Variance of Motivational Orientation × LA for the Value Polite

Source	df	MS	F
Motivational Orientation (A)	1	6.13	1.09
Subjects Within	22	5.60	
Leadership Acts (B)	2	18.10	2.41
A × B	2	42.54	5.67*
B × Subjects	44	7.50	

* $p < .006$

Table 29 summarizes the mean rankings of Polite for safety- and esteem-oriented subjects with high, medium and low LA.

Table 29

Mean Rankings of Polite for Safety- and Esteem-Oriented Subjects with High, Medium and Low LA

Motivational Orientation	Proportion of Leadership Acts		
	High	Medium	Low
Safety	15.00	15.00	11.33
Esteem	14.58	13.51	15.00

The Newman-Keuls statistic for safety-oriented groups found that the mean ranking for subjects with high and medium LA (15.00) was significantly higher ($p < .01$) than that for subjects with low LA (11.33).

CHAPTER IV

DISCUSSION

The results for the most part support the hypothesis that specific subdimensions of the motive constellations described as safety or esteem by Maslow (1970) have a significant effect upon the assumption of roles in small, mixed-sex groups. Furthermore, the hypothesis that safety- and esteem-oriented subjects can be clearly differentiated on specific subdimensions of the motive constellations and motive-related values was also demonstrated. Partial support was found for the hypothesis that motive-related values affect the definition of roles within the group.

Differences in the Subdimensions of the Motive Constellations

The results strongly support hypothesis 1 and clearly indicate that safety- and esteem-oriented groups differ significantly in manifest anxiety, dominance and dependency. As predicted from hypothesis 1a, safety-oriented persons are more anxious and dependent and less dominant than esteem-oriented persons. These

differences were consistent across sex, and analysis of within-motive sex differences showed no significant differences. These results are consistent with Maslow's (1970) theory of motivation and point to the complexity of the motive constellations described as safety or esteem. Certainly the higher manifest anxiety and dependency scores of safety-oriented subjects reflect a basic sense of insecurity, ineffectualness, and passive coping with difficult, ambiguous or threatening situations. On the other hand, esteem-oriented persons are more assertive, physically active, and effectual in situations with a high degree of uncertainty or that demand cooperative efforts to complete a task. Aronoff (1967) has suggested that the lack of need-relevant gratification in early family life precipitates greater frustration, resulting in anxiety and obsession with safety-oriented concerns. On the other hand, the early gratification of safety needs leads to a greater sense of personal self-respect, competence, and mastery in the face of the world.

As predicted from hypothesis 3, it would appear that the basic motivational orientations were expressed in the terminal and instrumental values of the subjects. Therefore, it would be appropriate to discuss them at this point in an attempt to gain a broader perspective of the differences in the motive constellations before discussing their influence on leadership behavior.

According to Rokeach (1968) a value is a type of belief that is centrally located within the belief system and has cognitive and behavioral components. Rokeach states:

> Values, on the other hand, have to do with modes of conduct and end-states of existence. To say that a person has a value is to say that he has an enduring belief that a specific mode of conduct is personally or socially preferable to alternative modes or end states of existence. (1968, p. 160)

He goes on to say that values may be distinguished into two types, terminal and instrumental, both of which are hierarchically organized in terms of importance within a value system.

> An instrumental value is therefore defined as a single belief that always takes the following form: I believe that such-and-such a mode of conduct (for example, honesty, courage) is personally and socially preferable in all situations with respect to all objects. A terminal value takes a comparable form. I believe that such-and-such an end state of existence (for example, salvation, a world at peace) is personally and socially worth striving for. (1968, p. 160)

Values, as expressed by Rokeach, are part of the belief system and function as determinants of behavior that are preferable to the individual. Implicit in the concept of a value is a strong motivational component, i.e., the belief that a particular type of conduct or end state of existence is preferable to others and has behavioral consequences of striving to attain the desired condition. The instrumental values provide the means to the terminal values, the desired end state. Or, stated in other words, instrumental values are operant values that facilitate reaching a psychologically preferred state of

being that is gratifying to the person. The question could be asked, however, as to why certain terminal values are preferable to others? Or why is the hierarchical ordering of some values more important than others? One possible answer would be that it is simply because values are so central in the belief system of the individual. However, such an explanation would seem incomplete since it does not specify precisely enough why some values are preferable to others. What is the gratification obtained by having one set of values as opposed to another? An alternative explanation could be that values are related to the basic motivational concerns of the individual. The organization of a value system is central in the belief system as well as central in the motivational concerns of the individual. Values, then, are an integral part of a larger motivational constellation. What is preferable as an instrumental or terminal value is also need relevant. Maslow writes in a similar way:

> It must be remembered that the basic motivations supply ready-made an hierarchy of values which are related to each other as higher needs and lower needs, stronger and weaker, more vital and more dispensable. (1968, p. 172)

With such a reciprocal interrelationship between values and needs, it was predicted that differences in motivational orientation would also be found in the value systems as well. Therefore values expressing personal competency should be ranked higher by esteem-oriented subjects while values indicative of security concerns should

be ranked higher by safety-oriented subjects. The results supported the hypothesis inasmuch as safety- and esteem-oriented groups differed significantly on eight values: Social Recognition, Loving, Imaginative, A Sense of Accomplishment, Pleasure, Ambitious, True Friendship and marginally significant for An Exciting Life. Esteem-oriented groups ranked the personal competency values of Social Recognition, A Sense of Accomplishment, An Exciting Life, Imaginative, and Ambitious significantly higher than did safety-oriented subjects, who ranked Loving, True Friendship and Pleasure higher.

Although Loving and True Friendship are more representative of affiliative needs, they are lower in the need hierarchy than are esteem needs. From Maslow's (1970) theory, it is reasonable to assume that given the basic affiliative need gratification of esteem-oriented subjects, the concern with love and belongingness issues would not be as salient to them as safety-oriented subjects. On the other hand, safety-oriented subjects theoretically should be more concerned with affiliative gratification since less prior gratification of this set of needs has occurred. As Maslow notes:

> And finally we must deal with the clear, descriptive fact that lower needs and values are prepotent over higher needs and values most of the time for most of the population, i.e., that they exert a strong regressive pull. (1968, p. 173)

Therefore, it would seem logical for safety-oriented subjects to rank Loving and True Friendship higher than esteem-oriented subjects since those values, in part, are expressive of greater motivational preoccupation with them.

When considering the value Pleasure, it becomes more difficult to assess its meaning as an indicator of motivational prepotency. The problem focuses on the definition of Pleasure as a value. What exactly does the ranking of Pleasure mean to safety- and esteem-oriented persons? On the Value Survey, Pleasure is subdefined as "an enjoyable, leisurely life." This definition provides a further useful consideration in attempting to ascertain the possible range of meanings to the subjects. Recalling the various dimensions that composed the safety- and esteem-motive constellations, it was noted that safety-oriented motives centered around freedom from fear, threat and anxiety while esteem-oriented motives centered around competence, mastery and respect. With this in mind, one possible explanation for the higher ranking of Pleasure by safety-oriented subjects would be that Pleasure means the reduction of anxiety, uncertainty, and freedom from threat. Further, "an enjoyable, leisurely life" may reflect passive withdrawal characteristic of safety motivation. In other words, Pleasure is synonymous with need relevant gratification and should therefore be ranked higher

than other terminal values less expressive of the motive constellation. On the other hand, esteem-oriented individuals are more concerned with demonstrating personal competency, mastery and the like as a means of obtaining gratification. Therefore, if Pleasure is equivalent to need relevant gratification, esteem-oriented individuals should rank highest those terminal values which are most expressive of the esteem constellation. Clearly this was the case inasmuch as A Sense of Accomplishment, Social Recognition, and An Exciting Life were ranked higher by esteem-oriented subjects. Thus, the higher ranking of other esteem related terminal values lowers the ranking of Pleasure in the hierarchical order of importance.

Role Differentiation in Safety-Oriented Groups

Given that safety- and esteem-oriented groups differ in manifest anxiety, dominance, dependency and certain terminal and instrumental values, consideration of their effects on the differentiation of roles within the group is appropriate at this point. The results indicate an interesting pattern for the effects of manifest anxiety, dominance and dependency on task-oriented leadership behavior. As predicted from hypotheses 2a, 2b, and 2c, manifest anxiety and dependency were positively related to leadership behavior for safety-oriented males, while dominance was positively related for females.

The trend across all IPS categories was for subjects with high LA to have higher mean manifest anxiety scores than subjects with medium or low LA. However, one intriguing finding is that subjects with low LA did not differ significantly from subjects with high LA on manifest anxiety. This suggests that subjects with high or low leadership acts tend to be higher in manifest anxiety than subjects with medium LA. One possible explanation for these results may be that in 8 of the 12 safety-oriented groups, males had the greatest proportion of leadership acts. Further, manifest anxiety was positively correlated .62 with the mean proportion of leadership acts for males, while the correlation for females was not significant. In similar research, Messé, Aronoff and Wilson (1971) have found that the basis for role differentiation in safety-oriented groups is externally derived and focuses on the male as the initiator of activity in the group.

An alternative argument, however, could be that since all the safety-oriented group members are relatively similar in terms of anxiety level, it was therefore only the sex differences that contributed to the variance in the leadership scores. More specifically, it could be said that the two females were responding to the proper external cues and expecting the male to perform in this role while at the same time making him highly dependent upon the other group

members for support in the leadership role. This is plausible when considering the high positive correlation between dependency and leadership. Moreover, dependency and manifest anxiety were positively correlated for both males and females within safety-oriented groups, suggesting that highly anxious persons are also highly dependent.

While it does seem likely that the expectation of male leadership in safety-oriented groups increases the pressure for the male to assume that role and consequently increases his anxiety, it must be remembered that manifest anxiety is not situation specific, but rather indicative of general emotional responsiveness, which is a consistent characteristic of the personality. Given that this is so, it is therefore difficult to accept an explanation of male leadership in safety-oriented groups as induced by the situation itself. Rather, it points to the motive constellation itself as the determinant of the role assumption. In addition to being highly anxious, safety-oriented persons are further characterized by Maslow as having strong needs for structure, order, and law as well as freedom from fear and anxiety. Could it not be possible, then, that safety-oriented males assume the leadership role as a means of controlling and structuring the situation in such a manner that is most anxiety reducing and most need gratifying? Such an explanation is parsimonious in that it can

encompass the argument that sex role expectations do influence the process of role differentiation. Certainly the male could be responding to the expectation that he is to assume the leadership position in the group. But in order to reduce his anxiety in the presence of such an unfamiliar situation, he then occupies the leadership role, directs the tasks demanded by the experimental situation, and ensures control over the group and subsequently introduces greater predictability and certainty into the situation.

It could be asked then, why do not females assume leadership roles in safety-oriented groups? Or why did females occupy leadership positions in 4 of the 12 safety-oriented groups? The answer would seem to be that the nature of the motive constellation interacts with cultural role expectations in determining behavior in any situation. Therefore, since males are expected to occupy leadership positions in safety-oriented groups, it is plausible to hypothesize that the four females in such leadership positions are more masculine in their sex-role identity; they would then perceive the expectations of the leadership role and assume it for the same reasons a male would, reducing uncertainty and anxiety through control of the group. Such a consideration is tenable since the mean manifest anxiety score (27.50) for the four female leaders was higher than that for the other group members (18.25), as well as

higher than the other safety-oriented females (22.21) and safety-oriented males (24.08). Furthermore, 3 of the 4 female leaders had mean manifest anxiety scores of 30.00, suggesting that they were in fact very anxious persons. A similar trend was also found for dependency, in which the mean dependency score (31.25) for the 4 female leaders was higher than that for the other group members (26.37), as well as higher than other safety-oriented females (28.58) and safety-oriented males (30.50). Moreover, 3 of the 4 female leaders had mean dependency scores of 37.00, suggesting that they were also extremely dependent. Thus, the manifest anxiety and dependency scores of the four female leaders look very similar in pattern to those of the male leaders. In future research, with mixed-sex groups, it would be interesting to assess more precisely the strength of sex-role identification as a determinant of role assumption in small groups.

Still another consideration could be the possibility that one way of expressing a need for structure as a means of reducing uncertainty and threat in the situation would be for one of the two females to establish a coalition with the male. The question as to which of the two females would enter or initiate the coalition is an interesting one. There are many determinants within the motive constellation related to such an issue. Given the strength of anxiety

as a variable, the more anxious of the two females might seek more immediate need gratification and therefore be more concerned with anxiety reduction and the like. Moreover, such a coalition would thereby make her role in the group secure and provide a mechanism for anxiety reduction, dependency gratification and predictability with regard to the task. The advantage of a coalition of this type would be that it allows for reciprocal need gratification. It would enable the male to control the degree of uncertainty in the situation and the expectation of his role while simultaneously providing safety-need gratification to the female. Given such a coalition, it would be expected that its members would have a significantly greater proportion of task-oriented leadership acts than would be expected by chance, since the remaining female would be forced into a less active role in the group.

In addition to the effects of anxiety and dependency on role differentiation within safety-oriented groups, two values, Pleasure and Polite, were found to be significantly related to leadership behavior as predicted from hypothesis 3a. Subjects with high LA ranked Pleasure significantly higher than did subjects with medium or low LA. Furthermore, subjects with medium LA also ranked it significantly higher than subjects with low LA. This suggests a linear relationship between the variables. As the leadership

proportion increases, so does the ranking of Pleasure. One possible explanation for this result might be that if Pleasure means need relevant gratification, i.e., the reduction of anxiety over personal incompetency, inadequacy, dependency gratification and so forth, then those subjects who are the most anxious rank Pleasure highest, since they also had the highest manifest anxiety and dependency scores. However, following such logic it would be expected that subjects with low LA would rank Pleasure higher than subjects with medium LA since the former were significantly higher in manifest anxiety and dependency than the latter. But as the data indicates, this was not the case. Moreover, a similar pattern was found in the ranking of Polite, in which subjects with high and medium LA ranked it significantly lower than subjects with low LA. It would seem, then, that subjects with higher leadership scores were more concerned with "an enjoyable, leisurely life" rather than being "courteous and well mannered." Given the subdimensions of the respective values, the question remains as to why the values are ranked as they are. What is more preferable than politeness for subjects with high LA and why is Pleasure ranked higher? The answer rests in a more intricate understanding of values within the safety constellation. A necessary next step in future research will be to begin charting the relationship between values and motive constellations to more clearly

understand their functioning and influence on behavior in different situations.

Role Differentiation in Esteem-Oriented Groups

In esteem-oriented groups, no significant correlations were found between manifest anxiety, dominance, dependency and leadership as was expected from hypothesis 2. However, the trend across all IPS categories was for subjects with medium LA to have higher mean manifest anxiety and dependency scores than subjects with high or low LA scores. This suggests that those subjects with the greatest and least proportions of leadership were about the same in anxiety and dependency while subjects with medium leadership proportions tended to be somewhat more anxious. While it was argued that anxiety and sex-role interact to determine role differentiation within safety-oriented groups, the question remains as to the determinants of role differentiation within esteem-oriented groups. Concomitant research with the same subjects used in the present study (Messé, Aronoff, and Wilson, 1971) postulated that different mechanisms operate in determining roles in esteem-oriented groups. The personal attributes of competency, mastery and respect from others were hypothesized as dimensions of the esteem constellation that would determine role differentiation rather than sex-related criteria.

As expected by chance, males would have the highest leadership scores in one-third of the groups. In safety-oriented groups, males had the highest leadership scores in 8 out of 12 times, a significant difference from chance ($p < .02$ binomial test). In esteem-oriented groups, on the other hand, males had the highest leadership scores in 4 of 12 groups, exactly the number expected by chance. Thus, it would seem that the basis of role differentiation in esteem-oriented groups is very different from that of safety-oriented groups. The question arises, however, as to what subdimensions of the motive constellation influence the assumption of various roles within the group. It was hypothesized that dominance would be one of the salient characteristics determining a greater leadership role. Mann (1959), in his comprehensive review of personality factors influencing group interaction, found that dominance was positively related to the total number of task contributions and leadership, and negatively related to conformity. Therefore, given (1) the nature of the experimental task which required the organization and synthesis of diverse ideas, their implementation and execution at different times during the experiment, and (2) the fact that the two groups were significantly different on dominance, it seems unusual that dominance was not significantly related to the distribution of leadership acts in either group.

Although dominance showed no significant effect upon role differentiation within esteem-oriented groups, the analysis of the values Equality and Self-Respect offer some directions for consideration. As predicted from hypothesis 3a, the results indicate that subjects with the greatest leadership proportion ranked Equality as less of a value preference than other terminal values, suggesting perhaps that other esteem-related values were personally and socially preferable to them. This appears to be the case in that Self-Respect was also ranked significantly higher by subjects with the greatest leadership proportions. This is especially interesting inasmuch as Self-Respect is subdefined as "self-esteem." Therefore the higher ranking of Self-Respect by subjects with the greatest leadership proportions may offer an index as to the intensity of the esteem motivation. However, it is difficult to know precisely what the higher ranking of a particular value means. For example, does the higher ranking of self-respect indicate a greater desire or need for it rather than some other value? Or does it mean that a greater degree of self-esteem has already been obtained? Since the subjects who ranked Equality lower and Self-Respect higher had the greatest leadership proportion, a plausible explanation would seem to be that the higher ranking of Self-Respect represents a need for self-esteem rather than gratified self-esteem. Thus, obtaining esteem gratification

comes from proving competency in the leadership role to the other group members. Furthermore, such a behavior pattern is indicative of a need to dominate or deride as a means of bolstering self-esteem. Maslow (1970) differentiates between gratified and non-gratified self-esteem and notes that the greater the fulfillment of the self-esteem needs, the more democratic the character structure and the ability to accept others without derisiveness, hostility, or defensiveness and fear of threat to individual integrity. Therefore, it would seem unlikely that the higher ranking of Self-Respect reflects those attributes of gratified esteem needs. Further, the lower ranking of Equality would seem congruent with this explanation since "brotherhood, an equal opportunity for all" is incompatible with a truly democratic character structure.

Although the results suggest that subjects with a greater need for self-esteem have higher leadership proportions, the problem remains as to the determinants of leadership in esteem-oriented groups. What are the subdimensions of the esteem constellation that are related to the leadership function in small groups? Are subjects with a relatively greater degree of prior esteem gratification more likely to assume the responsibility of leadership? Do subjects with greater ego-strength and previous recognition of competence have a more stable intrinsic source of esteem? Does this enable them

to be equally effective as a task-oriented leader and a socio-emotional leader as characterized by Bales (1951)? If this were the case, the higher ranking of Self-Respect by subjects with the greatest leadership proportion would point to these aspects of the esteem constellation. On the other hand, it is equally plausible that persons seeking greater social recognition, approval and prestige would be motivated to assume the leadership role as a means of providing need relevant gratification. By gaining the leadership role the individual in need of esteem gratification is in a position to demonstrate his competency and subsequently earn the respect and admiration of those about him. It should be pointed out, however, that the data in this research indicated that there was no difference in the degree of dominance among the esteem-oriented group members. This finding points to the necessity of mapping the nature of the esteem constellation more precisely. By assessing the relative degree of esteem gratification, it should then be possible to study the effects of gratified versus non-gratified aspects of esteem motivation upon performance in small groups. Similarly, many other aspects of the motive constellation such as need for achievement, power, respect from others, and so forth could be studied in a similar fashion. The data obtained from such research would then add to the understanding of the composite way in which the various dimensions of the motive function in determining behavior in group situations.

Summary and Implications for Future Research

The present research suggests a number of studies for future investigation. While emergent leadership in safety-oriented groups was related to sex-role expectations, high manifest anxiety and dependency, relatively little is presently known about motive subdimensions and role differentiation in esteem-oriented groups. What are the subdimensions of the esteem constellation related to the leadership task? Preliminary research (Messé, Aronoff and Wilson, 1971) has suggested that personal attributes exemplifying competency, mastery and proficiency in problem solving are related to the assumption of the leadership role. In view of such factors, however, the personality determinants of those leadership functions remain a question for future research. Therefore it would seem logical to begin exploring the nature of the motive constellations in more depth.

It is also interesting to note that most of the recent research studying motivational influences on group structure has been limited for the most part to groups homogeneous on a personality characteristic. Outside of the experimental laboratory, however, most groups are typically a collage of personality factors and motivational determinants. Therefore, to facilitate the understanding of the

relationship between personality, social structure and role differentiation, it would seem appropriate to study groups heterogeneous in composition. For example, it would be interesting to ascertain the "tipping point" at which a social structure changes from egalitarian to hierarchical or vice versa. What is the critical proportion of members needed at a given need level before the group evolves structures to gratify the need? Through systematic variation of the group composition from homogeneous to heterogeneous, the process of social structure formation could be observed. It can be seen, therefore, that understanding the interrelationships within the respective motive constellations will permit a more detailed study of social structure, role differentiation and interaction processes within small groups.

In a broader perspective, it would also seem that Maslow's motivation theory provides an excellent framework from which to explore other questions of social psychological relevance. The present research and that of Aronoff (1967, 1970) and Aronoff and Messé (1971) have demonstrated that motivation and personality do significantly influence group structure and the process of role differentiation when such variables are clearly conceptualized and the criteria measures precisely defined. With such "groundwork" laid, consideration may now be given to studying the relationship between

safety and esteem needs and other psychological processes. For example, would safety-oriented persons conform more on an Asch-type perceptual experiment than would esteem-oriented persons? Or would safety-oriented individuals be more compliant, subservient and obedient than esteem-oriented individuals in a Milgram-type experiment?

Moreover, it is also important to consider the relationship of the motive constellations to other personality characteristics. Tuckman (1964, 1967), for example, has found results strikingly similar to those of Aronoff and Messé (1971) when using subjects that were primarily concrete or abstract in their cognitive structures. This raises an interesting question as to the nature of the relationship between cognitive complexity and prepotent motivational orientation. Are individuals who are cognitively concrete primarily safety-oriented and individuals cognitively abstract primarily esteem-oriented? It would seem so from the early childhood training conditions for cognitively concrete and abstract persons described by Harvey, Hunt and Schroder (1961). Yet, it remains an area awaiting future investigation.

Similarly, the relationship between motives and values is an important one that deserves much attention. The present research has indicated that values reflect the major motivational

concerns of the person. But what is the relationship between a motive constellation and the value system of the individual? Why is having one set of values more gratifying than another? Furthermore, what are the specific behavioral consequences of preferring some values more strongly than others? Given the parsimony of values as an explanatory concept in social psychology (Rokeach, 1968), such questions as those raised above suggest new areas of experimentation.

In conclusion, it is clear that the experimental methodology employed in the present study is operationally flexible and heuristically valuable. By studying subdimensions of the motive constellations and the variables related to them, it becomes possible to determine the behavioral consequences of specific personality characteristics within the motive constellation itself. With increased knowledge of the interrelationships existing within a motive, greater predictability will then be obtained in many diverse and complex social situations.

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APPENDICES

APPENDIX A

EXPERIMENTAL INSTRUCTIONS

APPENDIX A

EXPERIMENTAL INSTRUCTIONS

(Instructions to subjects at beginning of experiment)

Behavioral Research Project

Instructions

Please read these instructions through once before beginning.

In this study we are trying to find out what group structures best allow executives to produce creative solutions to the problems which confront them. To do this, we are asking you to work at several jobs for the next 2 hours. Below is an outline of the tasks we would like you to do. You will find all the necessary materials at the side table against the wall.

1. The first job we would like you to do is to design and sketch out a living-learning dormitory, using the paper pads, and colored pencils on the side table.

   a. Before you begin work as a group, take a pad and spend about 10 minutes working out preliminary designs individually.

   b. Together decide on a design and then sketch it out, using a large sheet of paper from the side table. Plan to spend about 40 minutes deciding on and sketching out this group design.

   c. We would like to have a general record of what is happening, so we would like to have notes taken throughout the session.

2. You will notice coffee and cookies in the corner. After finishing the sketch feel free to help yourselves to these and relax for about a 10 minute coffee break.

3. Plan and sketch out a community in much the same manner as you did the living-learning dormitory. That is, spend about 10 minutes working alone, and then get together for the group's effort. Again, notes should be taken. Take the remainder of the period for this task.

APPENDIX B

QUESTIONNAIRES

APPENDIX B

QUESTIONNAIRES

Questionnaire I

(administered initially as "interview" to all subjects)

Date: _____

Name: _____

Below are sixty incomplete sentences. Read and complete each one. If the suggested word occurs in the middle of the line, place it wherever you wish.

1. I should like to
2. most important
3. My appearance
4. good mood
5. When I am not treated right, I
6. impressed
7. Compared with cats, dogs are

8. If I could only
9. When I dream, I
10. I get angry when
11. My head
12. I try
13. butt
14. The people who work for me
15. They couldn' t forget
16. The main driving force in my life is
17. Other people are
18. If I could change anything, I
19. For sure,
20. last
21. I need someone to
22. The more involved one gets
23. I lost
24. When someone puts me down
25. ambiguity
26. For me, the best
27. As a child, I
28. A friend
29. I will fight when

30. care

31. It' s fun to daydream about

32. valuable possession

33. A stranger

34. When told to keep my place, I

35. No one can repair the damage caused by

36. At home we

37. only knew

38. Wouldn' t it be funny if

39. Dormitory living

40. When an animal is wild,

41. If I were in charge

42. close

43. I am determined

44. Being

45. hit

46. People think I am

47. I don' t like

48. What bothers me most

49. continually

50. To me, people

51. If I am put under pressure

52. I am happy when

53. broke , then

54. I want

55. If someone makes fun of me,

56. The future

57. The people I like best

58. smart

59. When I can' t do something, I

60. Tests like this

Questionnaire II

(administered to all subjects one week after experiment)

INSTRUCTIONS

On the next page are 18 values listed in alphabetical order. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life. Each value is printed on a gummed label which can be easily peeled off and pasted in the boxes on the left-hand side of the page.

Study the list carefully and pick out the one value which is the most important for you. Peel it off and paste it in Box 1 on the left.

Then pick out the value which is second most important for you. Peel it off and paste it in Box 2. Then do the same for each of the remaining values. The value which is least important goes in Box 18.

Work slowly and think carefully. If you change your mind, feel free to change your answers. The labels peel off easily and can be moved from place to place. The end result should truly show how you really feel.

1.	A COMFORTABLE LIFE (a prosperous life
2.	AN EXCITING LIFE (a stimulating, active life)
3.	A SENSE OF ACCOMPLISHMENT (lasting contribution)
4.	A WORLD AT PEACE (free of war and conflict)
5.	A WORLD OF BEAUTY (beauty of nature and the arts)

6. EQUALITY
(brotherhood, equal opportunity for all)

7. FAMILY SECURITY
(taking care of loved ones)

8. FREEDOM
(independence, free choice)

9. HAPPINESS
(contentedness)

10. INNER HARMONY
(freedom from inner conflict)

11. MATURE LOVE
(sexual and spiritual intimacy)

12. NATIONAL SECURITY
(protection from attack)

13. PLEASURE
(an enjoyable, leisurely life)

14. SALVATION
(saved, eternal life)

15. SELF-RESPECT
(self-esteem)

16. SOCIAL RECOGNITION
(respect, admiration)

17. TRUE FRIENDSHIP
(close companionship)

18. WISDOM
(a mature understanding of life)

Below is another list of 18 values. Arrange them in order of importance, the same as before.

1. AMBITIOUS
(hard-working, aspiring)

2. BROAD-MINDED
(open-minded)

3. CAPABLE
(competent, effective)

4. CHEERFUL
(lighthearted, joyful)

5. CLEAN
(neat, tidy)

6. COURAGEOUS
(standing up for your beliefs)

7. FORGIVING
(willing to pardon others)

8. HELPFUL
(working for the welfare of others)

9. HONEST
(sincere, truthful)

10. IMAGINATIVE
(daring, creative)

11. INDEPENDENT
(self-reliant, self-sufficient)

12. INTELLECTUAL
(intelligent, reflective)

13. LOGICAL
(consistent, rational)

14. LOVING
(affectionate, tender)

15. OBEDIENT
(dutiful, respectful)

16. POLITE
(courteous, well-mannered)

17. RESPONSIBLE
(dependable, reliable)

18. SELF-CONTROLLED
(restrained, self-disciplined)

Questionnaire III

(administered to all subjects one week after experiment)

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you. You are to mark your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, mark it so. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, blacken the lines in the appropriate manner on your answer sheet. Remember to give YOUR OWN opinion of yourself. Do not leave any questions unanswered. In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet.

1. I work under a great deal of tension.
2. I sometimes keep on at a thing until others lose their patience with me.
3. When I take a new job, I like to be tipped off on who should be gotten next to.
4. My hands and feet are usually warm enough.
5. I should like to belong to several clubs or lodges.
6. At times I have very much wanted to leave home.
7. I am very seldom troubled by constipation.

8. I find it hard to keep my mind on a task or job.
9. I am about as able to work as I ever was.
10. I have diarrhea once a month or more.
11. I have not lived the right kind of life.
12. No one seems to understand me.
13. I am troubled by attacks of nausea and vomiting.
14. I have nightmares every few nights.
15. Sometimes at elections I vote for men about whom I know very little.
16. When I leave home I do not worry about whether the door is locked and the windows closed.
17. My father was a good man.
18. I have had no difficulty in starting or holding my bowel movement.
19. I am happy most of the time.
20. I do not tire quickly.
21. I am easily downed in an argument.
22. I am certainly lacking in self-confidence.
23. I believe in the second coming of Christ.
24. I have met problems so full of possibilities that I have been unable to make up my mind about them.
25. Criticism or scolding hurts me terribly.
26. My conduct is largely controlled by the customs of those around me.

27. My sleep is fitful and disturbed.

28. I do many things which I regret afterwards (I regret more or more often than others seem to.)

29. I frequently notice my hand shakes when I try to do something.

30. I very much like hunting.

31. My parents have often objected to the kind of people I went around with.

32. I cry easily.

33. I like to know some important people because it makes me feel important.

34. I find it hard to make talk when I meet new people.

35. I have very few headaches.

36. I never worry about my looks.

37. I believe there is a Devil and a Hell in afterlife.

38. I feel weak all over much of the time.

39. I wish I were not so shy.

40. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.

41. I frequently find myself worrying about something.

42. I hardly ever notice my heart pounding and I am seldom out of breath.

43. I don't blame anyone for trying to grab everything he can in this world.

44. My feelings are not easily hurt.

45. What others think of me does not bother me.

46. I have periods of such great restlessness that I cannot sit long in a chair.

47. When in a group of people I have trouble thinking of the right things to talk about.

48. My people treat me more like a child than a grown-up.

49. I brood a great deal.

50. I have been disappointed in love.

51. I have difficulty in starting to do things.

52. Something exciting will almost always pull me out of it when I am feeling low.

53. In school I found it very hard to talk in front of the class.

54. I usually have to stop and think, even in trifling matters, before I act.

55. I wish I could be as happy as others seem to be.

56. I have a great deal of stomach trouble.

57. I certainly feel useless at times.

58. I dream frequently of things that are best kept to myself.

59. I do not have spells of hay fever or asthma.

60. I am entirely self-confident.

61. I believe I am no more nervous than most others.

62. I sweat very easily even on cool days.

63. I have very few fears compared to my friends.

64. Even when I am with people I feel lonely much of the time.

65. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.

66. I am easily embarrassed.

67. I am more sentive than most people.

68. Life is a strain for me much of the time.

69. I have more trouble concentrating than others seem to have.

70. Sometimes my voice leaves me or changes even though I have no cold.

71. I cannot keep my mind on one thing.

72. The future is too uncertain for a person to make serious plans.

73. I feel anxiety about something or someone almost all the time.

74. Sometimes I become so excited that I find it hard to sleep.

75. I have certainly had more than my share of things to worry about.

76. I have strong political convictions.

77. I have been afraid of things or people that I knew could not hurt me.

78. I have several times given up doing a thing because I thought too little of my ability.

79. I am inclined to take things hard.

80. Religion gives me no worry.

81. I used to like drop-the-handkerchief.

82. I am more sensitive than most other people.

83. When I am feeling very happy and active, someone who is blue or low will spoil it all.

84. I wish I could get over worrying about things I have said that may have injured other people's feelings.

85. People often disappoint me.

86. I have often felt badly over being misunderstood when trying to keep someone from making a mistake.

87. I am not usually self-conscious.

88. I have sometimes felt that difficulties were piling up so high that I could not overcome them.

89. I am usually calm, not easily upset.

90. I practically never blush.

91. I played hooky from school quite often as a youngster.

92. At times I think I am no good at all.

93. I feel hungry almost all the time.

94. I worry quite a bit over possible misfortunes.

95. It makes me nervous to have to wait.

96. I often think, "I wish I were a child again."

97. I am apt to hide my feelings in some things, to the point that people may hurt me without knowing it.

98. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.

99. I feel like giving up quickly when things go wrong.

100. I have often been frightened in the middle of the night.

101. I have had periods in which I lost sleep over worry.

102. I must admit that I have at times been worried beyond reason over something that really did not matter.

103. I am a high strung person.

104. The one to whom I was most attached and whom I most admired as a child was a woman (mother, aunt, sister, etc.).

105. I pray several times a week.

106. I feel sympathetic toward people who tend to hang on to their griefs and troubles.

107. I sometimes find it hard to stick up for my rights because I am so reserved.

108. I am often afraid that I am going to blush.

109. I blush no more than others.

110. People can pretty easily change me even though I thought that my mind was already made up on a subject.

111. I shrink from facing a crisis or difficulty.

112. If I were an artist I would like to draw children.

113. I sometimes feel that I am about to go to pieces.

114. I am apt to pass up something I want to do when others feel that it isn't worth doing.

115. Christ performed such miracles as changing water into wine.

116. I frequently ask people for advice.

APPENDIX C

ANALYSIS OF VARIANCE TABLES

FOR MANIFEST ANXIETY, DOMINANCE, DEPENDENCY

AND IPS CATEGORIES (6, 7, 8, 11, 12, 13)

Table C-1

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (6) Procedural Suggestion

Source	df	MS	F
Motivational Orientation (A)	1		13.91*
Subjects Within	22	46.86	
Manifest Anxiety (B)	2	92.00	1.39
A × B	2	96.00	1.45
B × Subjects Within	44	65.72	

* $p < .01$

Table C-2

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (7) Suggests Solution

Source	df	MS	F
Motivational Orientation (A)	1		13.91**
Subjects Within	22	46.86	
Manifest Anxiety (B)	2	7.5	.10
A × B	2	180.5	2.55*
B × Subjects Within	44	70.54	

* $p < .10$
** $p < .01$

Table C-3

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (8) Gives Opinion

Source	df	MS	F
Motivational Orientation (A)	1		13.91**
Subjects Within	22	46.86	
Manifest Anxiety (B)	2	15.50	.23
A × B	2	165.0	2.50*
B × Subjects Within	44	66.06	

* $p < .10$
** $p < .01$

Table C-4

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (11) Gives Orientation

Source	df	MS	F
Motivational Orientation (A)	1		13.91*
Subjects Within	22	46.86	
Manifest Anxiety (B)	2	15.00	.21
A × B	2	594.0	8.57*
B × Subjects Within	44	69.31	

* $p < .01$

Table C-5

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (12) Draws Attention

Source	df	MS	F
Motivational Orientation (A)	1		13.91*
Subjects Within	22	46.86	
Manifest Anxiety (B)	2	32.00	.44
A × B	2	17.50	.24
B × Subjects Within	44	72.02	

* $p < .01$

Table C-6

Analysis of Variance of Motivational Orientation × Manifest Anxiety for IPS Category (13) Asks Opinion

Source	df	MS	F
Motivational Orientation (A)	1	868.0	10.93*
Subjects Within	22	79.40	
Manifest Anxiety (B)	2	47.50	.69
A × B	2	77.50	1.13
B × Subjects Within	44	68.18	

* $p < .01$

Table C-7

Analysis of Variance of Motivational Orientation × Dominance[1] for IPS Category (6) Procedural Suggestion

Source	df	MS	F
Motivational Orientation (A)	1	27.69	.16
Dominance (B)	2	83.52	.49
A × B	2	111.87	.66
Error	66	169.27	

[1]A least squares analysis of variance was computed prior to the other analyses reported in Appendix C. Preliminary analysis of the data did not warrant further analysis of a different design.

Table C-8

Analysis of Variance of Motivational Orientation × Dominance for IPS Category (7) Suggests Solution

Source	df	MS	F
Motivational Orientation (A)	1	3.11	.02
Dominance (B)	2	12.06	.09
A × B	2	24.51	.18
Error	66	139.46	

Table C-9

Analysis of Variance of Motivational Orientation × Dominance for IPS Category (8) Gives Opinions

Source	df	MS	F
Motivational Orientation (A)	1	28.22	.16
Dominance (B)	2	219.57	1.22
A × B	2	111.57	.62
Error	66	179.88	

Table C-10

Analysis of Variance of Motivational Orientation × Dominance for IPS Category (11) Gives Orientation

Source	df	MS	F
Motivational Orientation (A)	1	29.84	.12
Dominance (B)	2	147.69	.63
A × B	2	63.57	.27
Error	66	235.02	

Table C-11

Analysis of Variance of Motivational Orientation × Dominance for IPS Category (12) Draws Attention

Source	df	MS	F
Motivational Orientation (A)	1	20.69	.05
Dominance (B)	2	102.83	.28
A × B	2	711.26	1.92*
Error	66	370.89	

* $p < .15$

Table C-12

Analysis of Variance of Motivational Orientation × Dominance for IPS Category (13) Asks Opinion

Source	df	MS	F
Motivational Orientation (A)	1	67.76	.20
Dominance (B)	2	30.35	.09
A × B	2	427.05	1.25
Error	66	341.29	

Table C-13

Analysis of Variance of Motivational Orientation × Dominance for the Mean Proportion of Task-Oriented Leadership (LA)

Source	df	MS	F
Motivational Orientation (A)	1	.04	.0005
Dominance (B)	2	11.59	.12
A × B	2	69.48	.72
Error	66	97.79	

Table C-14

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (6) Procedural Suggestion

Source	df	MS	F
Motivational Orientation	1	1672.0	27.20*
Subjects Within	22	61.45	
Manifest Anxiety (B)	2	81.0	1.06
A × B	2	110.0	1.44
B × Subjects Within	44	75.93	

* $p < .01$

Table C-15

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (7) Suggests Solution

Source	df	MS	F
Motivational Orientation (A)	1	1672.0	27.20*
Subjects Within	22	61.45	
Manifest Anxiety (B)	2	49.0	.60
A × B	2	44.50	.55
B × Subjects Within	44	80.36	

* $p < .01$

Table C-16

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (8) Gives Opinion

Source	df	MS	F
Motivational Orientation (A)	1	1672.0	27.20**
Subjects Within	22	61.45	
Manifest Anxiety (B)	2	14.50	.19
A × B	2	180.50	2.38*
B × Subjects Within	44	75.75	

* $p < .10$
** $p < .01$

Table C-17

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (11) Gives Orientation

Source	df	MS	F
Motivational Orientation (A)	1	1672.0	27.20*
Subjects Within	22	61.45	
Manifest Anxiety (B)	2	84.50	1.08
A × B	2	61.50	.78
B × Subjects Within	44	77.97	

* $p < .01$

Table C-18

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (12) Draws Attention

Source	df	MS	F
Motivational Orientation (A)	1	1672.0	27.20*
Subjects Within	22	61.45	
Manifest Anxiety (b)	2	36.0	.46
A × B	2	128.0	1.65
B × Subjects Within	44	77.15	

* $p < .01$

Table C-19

Analysis of Variance of Motivational Orientation × Dependency for IPS Category (13) Asks Opinion

Source	df	MS	F
Motivational Orientation (A)	1	2027.0	19.55*
Subjects Within	22	103.63	
Manifest Anxiety (B)	2	45.50	.77
A × B	2	116.0	1.98
B × Subjects Within	44	58.50	

* $p < .01$

APPENDIX D

ANALYSIS OF VARIANCE OF NONSIGNIFICANT RESULTS FOR THE TERMINAL AND INSTRUMENTAL VALUES

Table D-1

Analysis of Variance of Motivational Orientation × LA for the Value A Comfortable Life

Source	df	MS	F
Motivational Orientation (A)	1	.50	.033
Subjects Within	22	14.97	
Leadership Acts (B)	2	7.06	.53
A × B	2	6.50	.49
B × Subjects Within	44	13.35	

Table D-2

Analysis of Variance of Motivational Orientation × LA for the Value An Exciting Life

Source	df	MS	F
Motivational Orientation (A)	1	48.35	2.63*
Subjects Within	22	18.39	
Leadership Acts (B)	2	13.18	.84
A × B	2	5.50	.35
B × Subjects Within	44	15.76	

* $p < .12$

Table D-3

Analysis of Variance of Motivational Orientation × LA for the Value A World of Beauty

Source	df	MS	F
Motivational Orientation (A)	1	1.13	.08
Subjects Within	22	13.88	
Leadership Acts (B)	2	.50	.03
A × B	2	30.17	1.91*
B × Subjects Within	44	15.77	

* $p < .15$

Table D-4

Analysis of Variance of Motivational Orientation × LA for the Value Family Security

Source	df	MS	F
Motivational Orientation (A)	1	50.0	.02
Subjects Within	22	18.72	
Leadership Acts (B)	2	20.22	1.16
A × B	2	14.00	.80
B × Subjects Within	44	17.49	

Table D-5

Analysis of Variance of Motivational Orientation × LA for the Value Freedom

Source	df	MS	F
Motivational Orientation (A)	1	10.13	1.16
Subjects Within	22	8.68	
Leadership Acts (B)	2	24.22	1.87*
A × B	2	8.17	.63
B × Subjects Within	44	12.92	

* $p < .15$

Table D-6

Analysis of Variance of Motivational Orientation × LA for the Value Happiness

Source	df	MS	F
Motivational Orientation (A)	1	46.72	1.99*
Subjects Within	22	23.41	
Leadership Acts (B)	2	8.22	.53
A × B	2	5.06	.33
B × Subjects Within	44	15.39	

* $p < .17$

Table D-7

Analysis of Variance of Motivational Orientation × LA for the Value Inner Harmony

Source	df	MS	F
Motivational Orientation (A)	1	19.01	1.05
Subjects Within	22	18.15	
Leadership Acts (B)	2	10.93	.51
A × B	2	6.68	.31
B × Subjects Within	44	21.31	

Table D-8

Analysis of Variance of Motivational Orientation × LA for the Value Mature Love

Source	df	MS	F
Motivational Orientation (A)	1	2.35	.17
Subjects Within	22	13.92	
Leadership Acts (B)	2	.39	.02
A × B	2	11.72	.89
B × Subjects Within	44	13.04	

Table D-9

Analysis of Variance of Motivational Orientation × LA for the Value National Security

Source	df	MS	F
Motivational Orientation (A)	1	.13	.01
Subjects Within	22	14.51	
Leadership Acts (B)	2	29.35	3.91*
A × B	2	2.38	.32
B × Subjects Within	44	7.51	

* $p < .03$

Table D-10

Analysis of Variance of Motivational Orientation × LA for the Value Salvation

Source	df	MS	F
Motivational Orientation (A)	1	5.56	.29
Subjects Within	22	19.14	
Leadership Acts (B)	2	1.29	.04
A × B	2	49.85	1.66
B × Subjects Within	44	30.02	

Table D-11

Analysis of Variance of Motivational Orientation × LA for the Value Broad-Minded

Source	df	MS	F
Motivational Orientation (A)	1	.013	.0009
Subjects Within	22	15.54	
Leadership Acts (B)	2	10.72	.83
A × B	2	26.05	2.02*
B × Subjects Within	44	12.87	

* $p < .15$

Table D-12

Analysis of Variance of Motivational Orientation × LA for the Value Capable

Source	df	MS	F
Motivational Orientation (A)	1	11.68	.67
Subjects Within	22	17.69	
Leadership Acts (B)	2	11.35	.85
A × B	2	13.01	.97
B × Subjects Within	44	13.36	

Table D-13

Analysis of Variance of Motivational Orientation × LA for the Value Cheerful

Source	df	MS	F
Motivational Orientation (A)	1	.89	.03
Subjects Within	22	23.01	
Leadership Acts (B)	2	12.35	.67
A × B	2	36.35	1.98*
B × Subjects Within	44	18.32	

* $p < .15$

Table D-14

Analysis of Variance of Motivational Orientation × LA for the Value Clean

Source	df	MS	F
Motivational Orientation (A)	1	.125	.02
Subjects Within	22	7.89	
Leadership Acts (B)	2	17.68	1.82
A × B	2	20.79	2.14*
B × Subjects Within	44	9.74	

* $p < .15$

Table D-15

Analysis of Variance of Motivational Orientation × LA for the Value Courageous

Source	df	MS	F
Motivational Orientation (A)	1	1.13	.05
Subjects Within	22	20.35	
Leadership Acts (B)	2	4.63	.32
A × B	2	.79	.05
B × Subjects Within	44	14.57	

Table D-16

Analysis of Variance of Motivational Orientation × LA for the Value Helpful

Source	df	MS	F
Motivational Orientation (A)	1	14.22	.63
Subjects Within	22	22.59	
Leadership Acts (B)	2	21.10	.95
A × B	2	5.10	.23
B × Subjects Within	44	22.14	

Table D-17

Analysis of Variance of Motivational Orientation × LA for the Value Honest

Source	df	MS	F
Motivational Orientation (A)	1	14.22	1.63
Subjects Within	22	8.72	
Leadership Acts	2	20.04	2.34*
A × B	2	18.01	2.10*
B × Subjects Within	44	8.57	

* $p < .15$

Table D-18

Analysis of Variance of Motivational Orientation × LA for the Value Independent

Source	df	MS	F
Motivational Orientation (A)	1	3.56	.19
Subjects Within	22	18.29	
Leadership Acts (B)	2	14.04	.79
A × B	2	15.8	.90
B × Subjects Within	44	17.51	

Table D-19

Analysis of Variance of Motivational Orientation × LA for the Value Intellectual

Source	df	MS	F
Motivational Orientation (A)	1	42.01	1.59
Subjects Within	22	26.33	
Leadership Acts (B)	2	8.01	.31
A × B	2	29.26	1.12
B × Subjects Within	44	26.01	

Table D-20

Analysis of Variance of Motivational Orientation × LA for the Value Logical

Source	df	MS	F
Motivational Orientation (A)	1	.125	.007
Subjects Within	22	17.35	
Leadership Acts (B)	2	35.79	1.67
A × B	2	35.29	1.65
B × Subjects Within	44	21.45	

Table D-21

Analysis of Variance of Motivational Orientation × LA for the Value Obedient

Source	df	MS	F
Motivational Orientation (A)	1	15.13	1.79
Subjects Within	22	8.41	
Leadership Acts (B)	2	.68	.16
A × B	2	.875	.20
B × Subjects Within	44	4.25	

Table D-22

Analysis of Variance of Motivational Orientation × LA for the Value Responsible

Source	df	MS	F
Motivational Orientation (A)	1	6.72	.39
Subjects Within	22	16.89	
Leadership Acts (B)	2	12.35	.75
A × B	2	2.68	.16
B × Subjects Within	44	16.39	

Table D-23

Analysis of Variance of Motivational Orientation × LA for the Value Self-Controlled

Source	df	MS	F
Motivational Orientation (A)	1	.125	.008
Subjects Within	22	15.14	
Leadership Acts (B)	2	14.00	.67
A × B	2	.67	.03
B × Subjects Within	44	20.67	