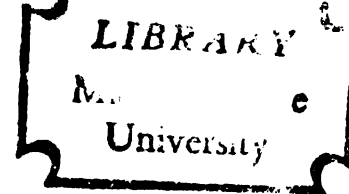


FACTORS AFFECTING PERCEIVED
ABILITY TO INTRODUCE CHANGE
AMONG AGENCY FOR INTERNATIONAL
DEVELOPMENT TRAINEES

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
JOHN MOFFAT WALLACE
1969



This is to certify that the

thesis entitled


FACTORS AFFECTING PERCEIVED
ABILITY TO INTRODUCE CHANGE
AMONG AGENCY FOR INTERNATIONAL
DEVELOPMENT TRAINEES

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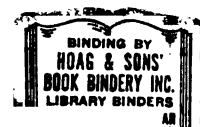
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ABSTRACT

FACTORS AFFECTING PERCEIVED ABILITY TO INTRODUCE CHANGE AMONG AGENCY FOR INTERNATIONAL DEVELOPMENT TRAINEES

by John Moffat Wallace

Each year the United States Agency for International Development and cooperating agencies, along with the government of developing nations provide technical training in the U. S. for approximately 6,000 people. The participants are expected to return to their homeland and perform as agents of change. This study attempts the task of identifying the factors affecting a participant's perceived ability to introduce change.

Throughout the study four basic questions were kept in mind:

1) what difference does past experience make in the formation of an individual's ability to introduce change? 2) do the individual's own attitudes and preferences about change contribute to his perceived ability to introduce change? 3) to what extent do the individual's perceptions of another's attitude or related behaviors, particularly his supervisor's, contribute to his perceived ability to introduce change? and 4) what effect does the M. S. U./A. I. D. seminar on communication have on the participant's perceived ability to introduce change as it existed prior to the seminar?

There are 221 subjects in the sample. Thirty two developing nations are represented. Data were gathered from responses to two self administered questionnaires. One questionnaire was completed on the Sunday prior to the seminar, the second on the Friday after the last classroom session of the seminar on communication. Zero order correlations were run on time one data to provide a basis for comparison to the Frank data (1965). The Automatic Interaction Detector Analysis technique (Sonquist and Morgan, 1964) was used as a multi-variate technique which further assisted in making comparisons and the clustering of relevant independent variables.

Analysis of the data from the five seminar groups and the comparison to the Frank findings contribute to the answers to the initial questions. In general, factors of past experience explain 48 percent of the variance in the dependent variable...perceived ability to introduce change. Furthermore, of the three categories of factors of past experience (individual, interpersonal, organizational), those in the interpersonal and organizational categories outweighed the individual category variables. That is the individual's perception of other's attitudes and behavior outweighed the individual's own attitudes or preferences -- with two exceptions -- in relation to perceived ability to introduce change. The exceptions in the personal category of variables were training relevancy and perceived ability to introduce change in the past.

The selection process of the automatic interaction detector analysis provides additional support for these findings. When all variables are being considered for each division, the selection process shows the lower explanation of variance by individual variables.

The results of the Frank (1965) data, also analyzed by the automatic interaction detector technique, are supportive of the findings of this study. Although the order of variables is different from that of this study, the same classes of variables dominate the explanation of variance of the dependent variable.

In each of the analyses, demographic factors (age, education, etc.) play only a minor role as predictors of perceived ability to introduce change.

As a result of the seminar experience, the scores on the dependent variable declined significantly. However, it was concluded that the shift was not socially significant due to the small amount of shift. The change of scores on perceived ability to introduce change does not clearly reflect the effects of the seminar. Participants with high scores, for example, reduce their optimism and those with low scores raised their optimism (reduced their pessimism). At least twenty percent of the participants altered their ratings of their perceived ability to introduce change. It seems reasonable to state therefore, although with some qualification, that the seminar does affect participant's ratings of their perceived ability to introduce change.

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The immediate implications seem to focus on suggestions for greater involvement of both the participant and his supervisor in the planning and preparation for training, as well as the anticipation of the utilization of the training on the return of the participant.

The findings also suggest that if the participant has a preference for a high level of structure initiated by the supervisor and has not seen himself as effective in the introduction of change in the past, that the participant may not be an effective agent of change after training.

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FACTORS AFFECTING PERCEIVED ABILITY TO
INTRODUCE CHANGE AMONG AGENCY FOR
INTERNATIONAL DEVELOPMENT TRAINEES

By

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CHAPTER I

INTRODUCTION

"Human interventions designed to shape and modify the institutionalized behaviors of men are now familiar features of our social landscape" (Bennis, Benne and Chin, 1961, p. 9).

An individual's perception of his ability to introduce such "interventions" in his social landscape is the major concern of this exploratory study. For the purpose of the study interventions are called change; and the locus of change activity is found in the expectations the individual has regarding his own change activity in the work situation.

What influences these expectations? A rather long list of factors, situations, attitudes and perceptions are examined. Generally, the two major categories of factors are 1) past experience with change behavior, and 2) effects of a one-week seminar on communication skills. The design of the study provides a measure of the individual's perception of his ability to introduce change at two points in time: before the seminar begins and afterwards. From this data, it is expected that analysis will shed light on the interaction of factors that influence the dependent variable - perception of ability to introduce change.

Among the questions entertained in the study are these: What difference does past experience make in forming an individual's perception of his ability to introduce change? Do his own attitudes and preferences about change contribute to this perceived ability? To what extent do the individual's perceptions of another person's attitudes or related behaviors, particularly his supervisor's, contribute to his perceived ability? And, what effect does the seminar in communication have on the participant's perceived ability to introduce change as it existed just prior to the seminar?

The subjects of the study are foreign nationals who have come to the United States from developing nations for training in programs sponsored by the Agency for International Development (AID) for a cooperating agency. This U.S. training program is intended to provide technical skills or generate ideas which the trainee will be able to take home and introduce as an improvement (change). The seminar on communication is presented by Michigan State University under contract with AID. The seminar comes at the end of the U.S. training program immediately prior to the trainee's departure for his home country. Approximately 25-30 percent of all AID trainees attend the one-week seminar which is designed to facilitate change efforts by the participants. For the purpose of this study, only those trainees who attend the seminar are considered as subjects.

Each participant is expected to arrive at the seminar site with a perception of his ability to introduce change in the future. For some,

this perception may be an overly optimistic estimation. For others it may be somewhat pessimistic. An important aspect of this study will be the attempt to measure the effect of the seminar on these perceptions. In addition, however, the interaction of factors of past experience with change is expected to be important in determining a perception of ability to introduce change. These factors will be studied in conjunction with the seminar effects. Since the participants are usually experienced people (doctors, nurses, agronomists, technicians, etc.), we recognize that their past experiences with change will play an important role in how they view future change activity. We have then, tentatively identified 32 factors of experience for study. These range from age, education, and attitude toward work-related change to the participant's authority level in the work organization and the number of people he supervises.

To a large degree the conceptual framework of this study stems from earlier research by Frank (1965) on "Change Agent Efficacy". We hope to add to the findings of Frank, particularly, and others, and to extend the period of analysis to include the MSU/AID seminar. The resulting data may be helpful in predicting success of AID trainees, or in structuring the seminar itself, and perhaps in selecting individuals for participation in AID training programs.

Rationale

The study focuses initially on factors which affected the individual's prior change behavior in the work organization. Emphasis is on

identifying and measuring these factors as perceived by the participant with respect to himself, his behavior and that of others in the organizational setting. The more recent influence of training, particularly the MSU/AID seminar is then studied in relation to the participant's perceived ability to introduce change. The participant is asked to respond to items in an index of perceived ability to introduce change both before the seminar begins and after the seminar week concludes.

A number of personal, social and physical factors combine to determine whether or not an individual will attempt to introduce change. In this case, the concept of change is used broadly. Bennis, et al, define change adequately for the purpose of this study: "...planned change includes a deliberate and collaborative process involving change agent and client" (Bennis, Benne and Chin, 1966). The client system is intended to cover situations within the organization as well as the relationships of employees with people outside the organization. For example, the participant may plan to introduce a change in accounting procedures in his department, or he may plan to alter the present approach to family planning in his district. The key terms in the definition are "planned" and "deliberate". The terms are included to remove from consideration any change events that might be described as evolutionary, naturally occurring, or otherwise determined. Change is specified to the extent that the principals have compared the present state of affairs with an alternative and have chosen the alternative course of action. The study is oriented to future change in light of prior experience with change. In other words, the participants are asked to

evaluate themselves with respect to introducing change after their return to their work situation.

The concept of perceived ability to introduce change stems from a study by Frank (1965). Frank labeled the concept "Change Agent Efficacy" (C.A.E.). In so doing, a notion was added that the higher a participant's score the more optimistic he was with regard to his ability to introduce change. Frank also studied factors of past experience to define predictors of change expectations. In this study, the MSU/AID seminar is added to improve that predictability.

The Dependent Variable - Perceived Ability to Introduce Change

The target of influence is the individual participant in the training program. The dependent variable of the study is designed to measure the effects of past experience in the work situation and in the training program on the participant's perception of his ability to introduce change in the future. In order to be able to evaluate himself, the participant must have had either direct experience with change or have been able to observe change behavior or have had access to information regarding change activities in a relevant organization.

In large measure, the training program is intended to provide information which will support or strengthen the individual's perception of his ability. Although for some the contrast between the home situation and that found during the U.S. sojourn may induce a degree of pessimism, the group is expected to be generally optimistic with respect to ability to introduce change.

Factors of Past Experience

The factors of past experience may be loosely grouped into three categories: 1) those which are INDIVIDUAL, 2) those which are INTERPERSONAL - a result of relationships with others or observation of the behavior of others, and 3) those factors which reflect ORGANIZATIONAL characteristics.

In the first category are found the attitudinal, demographic and training relevance factors. The interpersonal category has as referents an aspect of some relationship or interaction with others and the perceptions of others with respect to change. The organizational category contains those factors most frequently viewed as part of the description of an organization - the communication process, authority level, etc.

Individual Factors

If the individual's attitude toward work-related change is favorable, it seems more likely that he will be thinking in terms of introducing change. A favorable attitude would be prerequisite to involvement in change activity. Given a favorable attitude, some experience with change may be necessary for the formation of an expectation and perception of one's ability. Perceived effectiveness with past change efforts, a measure of satisfaction and amount or extent of involvement, are included to tap the attitude as fully as possible since the ease or difficulty encountered with change has a bearing on the attitude formed.

The training relevancy is another factor, included in the individual category, which takes on importance in this study. There are several reasons for asking the participant whether or not he received what he felt he came to get. Training programs tend to be viewed idiosyncratically, and if perceived to be irrelevant, the trainees perceived ability to introduce change may be negatively affected. On the other hand, if the participant feels the program to be highly acceptable, it is more likely that he will have acquired a new technique, a new idea, or made contacts that raise his perceptions of his ability to introduce change. Extreme examples of training irrelevancy have occurred: i.e., training on equipment more advanced than that available in the home country.

Factors Related to Others - Interpersonal

An individual may have a philosophy with respect to the way a supervisor should carry out his duties. Although this philosophy is individualistic in nature, it is considered in this category because it originates from relationships with others. It also provides an opportunity to discuss the individual's perception of the way his supervisor does carry out his duties.

1. Supervisory Initiation of Structure

If a supervisor is expected to give specific instructions on job performance, offer criticism and initiate group interaction toward goal attainment (Fleishman, 1953), this may be described as initiating

structure. The more freedom the individual is given the less structure is initiated. In this context, the individual is expected to be unable to be active in introducing change if the supervisor is perceived as initiating structure at a high level. By the same token, if the individual's philosophy is that a supervisor should initiate structure, then the individual is not expected to initiate change or view himself as an active agent capable of change.

Both the philosophy of supervisory initiation of structure and the individual's perception of the degree of structure initiated by his supervisor are expected to influence the individual's perception of his own ability to introduce change. Furthermore, a discrepancy between the philosophy and what is perceived as occurring is expected to work against change behavior and the perception of change ability.

2. Supervisory Consideration

Another pairing of philosophy and perception is suggested in regard to supervisory consideration. Positive consideration is viewed as a potential facilitator of change behavior. Consideration covers the relationships which are less specific to task performance than structure is. The concept comes from Fleishman (1953) as adopted by Frank (1965). The concept is intended to include relationships such as friendship, mutual respect, concern for feelings, and so on.

The greater the consideration the supervisor is perceived to have or believed should have, the more likely the participant will feel able to introduce change. If the philosophy and perception of consideration are discrepant, the perceived ability is expected to be low.

3. Supervisor Interaction Style

Supervisor interaction style is included to tap the work situation further. Interaction style refers to the way with which the supervisor exercises his role in relation to his subordinates. The style variable is included to extend the normative descriptive dimensions of initiation of structure to an assessment of the actual behavior as perceived by the participant.

4. Supervisory Attitudes Toward Work Related Change

The supervisor's attitude toward work related change is a potential hindrance or help to the subordinate. If the individual is returning to a supervisor who feels change is useful, healthy for the organization, and so on, the trainee is more likely to feel change could be introduced. The supervisor would at least listen so that the ideas could be presented.

5. Others' Expectations of Your Change Behavior

People other than superiors influence the individual with respect to change activities. If the individual feels that others in the organization have expected him to introduce change in the past, then they are likely to continue to expect change from him. This situation is seen as contributing to a more optimistic perception of ability to introduce change.

6. Supervisory Agreement on Training Relevancy

The supervisor will have much less data from which to judge the relevancy of the training. His data will be of a different order,

as well. The supervisor's views may be partly acquired from his own experience on a training program or that of others he has known. We are asking the participant how he perceives the supervisor perceives the training. This may stem entirely from impressions gained prior to leaving. If the supervisor was less than enthusiastic, the participant is less likely to feel able to introduce what he has learned. If he found the supervisor in agreement, we would expect this to contribute to a feeling of positive ability to introduce change on return.

7. Target of Change - Social: Non-Social

Social is distinguished from non-social to separate those projects which involve people from those which are primarily physical, technical and low in involvement of people. At the same time the participant who indicates an emphasis on non-social plans for change may be overlooking the likelihood of people entering into the situation. If people are overlooked, then the participant may fall into the over-optimistic group in terms of his perceived ability to introduce change. The person expecting predominantly non-social targets of change is expected to have a relatively high perceived ability to introduce change. The more social the nature of the target of change the less able the participant is expected to perceive himself. Non-social target of change was classified as an organizational factor.

Organizational Factors

1. Consequences and Effects of Past Change

When the participant had introduced change in the past, the rewards and punishments for his behavior may be viewed as part of the organizational system. If the participant perceives that his change efforts were rewarded in the past, then he is more likely to be optimistic about future rewards. This optimism is expected to be reflected in the perception of ability to introduce change. If the participant sees himself as able to introduce change, he will feel more able if it has been rewarding.

2. Future Physical Factors

A number of physical circumstances such as lack of machinery, equipment, facilities or funds may affect the individual's ability to introduce a planned change. Participants are expected to see their plans hindered if physical factors may be a problem. The anticipated shortage of required physical factors would be expected to reduce perceived ability to introduce change.

3. Position in the Hierarchy - Number of People Supervised

Position, number of people supervised, and the expected position change are factors included because of the relationship to power and authority in the organization. The participant is expected to perceive himself more able to introduce change on his return home if he expects a higher position. The higher the position, the fewer people supervised, the more prestigious the title, then the more likely the participant will perceive himself able to introduce change.

4. Organizational Communication Process

The organizational communication process is related to the authoritative-participative dimension of Likert (1967). As the organizational communication process characteristics are perceived to be participative, the participant is expected to be better informed and to feel more involved in the workings of the organization. Given a feeling of well being and more information to become involved in organizational activity, the participant is more likely to see his way clear to introduce change.

All together, the factors of past experience are viewed as correlates of perceived ability to introduce change. Analysis will provide a means by which to select the relevant correlates and their cumulative contribution to the explanation of variance in the dependent variable - perceived ability to introduce change.

Correlates of Perceived Ability to Introduce Change

Both Frank (1965) and Cleary (1963) present evidence of the inter-relatedness of many of the variables under consideration. Consequently, each single variable relationship is listed as a correlate of Perceived Ability to Introduce Change rather than stated as an hypothesis. The variables are those related to past experience. Later, the relationships to seminar experience are presented as hypotheses. All parts of the study are exploratory although certain evidence is being sought to compare to the Frank findings.

The list of correlates of the dependent variable follows:

- +* Attitude toward work related change
- + Others' expectations of your change activity in the past
- + Consequences and effects of past change
- + Perceived effectiveness with past change efforts
- + Satisfaction with past change activity
- + Extent of past change activity
- Difficulty with past change activity
- + Supervisor's attitude toward past change
- + Agreement with supervisory attitude toward past change
- + Training program relevance
- + Supervisory agreement on training relevance
- + Supervisory consideration
- + Supervisory consideration - philosophy
- + Agreement between philosophy and perceived supervisory consideration
- + Supervisor interaction style
- + Supervisor initiation of structure - philosophy
- + Target of change - non-social
- Target of change - social
- + Target of change - degree of importance (social:non-social)
- Interference of physical factors with future change
- + The organizational communication process; authoritative-participative
- + The number of years of experience in the vocation
- + The expectation of working with the same supervisor
- + \ Period of time working with the same supervisor
- + Expected position change on return
- + Authority level
- + Education
- + Age
- Length of training time
- Occupational group
- + Position title
- Country - region of the world
- + Number of people supervised

*predicted direction of relationship

The MSU/AID Seminar on Communication

Each year the United States Agency for International Development in cooperation with the governments of other countries, brings approximately 6,000 people to the United States on technical training programs. Individuals sponsored by other means or independently financed bring the total of foreign nationals studying in the United States at any one time to approximately 100,000 people. Between twenty-five and thirty percent of the AID and cooperating agency participants attend the MSU/AID seminar on communication. The seminar is classed as a supplementary training program and has as a main goal the discussion of the introduction of change.

The MSU/AID seminar has been reviewed, evaluated and appraised unsystematically through the statements of individual staff members and participants. In addition participants have been the subjects of several systematic studies. An appraisal of the literature leads to the conclusion that a number of questions are currently unanswerable. Are the goals of the seminar achieved? What are the effects on the participants? An attempt is made to provide data in support of some of these questions.

To what extent does the seminar influence the expectations of the participants? The expectations in question are those related to future change activity. Since the participants have been in the United States on a training program, it is assumed that they will eventually attempt to introduce change. The change may, in a few cases be none.

The individual may not return or may not attempt change (Ellingsworth, 1961).¹ It is assumed also that, in anticipation of his return, the participant has a set of expectations regarding future change. What is not clear, is the extent to which the seminar influences the set of expectations which were brought to the seminar.

Seminar Objectives

The technical program is designed to provide the knowledge and skill required to carry out the mechanics of change. The seminar is designed to assist with the social-cultural and communication variables necessary for the successful introduction of change. The statement of objectives illustrates the breadth of the current position, the goals of sensitization of the individual and "internalization" of concepts. The seminar objectives, as stated in the contract between A.I.D. and M.S.U., are as follows:

"The purpose of this contract is to provide training to A.I.D. participants through communication seminars designed to give them a sharpened understanding and appreciation of the role of social change agents and the importance of effective communication in the ultimate success of social change activity.

The aims of the seminars are to sensitize the participant to the complexity of the change agent role and introduce him to the basic principles of effective communication, particularly in the relation to situations involving social change. Stated in greater delineation, the aims include 1) introducing the participant to the nature and process of social change, 2) examining successes and failures

¹ Officials of the Agency for International Development estimate that less than one percent of participants do not return to their home country.

of social change, in such societies with a stress on the study of successful methodology and particular techniques, and 3) examining the nature of the communication process with particular attention to the elements that are vital to the successful achievement of planned social change in developing societies.

The seminar should stimulate the participant to analyze himself, his physical and social environment, the nature of the process of change, and the use of various methods of communication in bringing about economic and social development.

Because of the comprehensive nature of these seminars, such disciplines as sociology, psychology, anthropology, education and mass communication should be inter-related to the fullest extent in the seminar curriculum.

The teaching within the seminar should be a model of effective communication, a demonstration of new and dynamic approaches in teaching that result in 'internalization' of concepts and principles. Among other things, this kind of teaching requires that the participant personally experience the operation of the principles being taught."

The Effect of the MSU/AID Seminar

The MSU/AID seminar attempts to alert the participant to personal interrelationships, group dynamics and other variables connected with change such as physical, cultural and organizational variables. To date, individual reports and voluntary feedback have constituted the bulk of evidence in relation to the effectiveness of the seminar in achieving its goals.

Five studies have been carried out at the seminars: Cleary, 1966; Frank, 1965; Keith, 1966; Stellwagon et al., 1964 and 1966. Cleary and Frank did not study the seminar. Two additional studies did not include measures of seminar effect as part of a larger follow-up study in the participant's home country. One of these studies was

a global analysis of the A.I.D. Participant Training Program (1966). The other was carried out by Deutchmann, Ellingsworth and McNelly (1968). Each of these studies has focused on change and some aspect of the attitudes and expectations of the participants with respect to change. If reliable and valid measures of the variables can be developed, a model to predict change behavior may be developed.

Earlier efforts to measure the effect of the seminar have been unsuccessful or qualified with uncertainty. It seemed reasonable to determine effects in general before proceeding to within kinds of inquiry. Opinions are available which claim that effects related to the seminar goals are not measurable until some time after the participant has returned home. We agree that this is an alternative explanation for the lack of significant findings. In this study, the dependent variable is conceptually connected to the main goals of the seminar and is expected to tap the effects related to perceptions of ability to introduce change.

Participants, staff and content vary each week. There are five seminar weeks included in this survey. The style of teaching, techniques of involvement, and visual aids vary in kind, in frequency and in treatment from one week to the next. But the goals of the seminar remain stable from week to week. The underlying philosophy for achievement of the goals is the principle of equifinality: "A system can reach the same final state from differing initial conditions and by a variety of paths" (Katz and Kahn, 1966).

Regulatory mechanisms to control the seminar sessions are minimized to facilitate equifinality. In addition, some regulatory mechanisms are built in to minimize the intrusion of low level needs (Maslow, 1954) on the time available for the accomplishment of seminar goals. For example, questions about housing, food or transportation are either anticipated or attended to as quickly as possible. The seminar has some factors built in to bring about change. These can be described. The study attempts to measure the overall effect of the seminar on the participants with respect to their perceived ability to introduce change in the future.

Implications of Frank Study Findings

The three categories of correlates related to past change experience are broadly defined to be descriptive of the individual, his interpersonal relationships and the respondent's organization. Frank (1965) did not study the seminar, but he did study factors of past experience in order to define predictors of change expectations. He found interrelatedness of many of the variables under consideration in this survey, and his data suggest the need for further analysis of these factors.

In addition to a general attitude toward past change, the Frank results indicate that the effectiveness dimension is relevant. Frank suggests that effectiveness may be an index of attitude toward work-related change. The participant who rates himself as effective in his previous efforts with the introduction of change is expected to be optimistic regarding future change efforts.

The time period in the training program is expected to correlate negatively with perceived ability to introduce change. The shorter the program, the more optimistic the participant is expected to be. Frank's findings support this position, but the results of the world wide study indicate that people on longer programs may ultimately be rated as more effective by their superiors. For this stage in the program, the hypothesis was formulated on the grounds that programs tend to differ in specificity of content as a function of the length of the program. Participants on shorter programs are more often sent to learn a specific technique. Another function of time is the awareness and expectation of the supervisor that the trainee will return with new methods or new techniques to introduce into the organization. On the short run, then, the short term participant may not only perceive himself better able to introduce change, but he may also do so rather immediately with the specific technique he was sent to learn. The long term change agent may very well be the one who has had a longer training program, but he may not have a specific change and the means for its introduction in mind immediately before returning to his home.

Among the interpersonal correlates, Frank findings support the arguments for including relationships and attitudes of others in the work situation. This group of correlates is included in the study because of the facilitating or inhibiting effect the supervisor and others in the work situation may have on the individual's perceived ability to introduce change. Generally speaking, one would expect to find a

pessimistic outlook with respect to change if the supervisor disagreed, consistently held different views, or saw no need for the training program.

In the category of organizational correlates, the organizational communication process was not considered in the Frank study. In terms of classifying an organizational system, the Frank study differs from Likert (1967). Likert uses four categories, or a system continuum from "Exploitive Authoritative-Benevolent Authoritative" through "Consultative Participative and Participative Group." The Frank variables do, however, parallel Likert operating characteristics. For example, Likert's "intervening class of variables" are "motivational forces" (p. 14). The communication process measures, included in this study are expected to provide further information regarding the relationship between Perceived Ability to Introduce Change and the organizational style or behavior. Furthermore, the classification may provide insight into questions raised by Frank regarding the occupational groupings, i.e. police, education.

Frank suggests that the learning that occurs as a person consciously participates in the process of change is expected to build "confidence and understanding of how to bring about further change" (p. 16). Contributing to this relationship between learning and the perceived ability are the perceived benefits which accrued to others who introduce change.

A division of respondents into occupational categories in this study is expected to reflect differences in perceived ability to introduce change among occupational groups. The division is made because

of the possibility of inherent factors in certain occupations such as differential peer-superior relations in education, the police or military, and government. Furthermore, participants who hold higher positions in combination with supervising few people are expected to feel better able to introduce change than those who hold lower positions and supervise a larger number of people.

Hypotheses

As previously stated, one of the goals of the seminar is to provide information and experiences which will facilitate the introduction of change on the part of the participant. If this occurs, then the level of perceived ability to introduce change would be expected to rise for the group. For approximately 10 percent indicating high perceived ability and 10 percent indicating low perceived ability, their over-optimism and their over-pessimism is expected to be lowered in the case of the high scorers and raised in the case of the low scorers. In each case, the change is predicted as significant whereas the change for the remaining 80 percent is expected to be reflected only in the overall shift in ratings. The notion of over-optimism and over-pessimism stems from the Frank (1965) findings of eight typologies of optimism and pessimism.

Hypothesis I

Attendance at the MSU/AID seminar is expected to raise participant expectations regarding his perceived ability to introduce change in the future.

Hypothesis II

The exposure to the seminar is expected to reduce the optimism of some (the high 10 percent) and significantly to reduce the pessimism of others (the low 10 percent) with respect to their perceived ability to introduce change in the future.

The foregoing hypotheses will be tested by analyzing the shift in mean scores on measures taken before ~~an~~ and after the seminar. The correlates will be analyzed separately and comparatively through the calculation of zero order correlations and the use of the Automatic Interaction Detector Analysis. The method and design are discussed at length in the following chapter.

CHAPTER II

RESEARCH METHOD

INTRODUCTION

The subject matter of this chapter is divided into four topics: 1) instrument construction; 2) data gathering procedures; 3) operations; and 4) design and analysis. The report of the data gathering procedures is in Appendix B. A discussion of the method followed in the construction of the final instrument is in Appendix B along with the report of the item analysis. The body of the chapter is made up of a section on the operations for the measurement of the variables and a section in which the rationale for the design and analysis of the study is presented.

OPERATIONS

Perceived Ability to Introduce Change

Frank (1963) developed a seven-item scale to measure Perceived Ability to Introduce Change. The items were designed to focus on change activities perceived to be within the individual's "own power". One item taps a general assessment of ability to introduce change, and six emphasize future change. Each subject's

Perceived Change Ability score was arrived at by summing the scores across the seven items.¹

Perceived Ability - Past²

Perceived Ability - Past was included to gain a current measure of the individual's perception of his success or ability in the introduction of change prior to the training program. Two items from the Frank study were used as an index of the concept. Index scores were calculated by summing the two item scores.

Attitude Toward Work-Related Change³

This five-item scale was patterned after Frank. The items probe the individual's preference for variety or routine work as well as his willingness to change his job. Response scores were summed across the five items to give an index score.

Past Change Activity⁴

Past Change Activity is divided into three aspects, 1) extent of change activity, 2) satisfaction with the activity, and 3) difficulty encountered with change activity.

¹See Appendix A, variable numbers 20, 61, 62, 63, 65, 66, 67.

²See Appendix A, variable numbers 33 and 34.

³See Appendix A, variable numbers 5, 15, 18, 21, 25.

⁴See Appendix A, items 24, 31, 32.

In order to assist the respondent and facilitate his responses to the questions, the respondent was asked to reply to the following request: "briefly describe what you feel was the most important change which you introduced within your organization during the year before you came to the United States".

The scores for each of the items were analyzed separately.

Past Change Activity - Consequences of Change by Others¹

These two items focus on the participant's perception of the effects of change by others. One is directed toward general results and subsequent effects. The other is directed toward personal consequences of the introduction.

The index score was calculated by summing across the two items.

Past Change Activity - Expectations of Others About Change Activities²

This measures the individual's feelings about what others expected of him in regard to change in the work situation.

Scores for the index were determined by adding across the three scores.

Supervisor's Attitude Toward Past Change³

This measure attempts to broaden the focus on change by seeking the individual's opinion of his supervisor's feelings about past change.

The sum of the responses to the two items made up the index.

¹ See Appendix A, items 11, 17.

² See Appendix A, items 8, 12, 39.

³ See Appendix A, items 54, 55, 56.

Attitude Toward Supervisor

In order to understand a participant's perceived ability to introduce change, it was considered important to inquire into his perception of the "supervisory climate" in which he would be working. Two aspects of supervisory behavior were measured.

The Supervisory Consideration Scale¹ was taken from the Fleishman Supervisory Description Scale (Fleishman, 1953). Six items were used from a two-factor solution with 48 items. Scores were calculated by summing the scores of the individual items.

The Supervisory Interaction Style² items were taken from the Nelson (1949) Leadership Inventory. Index scores were made up of the sum of the scores of the two items.

Supervisory Philosophy - Consideration³

The wording of four of the supervisory consideration items were changed to seek the respondent's philosophy of how a supervisor "should" act or how an "ideal" would act.

Summation of the four items scores provided the index score. Difference scores were calculated by subtracting the "ideal" from the "actual" scores.

¹See Appendix A, items 41, 44, 47, 48, 50, 52.

²See Appendix A, items 37, and 38.

³See Appendix A, items 76, 80, 81, 84.

Supervisory Philosophy - Initiation of Structure¹

The items of this scale were designed to measure the participant's preference for his supervisor to initiate structure, i.e., decisions and instructions on job performance or closeness of supervision. Four items from the Fleishman (1953) scale make up the index. Scores are summed across the four items to produce the index score.

Influence of Physical Factors²

Funds, equipment, manpower and time are components of both change and the individual's attitude toward change. Frank results indicate that these components of change may be more relevant for future consideration than past experience. Three items were used to direct responses to future expectation about the influence of physical factors.

Index scores were calculated by summing across the three item scores.

Targets of Change

These items were designed to measure the degree of involvement in change activity in two general target areas: 1) people or social change³; 2) physical or technical change.⁴ The first two indexes refer to the expected target. The third⁵ index refers to preferences,

¹See Appendix A, items 75, 79, 83, 86.

²See Appendix A, items 57, 58, 60.

³See Appendix A, items 68 and 69.

⁴See Appendix A, items 70, 71, 72.

⁵See Appendix A, items 1, 4, 9, 23.

estimates of ease in introducing change with respect to one or the other of the targets, estimates of general importance and personal importance of one or the other, social or non-social targets. The three indexes were calculated by summing the item values in each scale.

Training Relevancy¹

A three-item scale was designed to determine whether the training was deemed to be useful, satisfactory and relevant to the individual. Scores were obtained by summing across the three items.

Authority Level²

In order to take into consideration the effect of position in the organization with respect to Perceived Ability to Introduce Change, two items were designed. One seeks an estimate of the level the individual has achieved in the status hierarchy; the other takes into consideration the number of people supervised. The sum of item scores produced the index.

Organizational Communication Process Characteristics³

The six items used to measure this variable were adapted from Likert (1967). By probing the various communication characteristics of the organization, the index provides a profile description of the organization. The items seek the following data: an estimate of the

¹See Appendix A, items 3, 6, 7, 14.

²See Appendix A, items 73 and 74.

³See Appendix A, items 87, 88, 89, 90, 91, 92.

amount of interaction and communication aimed at achieving the organization objectives; the direction of flow of information; how subordinates interpret communications from above, i.e. with suspicion; accuracy of upward travelling communication; how well superiors understand the problem faced by subordinates; and an estimate of the amount of cooperative teamwork to be found in the organization.

Index scores were calculated by summing across the six items.

Single Item Measures

- 1 - Expected Position Change¹
- 2 - Satisfaction Concerning Position Change²
- 3 - Length of Work Experience Under Supervisor³
- 4 - Supervisory Agreement About Training Relevancy⁴

Demographic Data⁵

Information was gathered such as country, months in the U.S., weeks before leaving, age, sex, education, name of position, kind of work done, and years of experience.

¹See Appendix A, item 26.

²See Appendix A, item 35.

³See Appendix A, item 36.

⁴See Appendix A, item 40

⁵See Appendix A, items 103 through 113.

Research Design

Data Gathering Procedures

Participants at five Michigan State University/Agency for International Development Seminars on Communication were administered a questionnaire on the Sunday afternoon shortly after their arrival at the seminar site. The questionnaire was designed for self administration. On the Friday afternoon at the end of the seminar, a post-test questionnaire was administered. The post-test questionnaire contained repeat items of the Perceived Ability to Introduce Change scale. At this time the training relevancy items, four single item measures, the organizational communication process items, and the demographic data were gathered.

The Sample

The sample of the population of participants may not be described as randomly selected. The sample will be random to the extent that the A.I.D. participants attend by chance as far as the researcher is concerned. The chance of being selected to attend a seminar has a known probability of one in three or four. Only one in three to four participants in the country in any one year attend the seminar. The decision to send participants is made by more than 200 different individuals in Washington and abroad. Cautious generalization to the current population of international trainees should be permissible.

The question of a control group was discussed at length. International Trainees who did not attend the seminar during the sample

period were to be asked to complete the questionnaires. Two factors led to the decision to eliminate the control group. One was that the participants do not meet in one place before departing for home. Only those departing from the East pass through Washington. The second factor was that in order to develop a list from which to draw a sample it required the cooperating of more than 200 persons in several federal agencies. A.I.D. officials and the researcher agreed that the task required an inordinate amount of energy. Moreover, experience indicated a relatively high probability of failure.

Method

The method of the Frank study was used as follows:

- 1) Item analysis was carried out by calculating the inter-item correlations. (See Appendix B for the discussion)
- 2) Indexes were constructed according to the number of items retained and the coded values of the responses to the items. (See the section on operations)
- 3) Zero order correlations of the independent and dependent variables were calculated.
- 4) Analysis of variance was used where data distributions indicated the assumption of linearity has been violated.
- 5) Demographic data analysis included Time in the United States and Age, as well as nine occupational areas.

Additional Analytic Techniques

- 1) The differences between means of the perceived ability to introduce change scores with the effects of the seminar were tested

by correlated t-test. The subjects were neither randomly selected, randomly assigned to the group nor randomly assigned to treatments. The correlated t-test was selected because of the "robust" nature of the test under violation of assumptions (McNemar 1962). We are assuming a sample distribution arising from a normally distributed universe and that the variances of the two universe variances are equal. The subjects were treated as one sample although the data were scrutinized for among seminar differences as well as by tenths across the seminar week.

2) Automatic Interaction Detector Analysis

Because of the number of independent variables and the expected interaction of some, a multivariate analysis was included. This technique is called Automatic Interaction Detector Analysis. The method is discussed in the following section.

Sequential Interaction Analysis

The Automatic Interaction Detector computer program for the CDC 3600 was selected for the analysis of data from the study for several reasons. The authors of the technique (Sonquist and Morgan, 1964) point out the serious questions which arise from the use of statistical tests of significance which usually assume simple random sample models. The technique Sonquist and Morgan developed does not require assumptions of linearity, the absence of interaction and normality, or scaled variables, for example. Yet it permits the determination of the simultaneous effects of thirty or forty variables.

In the authors' words, "We have tried to break away from the habit of asking the question, 'what is the effect of x only, when everything else is held constant?' This (question) has been replaced with, 'What do I need to know most in order to reduce predictive error a maximum amount?'" (Sonquist, p. iv).

The technique, as a form of multivariate analysis, is designed to maximize predictive ability and to discriminate between classes of observations for which predictability is "good" and classes of observations for which predictability is "poor". The basic conceptual scheme for this study does not constitute a precise model. The AID program offers, in an inductive way, an opportunity to formulate more precise statements about the variable relationships than parametric models.

The technique provides the values of each variable which operates to account for maximum variance, in the presence of other variables. In this study the conjunctive efforts of attitudes toward work, physical and organizational factors, status and so on may be determined with respect to the dependent variables. The researcher may have a framework which organizes the variables into sub-systems such as personality, environmental and social. The grouping then provides an analysis at a different level. Several configurations of variable values results. This permits a description of individual and social system typologies which maximally explain variance in the values of the dependent variable.

"The analysis proceeds as follows:

1. Examination of the mean of the dependent variable against each possible partition point in the range of a variable code. The partition point selected is that point which best divides the sample of respondents in terms of variance explained.
2. This same process is repeated for each variable.
3. Having done this, the technique selects that variable which best explains the dependent variable.
4. At this point the sample is dichotomized on that variable at the derived partition point.
5. The next step is to take that group with the largest unexplained variance, and once again repeat the within variable partition process across all variables, with the residual variance.
6. Again, that variable which best explains the residual variance is utilized to further classify (by dichotomization) that segment of the sample being scrutinized.
7. The process is allowed to continue until no way can be found to reduce the residuals by a sufficient amount or the sub-group becomes too small." (Keith, 1968)

As with another multiple variable analysis, the addition of variables which correlate with the criterion variable will alter the resultant configuration. If, however, the added variable inter-correlates with one of the independent variables, that variable which explains the greater amount of variance will be chosen and the second will be discarded in as much as it does not contribute to variance explained.

If, over time, the measurement instrument were improved, the configuration would be altered. A more sensitive instrument would discriminate differently among respondents. This would lead to an expected difference in variance explained.

An additional reason for choosing sequential interaction analysis was to compare findings with those of the Frank study (1963). Although Frank used a median split technique for the development of his eight typologies, the advantages of Automatic Interaction Detector seem to override the arguments in favor of replicating Frank's technique. (AID was not available to Frank at the time, but the arguments for both analyses are compatible). The refinements in the present technique include the removal of the constraint of transforming the data to a binomial population or the reduction of the data to a bivariate form. The interaction analysis determines the point of division of the scores from the calculation of scores which maximally explain variance in the predictor variable. The median split approach does not take into account the variance explained.

The 22 variables to be included in this study, using the interaction analysis technique, are 1) Attitude toward work-related change, 2) Past change activity, 3) Consequences of change by others, 4) Expectations of others about change activities, 5) Supervisor's attitude toward past change, 6) Attitude toward Supervision - consideration and interaction style, 7) Supervisory Philosophy - a) Consideration b) Initiation of Structure c) Interaction style, 8) Influence of physical factors, 9) Target of change - social, technical, degree of involvement,

10) Training relevancy, 11) Authority level, 12) Expected position change 13) Satisfaction concerning position change, 14) Length of experience under supervisor, 15) Supervisory agreement about training relevancy, 15) Organizational communication process characteristics, 16) Geographical region of home, 17) Length of stay in the United States, 18) Age, 19) Sex, 20) Education, 21) Vocation, 22) Years of experience in field of work.

CHAPTER III

RESULTS

General Characteristics of the Sample

Data were gathered during five weeks of seminars held at Atwood Lake Lodge, Dellroy, Ohio, in the fall of 1968. Participants arrive at the lodge, for the most part, on Sundays from 3 p.m. on. Some arrive on Monday. Questionnaires were handed to those who arrived prior to the 8 p.m. Sunday meeting which officially begins the seminar. Of the 307 participants recorded as attending the seminars, 59 arrived after the deadline for responding to the pre-seminar instrument. Twenty-seven did not complete the post-seminar questionnaire. The final N was 221 completed pairs of questionnaires.

Participants represented 32 countries. The countries group into four regions used by A.I.D.: Latin America, Sub-Sahara Africa, Near East and South Asia, and the Far East. In this study, the Near East and South Asia were separated to give five distinct regions (Table I). The largest representations of participants were from Latin America and the Far East regions. The smallest representation was from the Near East. The 35 participants from Brazil constituted the largest single country representation (see Appendix C for the complete list of participants by country).

TABLE I - Regions of the World Represented by Participants

Latin America.....	26 percent
Sub-Sahara Africa.....	17
Near East.....	9
South Asia.....	21
Far East.....	27

100 percent

The majority of participants were male; ten percent were female. The median age was approximately 33 years. The educational background of the group indicates that 90 percent had received post-secondary education. Seventeen percent had attended university while 10 percent indicated that they had had no post-secondary education. The median period of work experience was just under five years (Table II).

TABLE II - Years of Work Experience

From 10 to 20 or more years....	9 percent
From 5 to 10 years.....	27
From 2-1/2 to 5 years.....	30
From six months to 2-1/2 years.	28
Up to six months.....	6

100 percent

The median length of stay in the United States was under six months (Table III).

TABLE III - Length of Training Period in the United States

More than 24 months	4 percent
12 to 24 months.....	16
Six to 12 months.....	23
Four to six months.....	22
Less than four months.....	36
	<hr/> 100 percent

RESULTS OF CORRELATION ANALYSIS

Zero order correlations were run on the variables with predicted relationships to the dependent variable (Perceived Ability to Introduce Change). Table IV lists these variables and the zero order correlation values. A second column provides the correlation values found by Frank (1963). The results are presented and a comparison made with the Frank results, as follows: 1) results which support the Frank findings; 2) results which differ from the Frank findings; and 3) correlates of this study which were not a part of the Frank study.

TABLE IV - The zero order correlation values, r values, of the selected variable and perceived ability to introduce change

Description of the variable	<u>r values</u>	
	Wallace (n=221)	Frank (n=317)
Attitude toward work-related change	-.012	.05
Others' expectations of your change activity	.248*	.20*
Consequences and effects of past change	.086	.14**
Perceived effectiveness with past change efforts	.115	.33*
Satisfaction with past change activity	.216*	.17*
Extent of past change activity	.009	.11**
Difficulty with past change activity	-.044	.07
Supervisor's attitude toward past change	.122	.22*
Agreement with supervisory attitude toward past change	.027	.01
Training program relevance	.281*	.24*
Supervisory agreement on training relevance	.098	.32*
Supervisor consideration	.091	.11**
Supervisory consideration - philosophy	.155**	.15*
Agreement with philosophy and perceived supervisory consideration	.088	.02
Supervisor interaction style	.173**	.04
Supervisor initiation of structure-philosophy	-.225*	.02
Target of change/non-social	+.150**	.23*
Target of change/social	-.132	.21*
Target of change - degree of importance (soc:non-soc)	-.007	.04
Interference of physical factors with future change	-.192*	.18*
Organizational communication process: authoritative-participative	.062	
Number of years experience in vocation	.185*	.08
Expectation of working with same supervisor	+.136**	
Period of time working with same supervisor	.093	.04
Expected position change on return	.021	-.01
Authority level	.179*	.12**
Education	-.131	.03
Age	.166**	.11**
Length of training period	-.274*	-.16**
Occupational group	.109	F-test*
Position title	-.168**	
Country - region of world	-.028	F-test, n.s.
Number of people supervised	.256*	

*significant at the .01 level¹ Frank r .15; this study r .175
 **significant at the .05 level Frank r .11; this study r .134

¹ Guilford, Table D, p. 564.

Eleven measures produced findings which conflict with Frank's findings. In three of the cases the results were significant in the findings of this study but non-significant in the Frank study. These variables are:

- Supervisor interaction style
- Supervisor initiation of structure - philosophy
- Number of years experience in vocation

Eight of the relationships found to be significant in the Frank study produced non-significant correlations in this study:

- Consequences and effects of past change
- Perceived effectiveness with past change
- Extent of past change activity
- Supervisor's attitude toward past change activity
- Supervisor's agreement on training relevance
- Supervisor consideration
- Target of change/social
- Occupational group

Two correlations appear to conflict although in one case the negative r is non-significant. The wording of the hypotheses in the two studies produced the correlations of differing sign although the interpretation remains parallel. A high expectation of a social target of change was expected to be related to a low perceived ability to introduce change. Also a high expectation of interference of physical factors in the future was expected to be related to a low perceived ability to introduce change.

Four measures were included in this study but not in the Frank study:

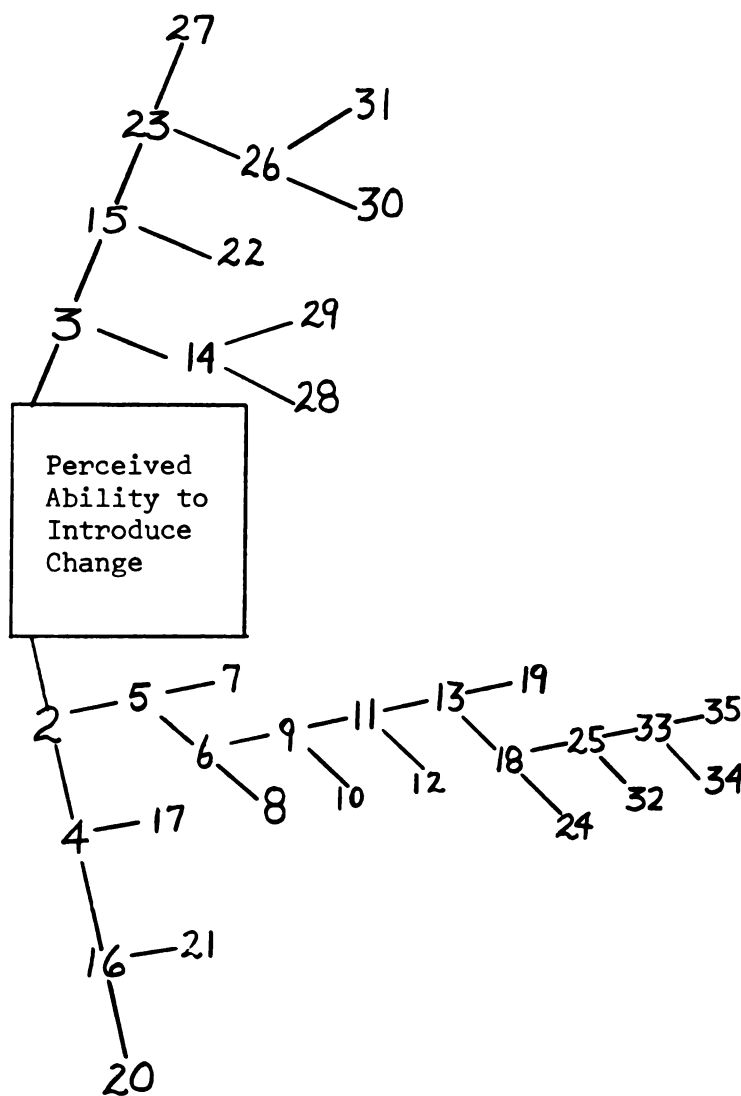
- Expectation of working with the same supervisor on return
- Position title
- Number of people supervised
- Organizational communication process/authoritative-participative

Five relationships which did not correlate were shown to be significant following one-way analysis of variance. The score distributions were divided into categories from low to high on the independent variable to parallel the Frank technique. The sample was divided into five categories (except on supervisory agreement on training relevancy where cell size did not permit a fifth category). Category 4 or 5 (with the exception of country) represents a high value. The Perceived Ability to Introduce Change cell means, n , F value and probability are given in Table V. The zero order correlation is included.

TABLE V - Results of One-way Analysis of Variance - Five Variables

Perceived Ability to Introduce Change						
	Category	Mean	n	F	p	r
Past difficulty with change	5	19.3	26	2.4	.051	-.044
	4	19.3	45			
	3	17.4	29			
	2	19.5	70			
	1	19.4	51			
Position change (expected)	5	19.9	46	2.9	.05	.021
	4	19.1	48			
	3	18.2	77			
	2	19.9	23			
	1	19.8	27			
Past Experience with change (extent)	5	20.6	29	4.3	.05	.009
	4	18.9	40			
	3	17.8	43			
	2	18.6	48			
	1	19.9	61			
Supervisory Agreement on Training Relevancy	4	19.7	98	2.9	.05	.098
	3	18.6	53			
	2	18.2	43			
	1	19.5	27			
South Asia	5	20.1	47	3.2	.05	-.028
Far East	4	18.5	59			
Near East*	3	17.8	23			
Africa	2	18.7	34			
South America	1	19.8	58			

*For this analysis four subjects from Ethiopia were taken from the Africa category and included in the Near East category.



Key to The Groups And Variables Illustrated By Diagram I

Group #	Variable
2-3	Training relevancy
14-15	Expectation of working with the same supervisor
22-23	Supervisory agreement on training relevancy
26-27	Physical factors future
30-31	Period with immediate supervisor
28-29	Past change difficulty
4-5	Supervisor Initiation of structure-philosophy
6-7	Expectation by others regarding change activity
8-9	Training relevancy
10-11	Supervisory consideration
12-13	Supervisory consideration
18-19	Perceived ability to introduce change-past
24-25	Supervisory attitude toward past change
32-33	Authority level
34-35	Supervisory consideration
16-17	Physical factors future
20-21	Target of change social

Diagram I

Data of this study -
Configurational Analysis of Prediction
of Perceived Ability to Introduce Change

In each of the foregoing tables, the relationship is significant at the .05 level or above, whereas the zero order correlation is non-significant.

MULTIVARIATE ANALYSIS

Two automatic interaction detector analyses were run. The data from this study which parallel the Frank data are presented first. (The Frank data results are located in Appendix D.)

Diagram I has been included to provide a visual overview of the configurational output. The diagram is an attempt to assist the reader in relating the succeeding figures to the full picture. The interconnected numbers in the diagram are the numbers used to label the boxes or groups in the figures. A key provides the variable name by the group number on which the variable was divided. Each variable has two group numbers which represent the high and low division of the preceding group. The key is designed to label the variables from the top of the diagram, more or less by branch. A branch contains the variables by which the terminal group is described.

Four main branchings resulted from the analysis of the data of this study. Figures I and II following, give the group means on Perceived Ability to Introduce Change, number of subjects and codes on the independent variable on which the group was divided.

Training relevancy was selected as the variable which explains more variance in the dependent variable than any other variable. Four

terminal subgroups resulted from the division of the 60 subjects in the high group on training relevancy. The relevant variables were:

- Expectation to work with the same supervisor
- Supervisory agreement with training relevance
- Difficulty with past change
- Physical factors future
- Period with immediate supervisor

The low training relevancy cell contained 161 subjects. Nine additional steps involving seven variables made up the longest branch. Seven terminal groups resulted from this branch, the variable Supervisory Consideration entered into the explanation at three steps. The terminal groups were ranked on the Perceived Change Ability mean value for Table I. The variables and the high or low category of the group is also given. (Table I, Appendix D).

Figure I contains the results of the configuration analysis (Automatic Interaction Detector). In general, people who have had difficulty with change in the past are somewhat less optimistic about introducing change than those who have encountered less difficulty with change. Neither group expects to work with the same supervisor, and both have the training program to be highly relevant. On the other hand, people who have also found the training program to be highly relevant but do not necessarily expect to work with the same supervisor perceive their supervisor as agreeing highly with the training program and see physical factors as possible interference with future change. About 18 percent of the group will be more optimistic about their change ability if they have worked for the same supervisor for more than four years.

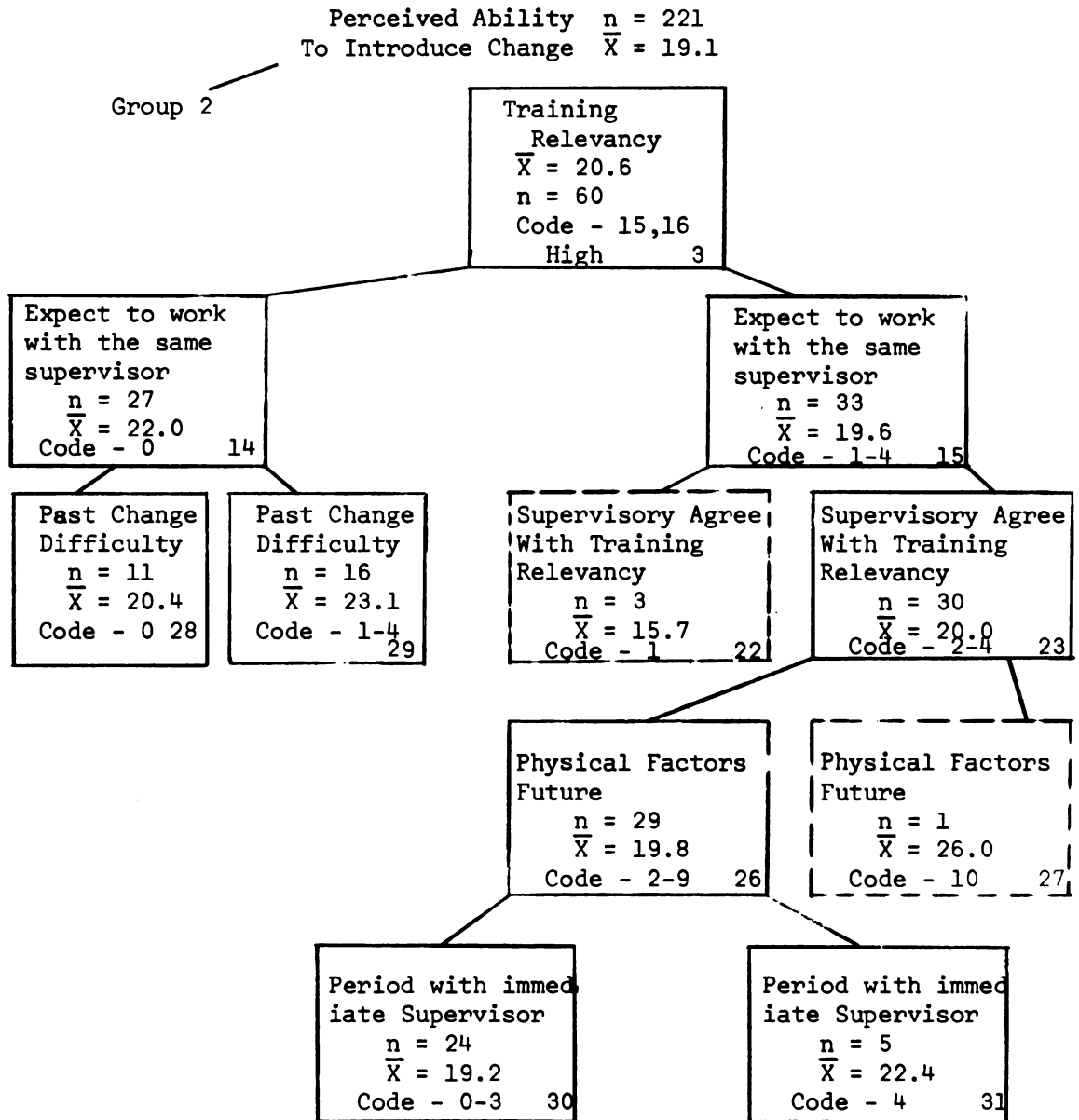


Figure I - Configurational Analysis of Prediction of Perceived Ability to Introduce Change

The Nine terminal groups presented in the figures branch from the low training relevancy split of the total sample. Approximately 73 percent of the participants fell into this category. The scores of this group indicate both moderately positive ratings of the training relevancy and the negative ratings. Only eight percent of the total sample rated training relevancy below neutral. The high group was made up of those people who scored 15 or 16 out of a maximum of 16 on high training relevancy (27 percent). Thus, the low training relevancy group might be more fairly labeled as the lower, given the above information.

The lower training relevancy group subdivided on philosophy of supervisory initiation of structure. Those whose philosophy called for low initiation of structure were just above the mean on Perceived Ability to Introduce Change but more optimistic if physical factors did not appear to be a problem in the future. For those who saw physical factors to be a hindrance in the future, they were more optimistic about their ability if they expected to be involved with social targets of change rather than non-social targets.

The group which divided from lower training relevancy on a philosophy of high supervisory initiation of structure was optimistic about change ability if others had expected them to introduce change in the past. Those who were not expected to introduce change in the past were pessimistic about their ability and even more so if they

Perceived Ability To Introduce Change $n = 221$
 $\bar{X} = 19.1$

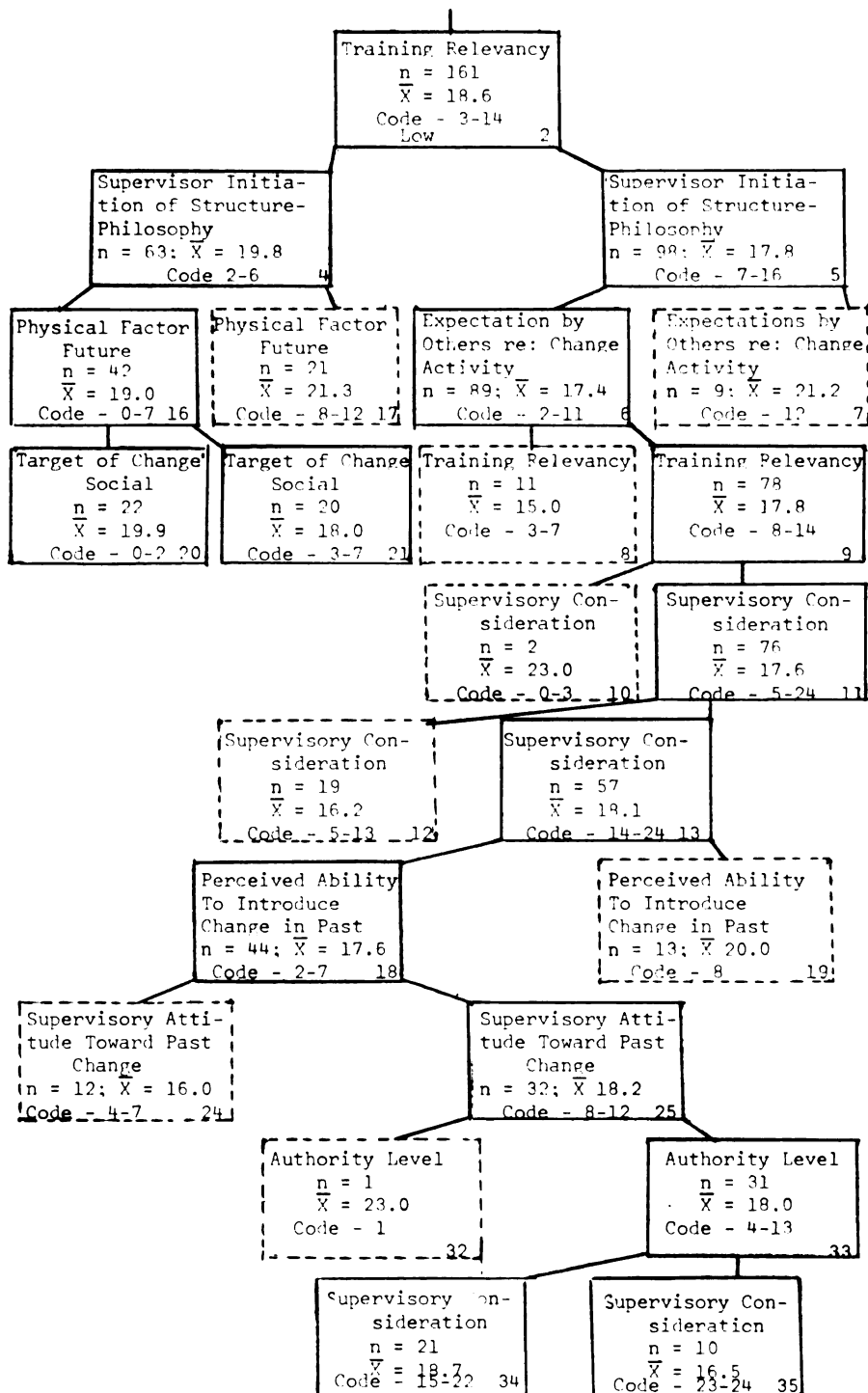


Figure II - Configurational Analysis of Prediction of Perceived Ability to Introduce Change.

viewed their training to be low in relevancy. They were somewhat less pessimistic if training relevancy and supervisory consideration were high and they perceived themselves as effective in introducing change in the past. Pessimism was highest when the participant perceived himself as having a low ability to introduce change in the past and the supervisor was perceived to be unfavorable to change. Authority level only made a difference to one of the 32 people at this division.

The last group to be considered is generally described as pessimistic. The mean on Perceived Ability to Introduce Change in the Future is 16.2. The group is derived from the lower training relevancy cell; the philosophy of supervisory initiation of structure called for high rather than low initiation of structure; they had not been expected by others to introduce change in the past; they were moderately positive in their rating of training relevancy; and more or less uncertain about their supervisor's consideration. Their ratings of supervisory consideration were neither high nor low.

OVERALL RESULTS

The results of the overall configuration produced a multiple R^2 or 48 percent estimate of variance explained. The multiple R or correlation coefficient is approximately .69. The contribution to variance explained in Perceived Ability to Introduce Change training relevancy is 7.74 percent. By definition, given the Automatic Interaction Detector technique, the other variables contribute somewhat less to the explanation of variance in the dependent variable Perceived Ability to Introduce Change.

SEMINAR EFFECTS ON PERCEIVED ABILITY TO INTRODUCE CHANGE

The distribution of time one (pre-seminar) scores on the dependent variable, Perceived Ability to Introduce Change, was divided into ten groups. Each set of scores was matched with the time two (post-seminar) score and correlated t-tests run on the difference between means. Table VI presents the means pre- and post-seminar, the cell size and the probability level for finding a difference of that order. The means for the total sample are given below those of the ten groups.

Significant shifts in the predicted direction occurred in both the first and tenth groups. Significant shifts also occurred in the cells adjacent to the first and tenth groups. These shifts were not hypothesized. The overall shift was significant, but in the opposite direction to that predicted.

TABLE VI - Results of the t-tests of the differences between means pre- and post-seminar on Perceived Ability to Introduce Change

Group	\bar{X} Pre	\bar{X} Post	n	p
10	24.8	21.9	21	.01
9	23.0	19.8	15	.05
8	22.0	20.9	21	n.s.
7	21.0	19.2	22	n.s.
6	20.0	19.4	25	n.s.
5	19.0	19.0	20	n.s.
4	18.0	18.1	27	n.s.
3	17.0	16.8	19	n.s.
2	15.7	17.7	30	.01
1	13.2	15.2	21	.05
Total	19.13	18.98	221	.01

Seminar Effects - Analysis by Seminar Week

The results (Table VII) show that the group means on Perceived Ability to Introduce Change vary from week to week initially. The participant groups arrive with different perceptions of their ability to introduce change on their return to the home country. The means ranged from 18.0 to 20.1 for the five groups. The change in scores which reflect the seminar effect did not differ significantly from one week to the next (Table VII, part B). These results indicate that the seminar groups enter the seminar at different levels of Perceived Ability to Introduce Change and do not change their perception differentially.

TABLE VII - Analysis of Variance of Pre-seminar scores on Perceived Ability to Introduce Change by seminar week

- Analysis of Variance of change scores of the dependent variable by seminar week

<u>A</u>					<u>B</u>					
Perceived Ability to Introduce Change - Pre-seminar Scores					Change Scores - Perceived Ability to Introduce Change					
Week	\bar{X}	n	F	p	Week	\bar{X}	n	F	p	Absolute - \bar{X}
1	18.4	37			1	-.810	37			2.81
2	18.0	41			2	.048	41			1.81
3	18.7	30			3	-.133	30			3.07
4	20.1	32			4	-.781	32			2.72
5	19.7	81			5	-.321	81			2.33
<u>Total</u>										
	19.1	221	3.3	.01		-.375	221	.471	.757	2.48

In as much as the reporting of mean values in the analysis of variance table reflects net change rather than absolute change, absolute change was calculated. This alters the picture in terms of minute though statistically significant changes in measures on the dependent variable. The mean net shift is .18 scale points. The absolute shift or average change in ratings without regard to direction, is 2.48 scale points. The absolute shift by week is included in Table VII' - B.¹

¹Seven items make up the index of the independent variable, perceived ability to introduce change. The items may be seen in Appendix A, number 20, 61, 62, 63, 65, 66, and 67. Item inter-correlation show that items 20 and 66 should be removed from the index on the basis of the correlation values. Items 61, 62, 63, 65, and 67 intercorrelated with values between .27 and .53 for the zero order correlation. Subsequent Factor Analysis confirmed the weakness in the index. The two weak items did not load on the same factor as did the other five. The factor loadings of the five were; item 61-.54, item 62 - .74, item 63 - .74, item 65 - .77, and item 67 - .62. The inclusion of two weak items in the index contributes to the measurement problem. Were the five items used alone the results may have shown stronger relationships and possibly a net change which reflected the effect of the seminar on the participants' perceptions.

CHAPTER IV

DISCUSSION

The discussion follows two directions. One is to look at the results of this study, per se; the other is to take into consideration the evidence from the Frank (1965) study. The data of this study are viewed in light of the categories of variables introduced in Chapter I, i.e., Individual, Interpersonal, Organization, and the seminar effect. Comparisons with the Frank findings provide support yet complicate the interpretation of the findings. Not all the findings were consistent. In reacting to the results, we are reminded of the exploratory nature of this study, the weaknesses of design, and a need for caution with respect to both the acceptance of the findings and particularly the generalizability.

If we accept the results of this and the Frank studies as stronger evidence of relationships (by replication), then the number of relevant variables is nine. If we accept those variables which were significantly correlated in this study, but not in the Frank study, then the list of variables lengthens to 15. Five more variables would be added by looking at the one-way analysis of variance results. This thus produces a list of 20 variables found to be significantly related to Perceived Ability to Introduce Change, the dependent variable. Whether or not this list still serves the interests of

parsimony may be questioned. Certainly the list is a significant reduction from that with which this study began (32). Since there is evidence that some of these variables are intercorrelated (measure the same thing), the individual relationships will not be discussed except in light of the results of the configurational analysis.

TABLE VIII The variables which correlate with Perceived Ability to Introduce Change ordered by the correlation r value.

Training program relevance	.281
Length of training program	-.274
Number of people supervised	.256
Others expectations of your change activity	.248
Supervisory initiation of structure-philosophy	-.225
Satisfaction with past change activity	.216
Interference of physical factors-future	-.192
Number of years experience in vocation	.185
Authority level	.179
Supervisor interaction style	.173
Position-title	-.168
Age	.166
Supervisor consideration-philosophy	.155
Target of change/non-social	+.150
Expectation of working with same supervisor	+.136

The zero order correlations and the one-way analysis of variance results give us little evidence to discuss. When compared with the configurational analysis, however, several factors emerge which are worthy of comment. In both this and the Frank study, training relevancy and supervisory agreement on training relevancy are highly correlated with Perceived Ability to Introduce Change. Both variables play an important part in the explanation of variance in the configurational analysis. Two additional variables - supervisory consideration

and perceived ability to introduce change-past - enter into the prediction of Perceived Ability to Introduce Change in the interaction in analysis. These two variables would have been overlooked had the zero order correlation been the single source of tested relationships.

Table IX, following, lists the variables by order of their inclusion in the configurational analysis. The zero order correlation value is given in brackets beside the variable name.

TABLE IX - Predictor Variables listed by Order of Influence in the Configurational Analysis - Run I (data of this study)

Rank Order		
1	Training relevancy	(.281)
3	Supervisor initiation of structure-philosophy	(-.225)
3	Expectation of working with same supervisor	(-.136)
7	Physical factors future	(.192)
7	Expectations by other of your change activity	(.248)
7	Difficulty with past change	(-.044)
7	Supervisory agreement on training relevancy	(.098)
10	Target of change/social	(.132)
11	Supervisory consideration	(.091)
14	Period with immediate supervisor	(.093)
15	Perceived ability to introduce change-past	(.115)
16	Supervisory attitude toward past change	(.122)
17	Authority level	(.179)

Two observations may be made with respect to the above results. First, the variables of the configurational analysis do not follow the order of the significant zero order correlations. For instance, expectation to work with same supervisor precedes interference of physical factors in the future. Also, a variable such as supervisory consideration

entered into the configuration at three points yet was not significantly correlated with Perceived Ability to Introduce Change ($r = .091$).

The Automatic Interaction Detector analysis method produces this kind of result as a function of the technique. Consequently, variables that would ordinarily be discounted because of a low correlation coefficient must be considered in light of the configurational analysis.

A finding of interest to the people concerned with training programs is the relationship of the participants' perceived ability to introduce change to training relevancy. Training relevancy not only correlated with the dependent variable but was also found to explain more of the total variance than other variables in the configurational analysis. When the Frank results are taken into account, supervisory agreement on training relevancy dominates, and training relevancy itself enters into the prediction at a lower level. Of any specific variable, then, training relevancy and its sister variable, supervisor agreement on training relevancy, stand out in their relationship to Perceived Ability to Introduce Change.

Of all the variables which refer to past experience, those variables in the INTERPERSONAL category dominate. Although training relevancy is in the individual category--and the strongest variable--it is interesting to note the frequency with which variables such as supervisory initiation of structure-philosophy, expectation to work with same supervisor, the expectation by others of your change activity, supervisory agreement on training relevancy, and supervisory consideration enter into the explanation of the variance of Perceived Ability to

Introduce Change. All of the foregoing are variables in the interpersonal category. In contrast, the individual and demographic variables take on lesser importance. The variable age, for instance, did not enter into the results of this study at all, and in the Frank study only at a seventh-level split. As in the Frank study, the individual attitudinal variables were seldom found to be significantly related to Perceived Ability to Introduce Change. Rather, those variables which reflect the influence of others in the organization are the ones which affect the participant's optimism or pessimism with respect to his perception of his future ability to introduce change.

TYPES OF TERMINAL GROUPS

A summary step attempted with the 13 terminal groups was to categorize the groups into four types. In addition, a format for comparison to the Frank (1963) and Frank A.I.D. analysis was sought.

The distribution of terminal group means on Perceived Ability to Introduce Change provided natural breaks to support typing the groups. Table I, Appendix D contains the distributions of the three sets of means and illustrates the consistency across all three. In developing these categories or types and labeling them optimistic or pessimistic, it is pertinent to remind ourselves that the terms are relevant to the distributions and may not be relevant to change ability. If all the responses to the scale items had been neutral the participant score would be 14. Ten percent of the sample scored

14 or lower on the index of Perceived Ability to Introduce Change. The higher the mean score the higher the optimism attributed to the perception.

Type I - High Optimism

Sixteen subjects, approximately seven percent of the sample, fall into this category of optimism (mean 23.1). The variables pertinent to this type are:

- (High) training relevancy
- (Low) expectation of working with same supervisor
- (Low) past change difficulty

Type II - Moderate Optimism

Three terminal groups made up of 35 subjects are included in this type. Five variables contribute to the description of the type with a mean of 22.4:

- (High) training relevancy
- (High) expectation of working with same supervisor
- (High) supervisor agreement on training relevancy
- (Low) physical factors future
- (High) period with immediate supervisor

The second terminal group in this type has a mean of 21.2 and three independent variables:

- (Low) training relevancy
- (High) philosophy of supervisor initiation of structure
- (High) expectation by others of your change activity

The third group in this moderately optimistic type (mean 21.3) has three variables in its description:

- (Low) training relevancy
- (High) physical factors future
- (Low) philosophy of supervisor initiation of structure

Type III - Average Optimism

Six terminal groups containing 55 percent of the subjects are included in this type which surrounds the sample mean of 19.2. The highest group mean in this type is 20.4 and the lowest is 18.0.

Three variables explain the group with the 20.4 mean:

- (High) training relevancy
- (Low) expectation of working with same supervisor
- (High) past change difficulty

The second group mean is 20.0. Five variables explain this group. Two enter twice:

- (Low-High) training relevancy
- (Low) expectation by others of your change activity
- (High) supervisor initiation of structure philosophy
- (High-High) supervisor consideration
- (High) perceived ability to introduce change - past

Four variables describe the third group in the average optimism type (mean 19.9):

- (Low) training relevancy
- (Low) physical factors future
- (Low) philosophy of supervisor initiation of structure
- (Low) target of change - social

Five variables contribute to the fourth group (mean 19.2):

- (High) training relevancy
- (High) expectation of working with same supervisor
- (High) supervisor agreement on training relevancy
- (Low) physical factors future
- (Low) period with immediate supervisor

The fifth group (mean 18.2) of this type has six variables involved in the explanation and two enter twice:

- (Low-High) training relevancy
- (High) philosophy of supervisor initiation of structure
- (Low) expectation by others of your change activity
- (High-High) supervisor consideration
- (Low) perceived ability to introduce change - past
- (High) supervisory attitude toward past change

The sixth and last group in this type (mean 18.0) has four variables in its explanation:

- (Low) training relevancy
- (Low) physical factors future
- (Low) philosophy of supervisor initiation of structure
- (High) target of change - social

Type IV - Pessimistic

Three terminal groups comprised of 42 subjects (19 percent of the sample) make up this type. The first group has a mean of 16.2 and four independent variables:

- (Low-High) training relevancy
- (High) philosophy of supervisor initiation of structure
- (Low) expectations by others of your change activity
- (High-Low) supervisory consideration

The second group (mean 16.0) has six independent variables with two entering twice:

- (Low-High) training relevancy
- (High) philosophy of supervisor initiation of structure
- (Low) expectations by others of your change activity
- (High-High) supervisor consideration
- (Low) perceived ability to introduce change - past
- (Low) supervisory attitude toward past change

This last group might have been labeled strongly pessimistic were it not for the fact that the mean of 15.0 is above the neutral score of 14.0. There is an eight-point spread between this group and that of the most optimistic group in Type I (mean 23.1). Three variables describe this group:

- (Low-Low) training relevancy
- (High) philosophy of supervisory initiation of structure
- (Low) expectations by others of your change activity

Conclusion: The four types leave something to be desired, perhaps, in regard to the uniformity within each. On the other hand, the types are consistent with the Frank data under two approaches to classifying groups into types.

CONFIGURATIONAL ANALYSIS OF THE FRANK DATA - FOR COMPARISON

The Frank analysis (1965) which did not use the Automatic Interaction Detector analysis divided the sample on training relevancy. The subsequent divisions were on these variables: influence of physical factors future; participant's attitude toward past change; supervisory attitude toward past change; and philosophy of consideration. Thus the split on Training Relevancy parallels the results of this study, but differs from the Automatic Interaction Detector analysis of the Frank data (see Appendix D for the figures and table of terminal groups).

The Automatic Interaction Detector analysis of the Frank data produced a first division on supervisory agreement on training relevancy, then on perceived ability to introduce change - past. Training relevancy entered into the determination of five relevant terminal groups as a sixth-level variable. Training relevancy and supervisory agreement on training relevancy are prominent variables in both sets of results although the order is reversed in one or the other. The variance in Perceived Ability to Introduce Change explained by supervisory agreement on training relevancy in the Frank data amounted to 6.8 percent. The combined variance explained for all variables

amounted to 60 percent. These results compare with 7.7 percent of variance explained by training relevancy and 48 percent overall in the results of data analysis in this study.

Six main branches emerged from the analysis. The longest branch involved seven divisions of the initial subgroup on supervisory agreement with training relevancy. The variable perceived ability to introduce change-past was relevant to the second division of both subgroups. Figures I, II and III contain the subgroup mean on Perceived Ability to Introduce Change, cell size, and the values and name of the variable on which the subgrouping is based. Because of the small cell size of some of the subgroups, variables in the configuration were omitted from the table. The table was designed to rank groups on Perceived Ability to Change mean score and to develop terminal group types. Figures I, II and III and Table I are in Appendix D.

SEMINAR EFFECTS

The design of the study immediately raises questions related to control. The results of the decile analysis of Perceived Ability to Introduce Change, for example, prompt the observation that artifactual regression toward the mean produced the pre- to post-seminar mean differences. There was no control group of the order 1) participants who did not attend the seminar, or 2) a group which was brought to the seminar site but was not exposed to any classroom sessions in the usual sense. Analysis of the data do, however, indicate that something happened and encourage further study.

The data were analyzed both over time and by seminar week. The Perceived Ability to Introduce Change scores shifted significantly during the seminar period. The overall shift of the sample mean indicated that something more than regression was instrumental.

The downward shift of the dependent variable mean may be interpreted in at least four ways. One is that the seminar depresses rather than raises the individual's perception of himself as an agent of change. A second interpretation might be that this particular group was above an optimum level. A third interpretation stems from a lack of prior knowledge and argument for a prediction other than that used. A fourth interpretation raises the question of whether or not an overall shift of .15 of a scale unit is socially significant, and no overall change occurred.

Until followup studies of participants are carried out after their return, we may never know 1) whether or not statistical differences are related to behavioral differences in change ability; 2) whether or not the seminar effect which optimizes change in the individual perception and subsequent desirable change behavior is to raise or lower evaluations of ability to introduce change.

Conclusion: The seminar is most effective with respect to Perceived Ability to Introduce Change among people at the extremes of the distribution of scores. The over-optimistic and the over-pessimistic shift in line with the seminar goals. If the high scores represent over-optimism, then these people reduce their evaluation of themselves as a

result of seminar exposure. If the low scores represent over-pessimism and ineffectiveness as an agent of change, then exposure to the seminar raises the perception of ability such that the individual may be significantly more effective. A followup on the individuals in the sample would remove much of the speculation in making statements about the relationship of Perceived Ability to Introduce Change and ability as measured in behavioral terms.

WORLD REGION

The results show a significant difference between mean scores of people grouped by region of the world. The mean score for the Near East on Perceived Ability to Introduce Change was 17.8, the lowest for the five regions. The mean score for South Asia was 20.1, the highest. The standard deviation of the distribution of individual scores is 3.35 scale units. In other words, the means by regions cluster within one standard deviation of the mean. Actually, all but one mean is less than one scale unit from the sample mean of 19.2. Here again we are faced with a commentary on statistical findings. Given the sample distribution, the question is whether or not the difference makes any difference in a social significance sense.

We doubt that one scale point reflects a measurable difference in behavior. However, we do not have the behavioral data to support or refute the statement. Thus, given the statistical outcome, we are prepared to speculate on the matter that people from different regions

of the world have differing perceptions of their ability to introduce change. Since region did not enter into the results of the interaction detector analysis, it would appear that other variables are more pertinent to the prediction of Perceived Ability to Introduce Change than region of the world.

SUGGESTIONS FOR FUTURE RESEARCH

The most obvious suggestion to be made is that participants be followed home and that behavioral measure of ability to introduce change be taken. With these measures, then, the match or mismatch of perceptions of ability with actual effort could be determined. Although findings to date may assist in selection and training, we lack precision for prediction with respect to the goal of change acitivity on the part of trainees.

Part of a followup study, which would include reviewing the instrument used in the AID global analysis, would include responses from superiors. This would not only provide the supervisor's perception but also an index of the trainee's misperception. Such knowledge might lead to an understanding of restrained change behavior due to misperception of supervisor initiation of structure, for instance. The supervisor's perception of the participant's change behavior would also be included in an index of change effort -- success and failure. If we predict from perceptions of ability to future behavior without follow up data, we predict on faith and hope rather than on knowledge and a degree of certainty.

This study tapped only one of the goals of the MSU/AID seminar on communication, i.e., the introduction of change. Future studies might include sub-categories such as improved interpersonal facility in discussing communication concepts, broader measures of confidence in one's ability such as positive and negative self-evaluation or certainty about one's future. Measures of interpersonal effectiveness and ability to analyze communication problems are also pertinent to the seminar goals and eventual effective introduction of change.

A fruitful pursuit within the seminar would be to pursue the suggestions of A. H. Brayfield (1968) regarding means for modifying desired behavior changes. Brayfield suggests 1) selective or differential reinforcement of responses with immediate rewards or pay-offs (operant conditioning); 2) modeling - the systematic provision of opportunities for observing the behaviors of others; 3) the introduction of ~~facotrs~~ affecting participant expectations; and 4) implanting ideas - insights such as achievement through the discussion of the nature and measurement of achievement motivation or through games simulating life situations.

The key words which distinguish the means already in use from Brayfield's suggestions are "systematic," "selective," and so on. These terms imply the development of alternative formulae or patterns of communication for maximizing effect in the seminar situation.

SUMMARY

Throughout this study, the researcher has attempted to find answers to four basic questions: 1) what difference does past experience make in the formation of an individual's perception of his ability to introduce change? 2) do the individual's own attitudes and preferences about change contribute to his perceived ability to introduce change? 3) to what extent do the individual's perception's of another person's attitude or related behaviors, particularly his supervisor's, contribute to his perceived ability to introduce change? and 4) what effect does the A.I.D. seminar on communication have on the participant's perceived ability to introduce change as it existed just prior to the seminar?

Analysis of the data collected during the five weeks of seminars and a comparison with the findings of the Frank (1965) study go a long way toward providing some answers. In general, factors of past experience explained 48 percent of the variance in the dependent variable -- perceived ability to introduce change. Furthermore, of the three categories of factors of past experience (individual, interpersonal, organizational), those in the interpersonal and organizational categories outweighed the individual category variables. That is, the individual's perception of others' attitudes and behavior outweighed the individual's own attitudes or preferences -- with two exceptions -- in relation to perceived ability to introduce change. The exceptions in the personal category of variables were training relevancy and perceived ability to introduce change in the past.

The selection process of the automatic interaction detector analysis provides additional support for these findings. When all variables are being considered for each division, the selection process shows the lower explanation of variance by individual variables.

The results of the Frank (1965) data, also analyzed by the automatic interaction detector technique, are supportive of the findings of this study. Although the order of variables is different from that of this study, the same classes of variables dominate the explanation of variance of the dependent variable.

In each of the analyses, demographic factors (age, education, etc.) play only a minor role as predictors of perceived ability to introduce change.

As a result of the seminar experience, the scores on the dependent variable declined significantly. However, it was concluded that the shift was not socially significant due to the small amount of shift. The change of scores on perceived ability to introduce change does not clearly reflect the effects of the seminar. Participants with high scores, for example, reduced their optimism and those with low scores raised their optimism (reduced their pessimism). At least twenty percent of the participants altered their ratings of their perceived ability to introduce change. It seems reasonable to state therefore, although with some qualification, that the seminar does affect participant's ratings of their perceived ability to introduce change.

The immediate implications seem to focus on suggestions for greater involvement of both the participant and his supervisor in the planning and preparation for training, as well as the anticipation of the utilization of the training on the return of the participant.

The findings also suggest that if the participant has a preference for a high level of structure initiated by the supervisor and has not seen himself as effective in the introduction of change in the past, that the participant may not be an effective agent of change after training.

Further research might be carried out in four areas: the selection pre-departure period, the training period, within the seminar on communication, and after the participant has returned to his position. The key to a model of training effectiveness depends to a large extent on measures taken after the participant has returned to his position. We may predict from what we now know, but we have little evidence which says a particular participant will attempt to "shape and modify the institutional behaviors" of his people. If we were able to predict with greater certainty, someone would be able to say the training program was indeed worthwhile and to state the reasons why.

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APPENDICES

APPENDIX A

COVER LETTER

Michigan State University
DEPARTMENT OF COMMUNICATION
East Lansing, Michigan

TO: Communication Seminar Participants

The Department of Communication at Michigan State University, under contract arrangements with the Agency for International Development, is developing a broad program of evaluation of factors that are related to training program effectiveness. The questionnaire that you are going to complete is a necessary and important part of attempting to answer some vital questions concerning training effectiveness.

The value of this study depends upon your frankness and care with which you answer the questions. The answers that you give will be made available only to the research team in the Department of Communication. No one connected in any way with your Government or with AID will see or use any of the individual questionnaires or be able in any way to find out what kind of answers you have given.

A handwritten signature in cursive script, reading "David K. Berlo".

David K. Berlo
Chairman
Department of Communication
Michigan State University

TIME I

There are no right or wrong answers to the following questions. All of the questions have to do with your attitudes and opinions. Go through these questions quickly. Choose the one answer that comes closest to the way that you feel. Place a check mark () in the space in front of your choice. Please try to answer every question.

Thank you for your cooperation.

Section 1

VAR #

- | | | |
|---|------------------------------------|---|
| 1. I would much rather work on the technical problems in introducing change than the social ones. | _____ I strongly agree | 1 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 2. The length of my training program in the United States was right for me. | _____ I strongly agree | 3 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 3. I feel that technical change is more important than social change. | _____ I strongly agree | 4 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 4. The ideal job for me would be one where the way I do my work ---- | _____ is always the same | 5 |
| | _____ changes very little | |
| | _____ changes somewhat | |
| | _____ changes quite a bit | |
| | _____ changes a great deal | |
| 5. I was very satisfied about the amount of time I had available to do some of the things I wanted to do in the United States. | _____ I strongly agree | 6 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 6. My training program in the United States was not worth the cost and difficulty it caused my organization in my home country. | _____ I strongly agree | 7 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 7. I was expected to introduce change as part of my job. | _____ I strongly agree | 8 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |

- | | | |
|--|------------------------------------|----|
| 8. I would rather try to change people's ideas than to improve equipment or machinery. | _____ I strongly agree | 9 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 9. People who have introduced changes within my organization in the past have received recognition for their efforts. | _____ I strongly agree | 11 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 10. My job required me to make many changes. | _____ I strongly agree | 12 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 11. My training program has been very important in preparing me for the job I am returning to. | _____ I strongly agree | 14 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 12. I like a job where I know that my work will <u>not</u> be the same from week to week. | _____ I strongly agree | 15 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 13. The results and effects of changes made within my organization by others in the past have been generally valuable. | _____ I strongly agree | 17 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 14. It would take a sizable raise in pay to get me to accept a different job. | _____ I strongly agree | 18 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 15. I have more ability to introduce change than to carry out pre-planned activities. | _____ I strongly agree | 20 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 16. Even after I get used to doing things one way, it does <u>not</u> bother me to have to change. | _____ I strongly agree | 21 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |

[illegible]

Section 1 (continued)'

17. The goal of changing the relationships between people has more value for me than that of changing the work system itself.
- _____ I strongly agree **23**
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree
18. It has been hard for me to make changes within my organization in the past.
- _____ I strongly agree **24**
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I ~~strongly~~ disagree
19. I would rather stay with a job I know I can handle than to change to one where most things would be new to me.
- _____ I strongly agree **25**
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree
20. My position within my organization will change upon my return home.
- _____ **Yes, it will** **26**
 _____ It probably will change
 _____ I do not know at this time
 _____ It probably will not change
 _____ No, it will not

Section 2

Briefly describe what you feel was the most important change you introduced within your organization during the year before you came to the United States.

Please answer the questions in this section with this change in mind.

1. I did very little of this kind of thing in my job.
- _____ I strongly agree **31**
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree
2. It was very satisfying for me to be able to do this kind of thing.
- _____ I strongly agree **32**
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

- | | | |
|---|------------------------------------|-----------|
| 3. Difficulties in bringing about this change occurred more often because of my lack of ability and skill than for other reasons. | _____ I strongly agree | 33 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 4. I feel that the energy and effort required by me in introducing this change was so great that it was a major obstacle. | _____ I strongly agree | 34 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |

Section 3

The statements following describe some of the ways different supervisors act. Please check the answer which best tells how your immediate superior acted as a supervisor.

- | | | |
|---|------------------------------------|-----------|
| 1. He was friendly and could be easily approached. | _____ I strongly agree | 41 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 2. He refused to explain his actions. | _____ I strongly agree | 44 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 3. He made those under him feel at ease when talking with him. | _____ I strongly agree | 47 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 4. He changed the duties of people under him without first talking it over with them. | _____ I strongly agree | 48 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 5. He very seldom expressed appreciation when someone did a good job. | _____ I strongly agree | 50 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 6. He was easy to understand. | _____ I strongly agree | 52 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |

Section 4

In this section would you please answer the following four questions in the way that you think your immediate superior would answer them.

- | | | | |
|---|-------|--|----|
| 1. People who have introduced changes within my organization in the past have received recognition for their efforts. | _____ | My supervisor would strongly agree | 54 |
| | _____ | My supervisor would agree a little | |
| | _____ | My supervisor would neither agree nor disagree | |
| | _____ | My supervisor would disagree a little | |
| | _____ | My supervisor would strongly disagree | |
| 2. The results and effects of changes made within my organization by others in the past have been generally valuable. | _____ | My supervisor would strongly agree | 55 |
| | _____ | My supervisor would agree a little | |
| | _____ | My supervisor would neither agree nor disagree | |
| | _____ | My supervisor would disagree a little | |
| | _____ | My supervisor would strongly disagree | |
| 3. Introducing change is a very satisfying experience. | _____ | My supervisor would strongly agree | 56 |
| | _____ | My supervisor would agree a little | |
| | _____ | My supervisor would neither agree nor disagree | |
| | _____ | My supervisor would disagree a little | |
| | _____ | My supervisor would strongly disagree | |

Section 5

Briefly describe below what you consider to be the most important change which you wish to introduce in your organization upon your return home.

Please answer the questions in this section with this change in mind.

There are a number of things which may make it difficult for people to introduce a change within their organization. How will the following things affect the introduction of the particular change you wish to make?

- | | | | |
|--|-------|------------------------------|----|
| 1. It will be very difficult to obtain the materials, equipment and tools needed to bring this change about. | _____ | I strongly agree | 57 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 2. It will <u>not</u> be difficult to get the money needed to introduce this change. | _____ | I strongly agree | 58 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |

Section 5 (contd.)

3. A problem I will have in introducing this change will be the lack of time I will be allowed to make this change.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 60 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |

In relation to the change you described on the page before, please answer the following six questions.

1. My background and training in my particular field should be very helpful in the future in attempting to bring about this change within my organization.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 61 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |
2. I expect to encounter a good many problems in bringing about this change upon my return home.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 62 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |
3. Upon my return home, when I discuss this change with a friend or fellow worker, whose views differ from mine, I feel that I will be able to get him to accept my views.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 63 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |
4. I feel that in the future I will be generally regarded by my fellow workers as a good source of advice on the introduction and effects of this change.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 65 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |
5. I feel that the energy and effort required by me to bring about this change will be so great that it will be a major obstacle.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 66 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |
6. I expect that most of the ideas I developed during my U.S. trip, concerning this change, will be accepted by the people in my organization upon my return home.
- | | | |
|-------|------------------------------|----|
| _____ | I strongly agree | 67 |
| _____ | I agree a little | |
| _____ | I neither agree nor disagree | |
| _____ | I disagree a little | |
| _____ | I strongly disagree | |

1. The first part of the paper discusses the importance of the study of the history of the United States.

2. The second part of the paper discusses the importance of the study of the history of the United States.

3. The third part of the paper discusses the importance of the study of the history of the United States.

4. The fourth part of the paper discusses the importance of the study of the history of the United States.

5. The fifth part of the paper discusses the importance of the study of the history of the United States.

6. The sixth part of the paper discusses the importance of the study of the history of the United States.

7. The seventh part of the paper discusses the importance of the study of the history of the United States.

8. The eighth part of the paper discusses the importance of the study of the history of the United States.

9. The ninth part of the paper discusses the importance of the study of the history of the United States.

10. The tenth part of the paper discusses the importance of the study of the history of the United States.

11. The eleventh part of the paper discusses the importance of the study of the history of the United States.

12. The twelfth part of the paper discusses the importance of the study of the history of the United States.

13. The thirteenth part of the paper discusses the importance of the study of the history of the United States.

14. The fourteenth part of the paper discusses the importance of the study of the history of the United States.

15. The fifteenth part of the paper discusses the importance of the study of the history of the United States.

16. The sixteenth part of the paper discusses the importance of the study of the history of the United States.

17. The seventeenth part of the paper discusses the importance of the study of the history of the United States.

Section 6

Listed below are different kinds of change activities. Indicate to what extent you will personally be involved with these kinds of activities upon your return home.

1. I will be changing the attitude or attitudes of people.

_____ I strongly agree 68
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

2. I will be changing the relationships between people.

_____ I strongly agree 69
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

3. I will be changing a system or general procedure.

_____ I strongly agree 70
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

4. I will be changing the methods or techniques of some operation.

_____ I strongly agree 71
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

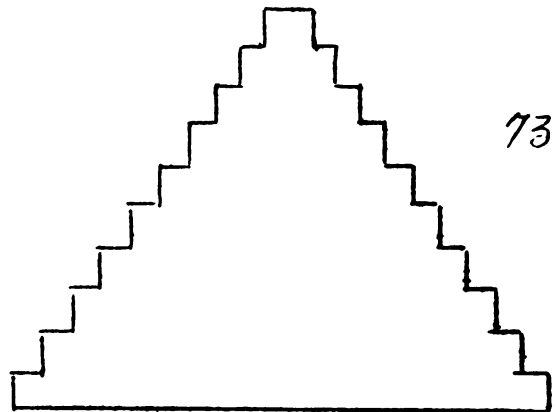
5. I will be changing equipment or introducing new equipment.

_____ I strongly agree 72
 _____ I agree a little
 _____ I neither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree

Section 7

At the right is a chart which represents levels of an organization. Assume that this represents your organization. Please do the following:

- Place an "X" on the level of the chart which best indicates your position in the organization upon your return home.
- How many people will you supervise or how many people will be accountable to you?



_____ None
 _____ 1 to 5 people 74
 _____ 6 to 25 people
 _____ 26 to 50 people
 _____ More than 50 people

Section 8

Please think about the following questions when you state your agreement or disagreement with the statements listed below:

"How should a supervisor act?"

or

"How would an ideal supervisor act?"

- | | | | |
|---|-------|------------------------------|----|
| 1. An ideal supervisor should insist that people under him follow standard ways of doing things in every detail. | _____ | I strongly agree | 75 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 2. An ideal supervisor should make those under him feel at ease when talking to him. | _____ | I strongly agree | 76 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 3. An ideal supervisor should insist that he be informed on decisions made by people under him. | _____ | I strongly agree | 79 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 4. An ideal supervisor should be friendly and easy to approach. | _____ | I strongly agree | 80 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 5. When changing the duties of people under him, an ideal supervisor should <u>not</u> feel that it is necessary to talk it over with them first. | _____ | I strongly agree | 81 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 6. An ideal supervisor should decide in detail what should be done and how it should be done. | _____ | I strongly agree | 83 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |
| 7. An ideal supervisor should be easy to understand. | _____ | I strongly agree | 84 |
| | _____ | I agree a little | |
| | _____ | I neither agree nor disagree | |
| | _____ | I disagree a little | |
| | _____ | I strongly disagree | |

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Section 8 (contd.)

8. An ideal supervisor would offer new approaches to problems. 86
- | | | |
|--------------------------|------------------------------|--|
| <input type="checkbox"/> | I strongly agree | |
| <input type="checkbox"/> | I agree a little | |
| <input type="checkbox"/> | I neither agree nor disagree | |
| <input type="checkbox"/> | I disagree a little | |
| <input type="checkbox"/> | I strongly disagree | |

Section 9

1. Finding things to talk about with strangers is difficult. 93
- | | | |
|--------------------------|---------------------|--|
| <input type="checkbox"/> | I strongly agree | |
| <input type="checkbox"/> | I agree | |
| <input type="checkbox"/> | I don't know | |
| <input type="checkbox"/> | I disagree | |
| <input type="checkbox"/> | I strongly disagree | |
2. How difficult do you find making talk when meeting new people? 94
- | | | |
|--------------------------|----------------------|--|
| <input type="checkbox"/> | Very Difficult | |
| <input type="checkbox"/> | Fairly Difficult | |
| <input type="checkbox"/> | Somewhat Difficult | |
| <input type="checkbox"/> | Not Very Difficult | |
| <input type="checkbox"/> | Not At All Difficult | |
3. How often do you worry about whether other people like you? 95
- | | | |
|--------------------------|----------------|--|
| <input type="checkbox"/> | Very Often | |
| <input type="checkbox"/> | Fairly Often | |
| <input type="checkbox"/> | Sometimes | |
| <input type="checkbox"/> | Not Very Often | |
| <input type="checkbox"/> | Not At All | |
4. You worry about what other people like to be with you. 96
- | | | |
|--------------------------|----------------|--|
| <input type="checkbox"/> | Very Often | |
| <input type="checkbox"/> | Fairly Often | |
| <input type="checkbox"/> | Sometimes | |
| <input type="checkbox"/> | Not Very Often | |
| <input type="checkbox"/> | Not At All | |
5. How often do you feel so discouraged with yourself that you wonder whether anything is worthwhile? 97
- | | | |
|--------------------------|----------------|--|
| <input type="checkbox"/> | Very Often | |
| <input type="checkbox"/> | Fairly Often | |
| <input type="checkbox"/> | Sometimes | |
| <input type="checkbox"/> | Not Very Often | |
| <input type="checkbox"/> | Not At All | |
6. How often do you think that you are a worthless individual? 98
- | | | |
|--------------------------|----------------|--|
| <input type="checkbox"/> | Very Often | |
| <input type="checkbox"/> | Fairly Often | |
| <input type="checkbox"/> | Sometimes | |
| <input type="checkbox"/> | Not Very Often | |
| <input type="checkbox"/> | Not At All | |

1942-1943

1. The first part of the report is devoted to a general survey of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

1944-1945

2. The second part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

3. The third part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

4. The fourth part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

5. The fifth part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

6. The sixth part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

7. The seventh part of the report is devoted to a detailed account of the work done during the year. It is divided into two main sections: (a) the work done in the laboratory, and (b) the work done in the field. The first section is devoted to the work done in the laboratory, and the second section is devoted to the work done in the field.

Section 9 (contd.)

7. How sure are you that some day you will be a success? 99
 _____ Very Sure
 _____ Fairly Sure
 _____ Somewhat Sure
 _____ Not Very Sure
 _____ Not At All Sure
8. You are certain that some day you will be a success. 100
 _____ I strongly agree
 _____ I agree
 _____ I don't know
 _____ I disagree
 _____ I strongly disagree
9. How certain are you that other people like to be with you? 101
 _____ Very Certain
 _____ Fairly Certain
 _____ Somewhat Certain
 _____ Not Very Certain
 _____ Not At All Certain
10. How sure are you that your friends really like you? 102
 _____ Very Sure
 _____ Fairly Sure
 _____ Somewhat Sure
 _____ Not Very Sure
 _____ Not At All Sure

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Name _____

THANK YOU

TIME II

There are no right or wrong answers to the following questions. All of the questions have to do with your attitudes and opinions. Go through these questions quickly. Choose the one answer that comes closest to the way that you feel. Place a check mark (✓) in the space in front of your choice. Please try to answer every question.

Thank you for your cooperation.

Section 1.

In relation to the most important change which you wish to introduce in your organization upon your return home. Please answer the following six questions.

- | | | |
|--|------------------------------------|----|
| 1. I have more ability to introduce change than to carry out pre-planned activities. | _____ I strongly agree | 20 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 2. My background and training in my particular field should be very helpful in the future in attempting to bring about this change within my organization. | _____ I strongly agree | 61 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 3. Upon my return home, when I discuss this change with a friend or fellow worker, whose views differ from mine, I feel that I will be able to get him to accept my views. | _____ I strongly agree | 63 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 4. I feel that in the future I will be generally regarded by my fellow workers as a good source of advice on the introduction and effects of this change. | _____ I strongly agree | 65 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 5. I feel that the energy and effort required by me to bring about this change will be so great that it will be a major obstacle. | _____ I strongly agree | 66 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |
| 6. I expect that most of the ideas I developed during my U.S. trip, concerning this change, will be accepted by the people in my organization upon my return home. | _____ I strongly agree | 67 |
| | _____ I agree a little | |
| | _____ I neither agree nor disagree | |
| | _____ I disagree a little | |
| | _____ I strongly disagree | |

the first of these is the fact that the system is not self-sufficient. It is dependent on the external world for its raw materials and for its energy. The second is that the system is not self-organizing. It is dependent on the external world for its structure and for its function.

The third is that the system is not self-replicating. It is dependent on the external world for its reproduction. The fourth is that the system is not self-maintaining. It is dependent on the external world for its repair and for its replacement.

The fifth is that the system is not self-terminating. It is dependent on the external world for its destruction.

The sixth is that the system is not self-limiting. It is dependent on the external world for its growth and for its expansion.

The seventh is that the system is not self-protecting. It is dependent on the external world for its defense and for its security.

The eighth is that the system is not self-healing. It is dependent on the external world for its recovery and for its restoration.

The ninth is that the system is not self-fulfilling. It is dependent on the external world for its completion and for its realization.

The tenth is that the system is not self-sustaining. It is dependent on the external world for its continuation and for its survival.

The eleventh is that the system is not self-creating. It is dependent on the external world for its origin and for its birth.

The twelfth is that the system is not self-destroying. It is dependent on the external world for its end and for its death.

The thirteenth is that the system is not self-transforming. It is dependent on the external world for its change and for its evolution.

The fourteenth is that the system is not self-renewing. It is dependent on the external world for its regeneration and for its rebirth.

The fifteenth is that the system is not self-perpetuating. It is dependent on the external world for its persistence and for its longevity.

The sixteenth is that the system is not self-fulfilling. It is dependent on the external world for its completion and for its realization.

The seventeenth is that the system is not self-sustaining. It is dependent on the external world for its continuation and for its survival.

The eighteenth is that the system is not self-creating. It is dependent on the external world for its origin and for its birth.

The nineteenth is that the system is not self-destroying. It is dependent on the external world for its end and for its death.

Section 2

This next section contains a number of questions about your supervisor or superior or "boss." Please answer them in relation to the man to whom you were directly responsible--that is--the person who would be considered your immediate superior.

- | | | |
|---|--|----|
| 1. How long have you been working for your immediate supervisor? | <input type="checkbox"/> Less than six months
<input type="checkbox"/> Six months to one year
<input type="checkbox"/> One year to two years
<input type="checkbox"/> Two years to four years
<input type="checkbox"/> More than four years | 35 |
| 2. Will you be working directly under this man when you return home? | <input type="checkbox"/> Yes, I will be
<input type="checkbox"/> I probably will be
<input type="checkbox"/> I do not know at this time
<input type="checkbox"/> I probably will <u>not</u> be
<input type="checkbox"/> No, I will <u>not</u> be | 36 |
| 3. My supervisor seemed to depend most on his knowledge of organizational policies and his technical knowledge. | <input type="checkbox"/> I strongly agree
<input type="checkbox"/> I agree a little
<input type="checkbox"/> I neither agree nor disagree
<input type="checkbox"/> I disagree a little
<input type="checkbox"/> I strongly disagree | 37 |
| 4. My supervisor tried to get the work out by carefully directing and disciplining those under him. | <input type="checkbox"/> I strongly agree
<input type="checkbox"/> I agree a little
<input type="checkbox"/> I neither agree nor disagree
<input type="checkbox"/> I disagree a little
<input type="checkbox"/> I strongly disagree | 38 |
| 5. My supervisor expected me to introduce change or changes within the organization. | <input type="checkbox"/> I strongly agree
<input type="checkbox"/> I agree a little
<input type="checkbox"/> I neither agree nor disagree
<input type="checkbox"/> I disagree a little
<input type="checkbox"/> I strongly disagree | 39 |
| 6. My supervisor will not agree with me about how valuable my U.S. training has been | <input type="checkbox"/> I strongly agree
<input type="checkbox"/> I agree a little
<input type="checkbox"/> I neither agree nor disagree
<input type="checkbox"/> I disagree a little
<input type="checkbox"/> I strongly disagree | 40 |

Section 3

- | | | |
|--|--|----|
| 1. In your organization the amount of interaction and communication aimed at achieving the organizations objectives is | | 87 |
| <input type="checkbox"/> very little | | |
| <input type="checkbox"/> little | | |
| <input type="checkbox"/> quite a bit | | |
| <input type="checkbox"/> much, with both individuals and groups. | | |

Trial	Control (n = 10)	MCI (n = 10)	AD (n = 10)
1	95	85	75
2	95	85	75
3	95	80	70
4	95	75	65
5	95	75	65

Category	Number of cases	Percentage of total cases
1. Generalized tonic-clonic seizures	15	15.0%
2. Partial seizures	10	10.0%
3. Absence seizures	5	5.0%
4. Myoclonic seizures	3	3.0%
5. Atonic seizures	2	2.0%
6. Other types of seizures	1	1.0%
Total	100	100.0%

2. Most of the time, information in the organization travels 88
 _____ downward
 _____ mostly downward
 _____ down and up
 _____ down, up and with my co-workers.
3. When people receive communication from above them (from superiors) they 89
 view (consider) it
 _____ with great suspicion
 _____ may or may not view it with suspicion
 _____ often accept, but sometimes viewed with suspicion; may or may not
 be questioned
 _____ generally accepted, but if not, openly and candidly questioned
4. Communication travelling upward in the organizational channels 90
 _____ tends to be inaccurate
 _____ information that the boss wants to hear flows; other information
 is restricted and filtered
 _____ information that the boss wants to hear flows; other information may
 be limited, or cautiously given
 _____ is accurate
5. How well do the superiors know and understand problems faced by subordinates 91
 (those below him)?
 _____ has no knowledge or understanding of problems of subordinates
 _____ has some knowledge or understanding
 _____ knows and understands quite well
 _____ knows and understands, very well
6. How much cooperative teamwork would you say was present in your organization? 92
 _____ none
 _____ relatively little
 _____ a moderate amount
 _____ a very substantial amount

Section 4

1. Finding things to talk about with strangers is difficult. 93
 _____ I strongly agree
 _____ I agree a little
 _____ I ~~ne~~ither agree nor disagree
 _____ I disagree a little
 _____ I strongly disagree
2. How difficult do you find making talk when meeting new people? 94
 _____ Very Difficult
 _____ Fairly Difficult
 _____ Somewhat Difficult
 _____ Not Very Difficult
 _____ Not At All Difficult

3. How often do you worry about whether other people like you? 95
 _____ Very Often
 _____ Fairly Often
 _____ Sometimes
 _____ Not Very Often
 _____ Not At All
4. You worry about what other people like to be with you. 96
 _____ Very Often
 _____ Fairly Often
 _____ Sometimes
 _____ Not Very Often
 _____ Not At All
5. How often do you feel so discouraged with yourself that you wonder whether anything is worthwhile? 97
 _____ Very Often
 _____ Fairly Often
 _____ Sometimes
 _____ Not Very Often
 _____ Not At All
6. How often do you think that you are a worthless individual? 98
 _____ Very Often
 _____ Fairly Often
 _____ Sometimes
 _____ Not Very Often
 _____ Not At All
7. How sure are you that some day you will be a success? 99
 _____ Very Sure
 _____ Fairly Sure
 _____ Somewhat Sure
 _____ Not Very Sure
 _____ Not At All Sure
8. You are certain that some day you will be a success. 100
 _____ I strongly agree
 _____ I agree
 _____ I don't know
 _____ I disagree
 _____ I strongly disagree
9. How certain are you that other people like to be with you? 101
 _____ Very Certain
 _____ Fairly Certain
 _____ Somewhat Certain
 _____ Not Very Certain
 _____ Not At All Certain
10. How sure are you that your friends really like you? 102
 _____ Very Sure
 _____ Fairly Sure
 _____ Somewhat Sure
 _____ Not Very Sure
 _____ Not At All Sure

1. Introduction
 The purpose of this study is to investigate the effects of the implementation of the new curriculum on the learning outcomes of students in the field of Mathematics. The study aims to determine whether the new curriculum has led to improved student performance, increased engagement, and enhanced understanding of mathematical concepts.

The study is based on a sample of 100 students from a secondary school in the city of Istanbul. The data was collected over a period of six months, from September 2018 to March 2019. The study was conducted in accordance with the ethical standards of the Ministry of National Education.

The study is organized as follows: Chapter 1 provides an overview of the research topic and the objectives of the study. Chapter 2 discusses the theoretical background of the curriculum and the learning outcomes. Chapter 3 presents the methodology used in the study, including the sample selection and data collection methods. Chapter 4 displays the results of the study, and Chapter 5 discusses the implications of the findings for future research and practice.

The study is based on the following assumptions:
 1. The new curriculum is designed to improve the learning outcomes of students.
 2. The implementation of the new curriculum is effective.
 3. The learning outcomes of students are measured by their performance in the Mathematics exam.

The study is based on the following hypotheses:
 1. The implementation of the new curriculum will lead to improved student performance in the Mathematics exam.
 2. The implementation of the new curriculum will lead to increased student engagement in the Mathematics class.
 3. The implementation of the new curriculum will lead to enhanced student understanding of mathematical concepts.

The study is based on the following research questions:
 1. What are the effects of the implementation of the new curriculum on the learning outcomes of students in the field of Mathematics?
 2. How does the implementation of the new curriculum affect student engagement in the Mathematics class?
 3. How does the implementation of the new curriculum affect student understanding of mathematical concepts?

The study is based on the following definitions:
 1. Curriculum: A set of planned learning experiences that are designed to achieve specific educational goals.
 2. Learning outcomes: The knowledge, skills, and attitudes that students are expected to acquire as a result of their learning experiences.
 3. Mathematics: A branch of science that deals with the study of numbers, shapes, and patterns.

The study is based on the following data sources:
 1. The Mathematics exam results of the students.
 2. The student engagement data collected from the Mathematics class.
 3. The student understanding data collected from the Mathematics class.

The study is based on the following statistical methods:
 1. Descriptive statistics: To describe the basic features of the data, such as the mean, standard deviation, and frequency distribution.
 2. Inferential statistics: To test the hypotheses and draw conclusions about the population based on the sample data.

The study is based on the following limitations:
 1. The study is based on a single sample of students from a secondary school in Istanbul.
 2. The study is based on a single data source, the Mathematics exam results.
 3. The study is based on a single time point, the end of the six-month period.

The study is based on the following contributions:
 1. The study provides evidence on the effects of the implementation of the new curriculum on the learning outcomes of students in the field of Mathematics.
 2. The study provides insights into the factors that affect student engagement in the Mathematics class.
 3. The study provides insights into the factors that affect student understanding of mathematical concepts.

The study is based on the following conclusions:
 1. The implementation of the new curriculum has led to improved student performance in the Mathematics exam.
 2. The implementation of the new curriculum has led to increased student engagement in the Mathematics class.
 3. The implementation of the new curriculum has led to enhanced student understanding of mathematical concepts.

The study is based on the following recommendations:
 1. The Ministry of National Education should continue to monitor the implementation of the new curriculum and its effects on the learning outcomes of students.
 2. The Ministry of National Education should provide support to schools in the implementation of the new curriculum.
 3. The Ministry of National Education should conduct further research on the effects of the new curriculum on the learning outcomes of students in other fields.

Section 5

1. What country are you from? _____ 103
2. How many months have you been in the United States on this visit? _____ 104
3. How many weeks do you have left before you go home? _____ 105
4. What is your age? 106 5. Sex: Male _____ Female _____ 107
6. Education or schooling (check the highest completed) _____ 108
 _____ Secondary school graduate
 _____ Post-Secondary-University
 _____ Post-Secondary-Other (Specify) _____
7. What is the name of your position within your organization? _____ 111

8. What kind of work do you do? _____ 112

9. How many years of experience do you have in your field of work? _____ 113

the first of these is the fact that the system is not in equilibrium.

the second is the fact that the system is not in equilibrium.

the third is the fact that the system is not in equilibrium.

the fourth is the fact that the system is not in equilibrium.

the fifth is the fact that the system is not in equilibrium.

the sixth is the fact that the system is not in equilibrium.

the seventh is the fact that the system is not in equilibrium.

the eighth is the fact that the system is not in equilibrium.

the ninth is the fact that the system is not in equilibrium.

the tenth is the fact that the system is not in equilibrium.

the eleventh is the fact that the system is not in equilibrium.

the twelfth is the fact that the system is not in equilibrium.

Name _____

THANK YOU

APPENDIX B

The data for this study were collected at five seminars held at Atwood Lake Lodge, Dellroy, Ohio, during the period September 1 through November 30, 1968. The seminar groups ranged in size from 32 to 97 participants. From the 307 attendees, 221 completed pre and post seminar questionnaires were obtained. A number of factors enter into the explanation for the loss of 86 possible respondents. Although most of the participants arrive at the lodge at 3:00 p.m. on the Sunday afternoon, some arrive as late as Tuesday. Since the pre questionnaire was designed to be administered prior to the seminar sessions; late arrivals were not included in the sample. On the Sunday of the last seminar, 26 participants arrived after 10:00 p.m. Sickness accounted for 10 who were unable to complete the final questionnaire. A very small number did not complete either questionnaire on unexplained grounds. The participants were found to be generally cooperative and willing to take the time to complete the questionnaires. The questionnaire was handed to the participant at the end of the greeting period on Sunday afternoon and he was asked to return the completed form at the beginning of the 8:00 p.m. opening session. A brief request for their assistance in answering the questions supported the justification contained in the cover letter under the signature of Dr. D. K. Berlo, chairman of the department of Communication, Michigan State University, (Appendix A).

The participants were asked to sign their name to both questionnaires. This not only facilitated the pairing of the two sets, but reduced the level of suspicion observed at the questionnaire pre-testing session held in August.

For the questionnaire pre-test, the participant was not asked to sign his name. A coding system was being devised to enable the researcher to pair the pre and post test responses. A verbal assurance was given to the respondent that he could expect anonymity. After the session several came up to point out that one might just as well ask for the name because other information about position, company or organization worked for, age and country were ample to identify the person. It was decided that claims of anonymity raised questions and that the direct approach, at least for this group, if not contributing to the creation of trust, did not cue the participant to distrust.

Questionnaire Construction

The final questionnaire was pre-tested with a group of 56 participants. Because there were no new untested items, it was expected that pre-testing might be a formality. The main purpose of the pre-test was to use the inter item correlations as a guide to the selection of items for deletion in order to reduce the length of the instrument. The four open ended questions used by Frank were deleted. Comments received from A.I.D. officials regarding exit interviews which follow the seminar supported the decision to delete

the open ended items. The primary argument for the open ended question had been a fairness criterion. The items were to give the respondent and opportunity to express his own opinions after responding to the specific items of the questionnaire.

Two questionnaires were used in the study. The pre seminar instrument contained 68 Likert type items. The post seminar instrument contained 24 Likert type items; 9 demographic items, 10 self esteem and 6 perceived ability to introduce change items. The Frank items were presented in the order that he had used. The items had been systematically reversed within each section to reduce response set effects.

APPENDIX C

COUNTRIES

Argentina	1	
Brazil	35	
Chile	1	
Colombia	12	
Guyana	4	
Honduras	2	
Panama	2	
Nicaragua	<u>1</u>	
Latin America	58	26%
Ghana	2	
Kenya	6	
Liberia	7	
Nigeria	1	
Somalia	3	
Tanzania	3	
Uganda	11	
Zambia	1	
Ethiopia	<u>4</u>	
Sub-Sahara Africa	38	17%
Jordan	3	
Morocco	3	
Tunisia	1	
Turkey	<u>12</u>	
Near East	19	9%
Indonesia	8	
Philippines	12	
Cambodia	1	
Korea	12	
Thailand	16	
Vietnam	<u>10</u>	
Far East	59	27%
Afghanistan	9	
India	16	
Nepal	13	
Pakistan	9	
South Asia	47	21%
Total	221	
Total Countries	32	

OCCUPATIONAL AREA

	#	%
Special Groups - Labor	15	7
Manufacturing	4	2
Natural Resources	30	13
Communications and Trans- portation	21	9
Government Services	31	14
Health and Medical	24	11
Military and Police	6	3
Agricultural	51	23
Education	39	18
	<u>221</u>	<u>100</u>

APPENDIX D

Table I - Terminal Groups of the Configurational Analysis : Ranked by Mean Value on Perceived Ability to Introduce Change

\bar{X} Perceived Ability to Introduce Change	23.1	21.2	20.4	19.9	18.2	16.2	15.0						
	22.4	21.3	20.0	19.2	18.0	16.0							
Number of Subjects	16	5	9	21	11	13	22	24	32	20	19	12	11
Group Number	29	31	7	17	28	19	20	30	25	21	12	24	8
Training Relevancy	H	H	L	L	H	LH	L	H	LH	L	LH	LH	LL
Expect to Work With the Same Supervisor	L	H			L			H					
Supervisor Agreement on Training Relevancy		H						H					
Physical Factors Future		L		H			L	L		L			
Period Change Difficulty	L				H								
Supervisor Initiation of Structure-Philosophy			H	L		H	L		H	L	H	H	H
Expectation by others re: your change activity			H			L			L		L	L	L
Supervisor Consideration						HH			HH		HL	HH	
Target of Change-Social							L		H				
Perceived Ability to Introduce Change-Past						H			L			L	
Supervisory Attitude Toward Past Change									H			L	
TYPES	I	II				III					IV		

Table II - Frequency Distribution of Scores on the Dependent Variable

Dependent Variable Scores	Frequency This Study	Cumulative Frequency	Frequency Frank Data	Cumulative Frequency
9	2	.9		
10			1	.31
11	1	1.36	2	.94
12	1	1.81	1	1.25
13	2	2.71	2	1.88
14	15	9.50	11	5.35
15	9	13.57	15	10.07
16	21	23.08	21	16.70
17	19	31.67	18	22.38
18	27	43.89	29	31.54
19*	20	52.94	28	40.37
20	25	64.25	21	47.00
21**	22	74.21	44	60.89
22	21	83.71	32	70.90
23	15	90.50	21	77.53
24	12	95.93	19	83.53
25	4	97.74	17	88.90
26	2	98.64	15	93.62
27	3		9	96.46
28			11	
Total	221	100.00	317	100.00

* Median this study

** Median Frank Study

Table III - Distribution of Terminal Group Means Compared to the Frank 1963 and Frank Configurational Analysis Results by Type.

Range of Mean Values	This Study \bar{X} Type	Frank 1963 \bar{X} Type	Frank (A.I.D.) \bar{X} Type
27			26.7 I
26	-----		
25		24.1	
24		24.0 I	II
	23.1 I	23.4	23.7
23			23.6

	22.4		
22			
	II	II	III
	21.3	21.2	21.7
	21.2	21.2	21.5
21	-----		
	20.4		20.5
			20.3
20	20.0		20.3 IV
	19.9	III	19.9
	19.2	19.8	19.8
19		19.2 I	19.7
			18.5
	18.2		
18	18.0	18.0	
			17.8
			17.6
17	-----		
	16.2		
			V
16	16.0		
	IV		15.4
			15.2
15	15.0		
12 Terminal Groups		17 Terminal Groups	

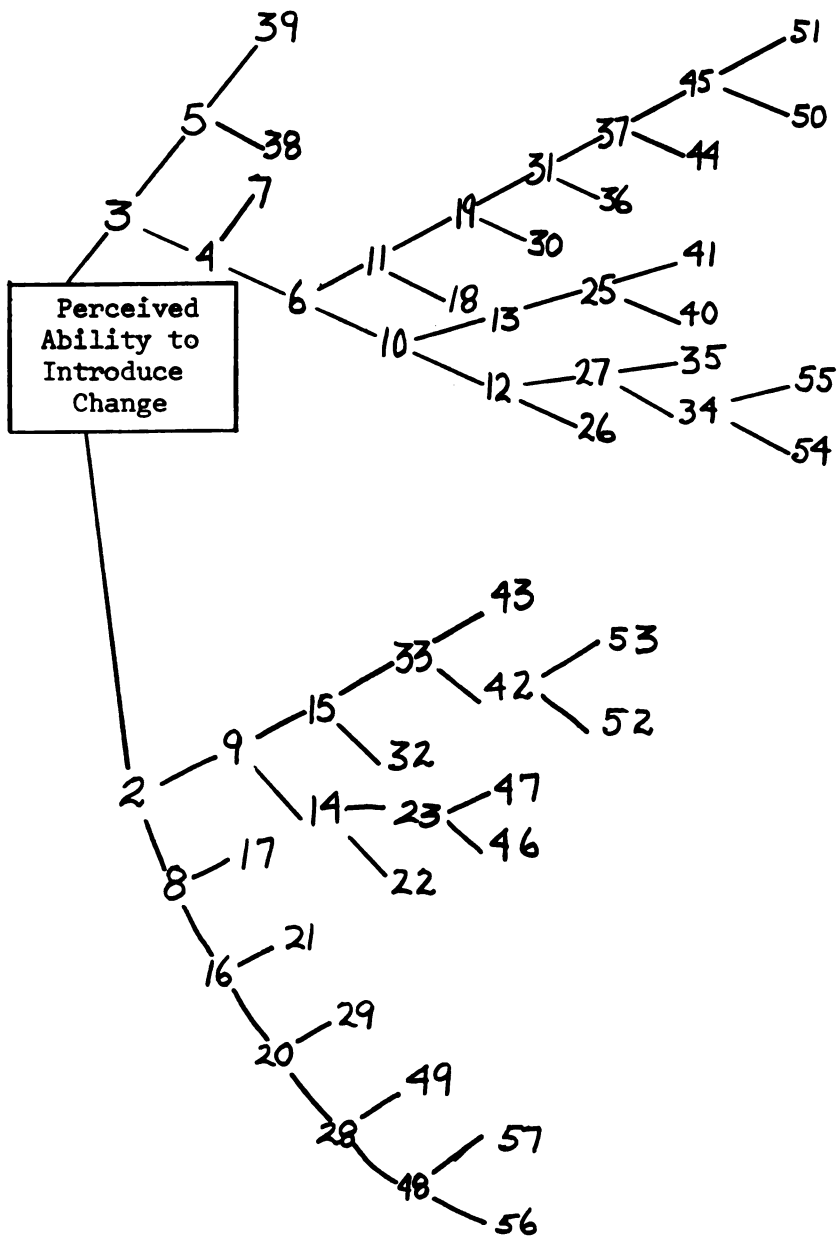


Diagram II - Frank Data -
Configurational Analysis of Perceived Ability to
Introduce Change

Perceived Ability to Introduce Change

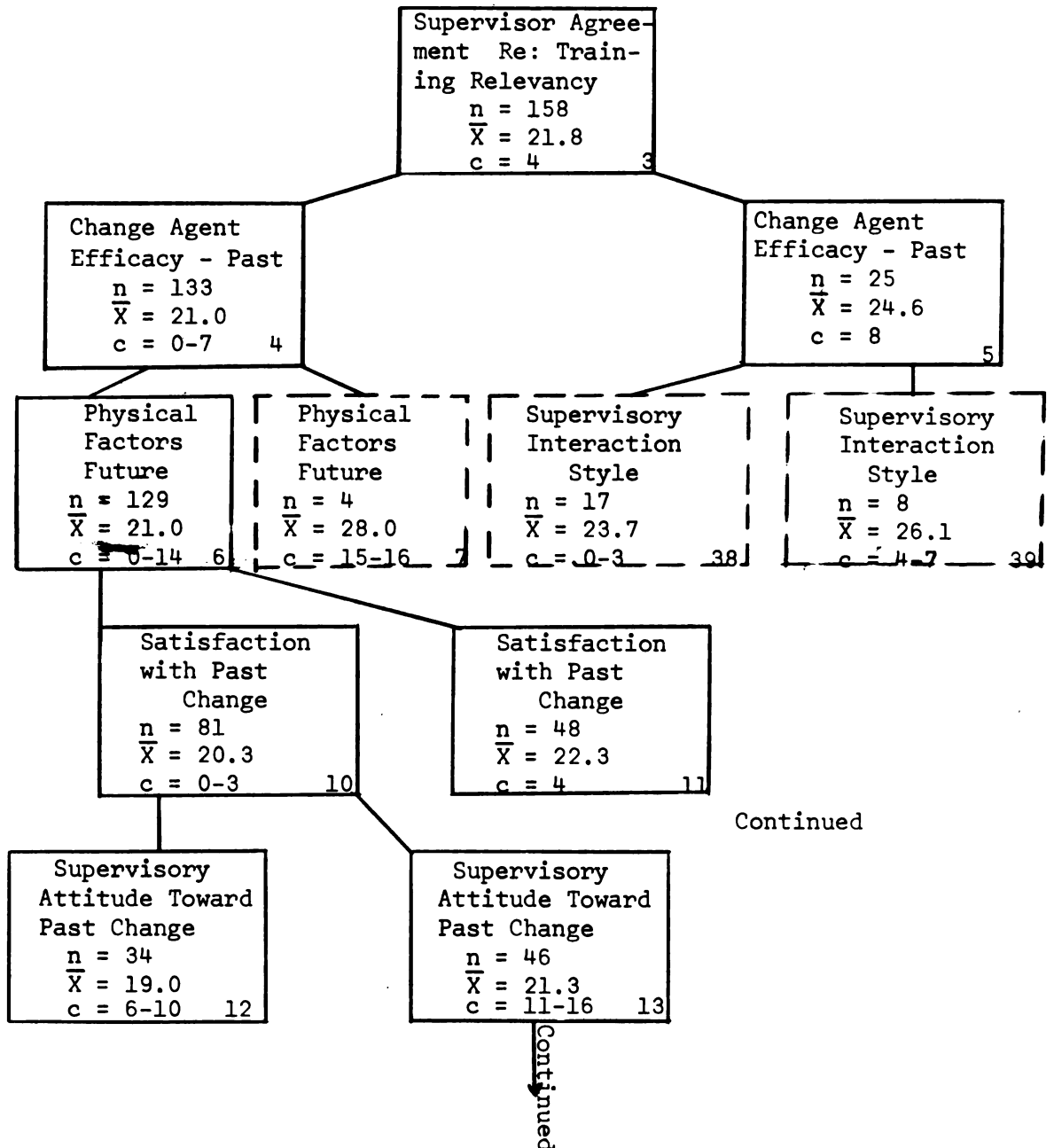


Figure III - Frank Data -
Configurational Analysis of the Prediction of Perceived
Ability to Introduce Change

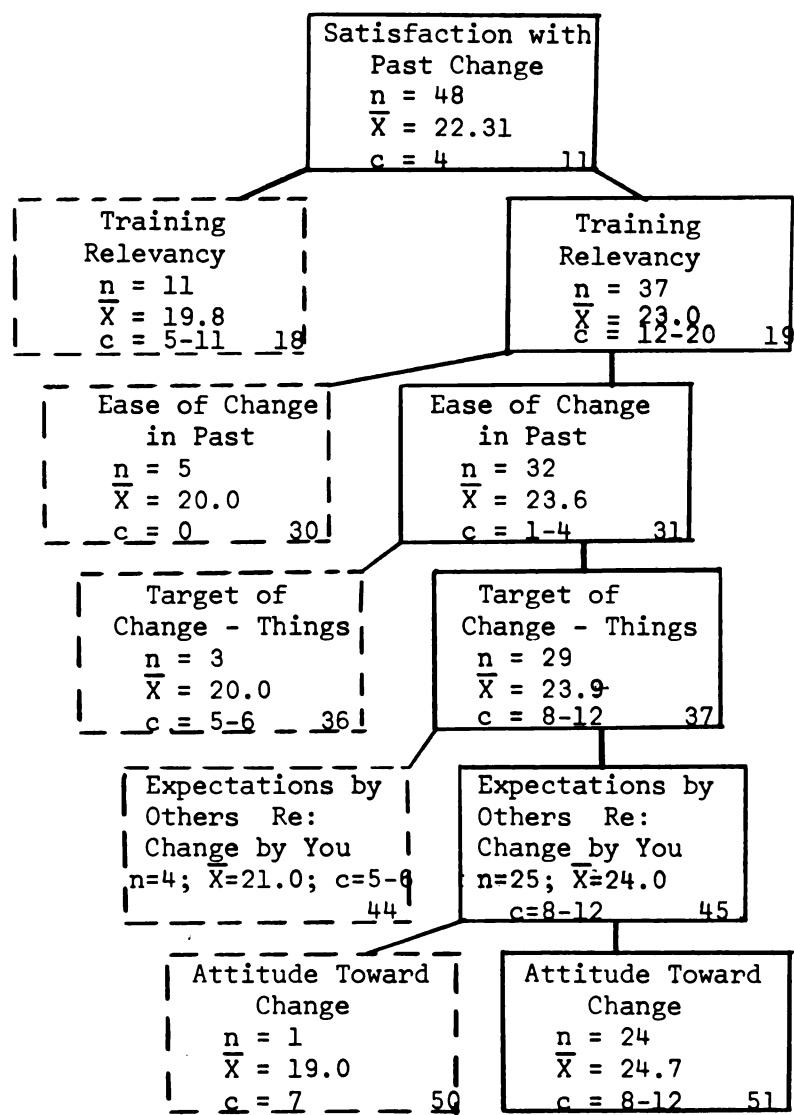


Figure III (Contd) Configurational Analysis of Prediction of Perceived Ability to Introduce Change

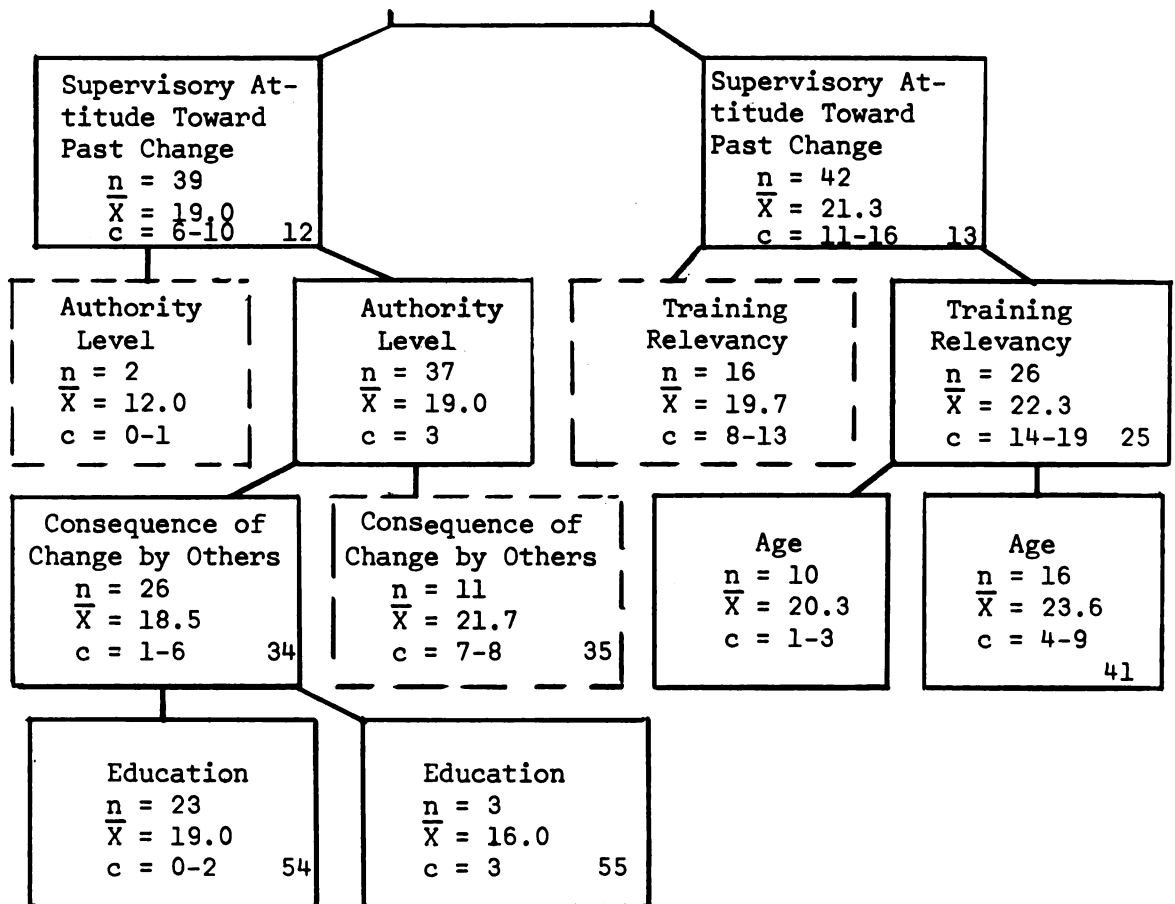


Figure III (Contd) Configurational Analysis of Prediction of Perceived Ability to Introduce Change

Perceived Ability to Introduce Change

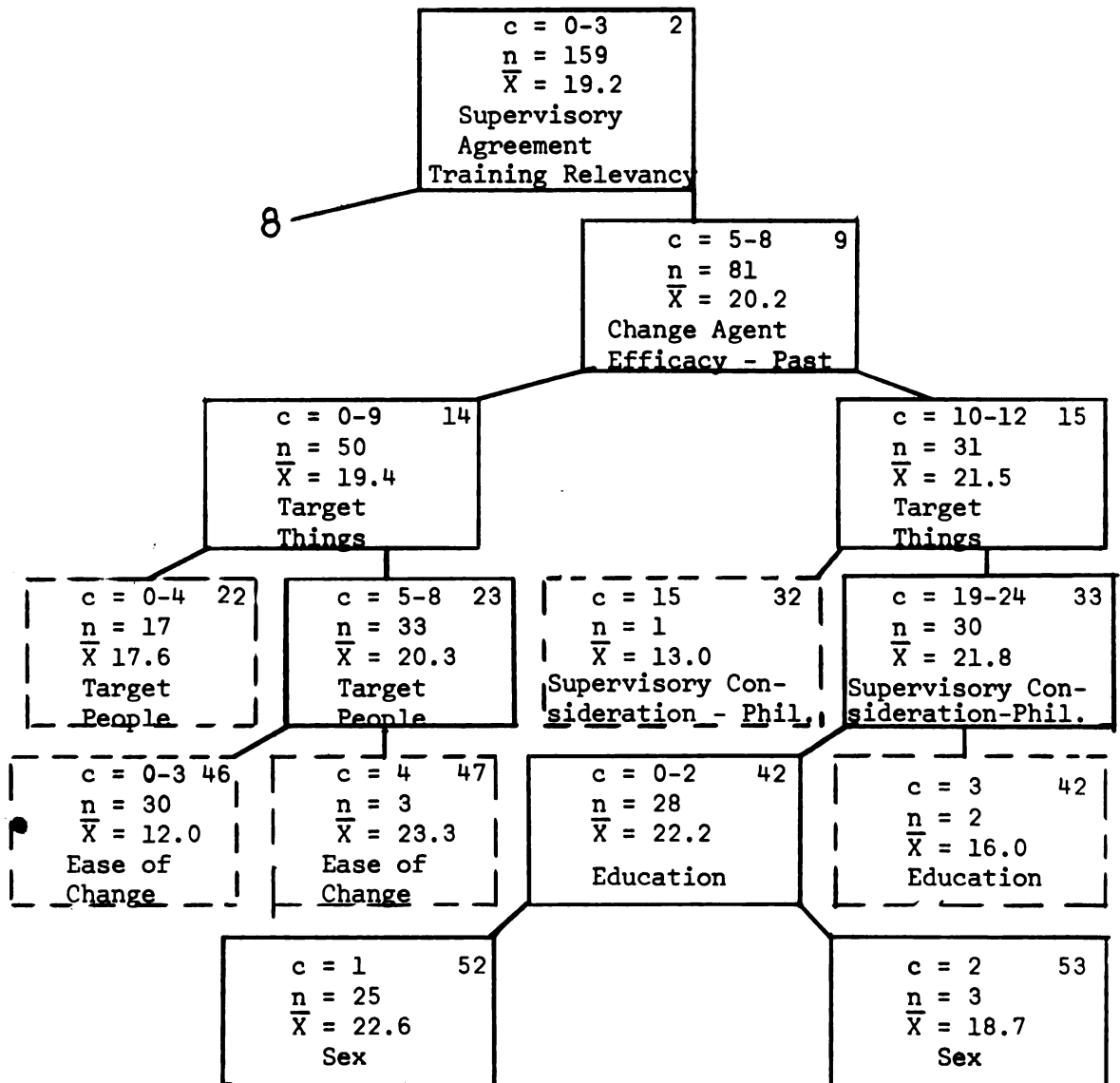


Figure IV - Frank Data - (Perceived Ability to Introduce Change)
 Configurational Analysis of Prediction of Change Agent Efficacy

Perceived Ability to Introduce Change

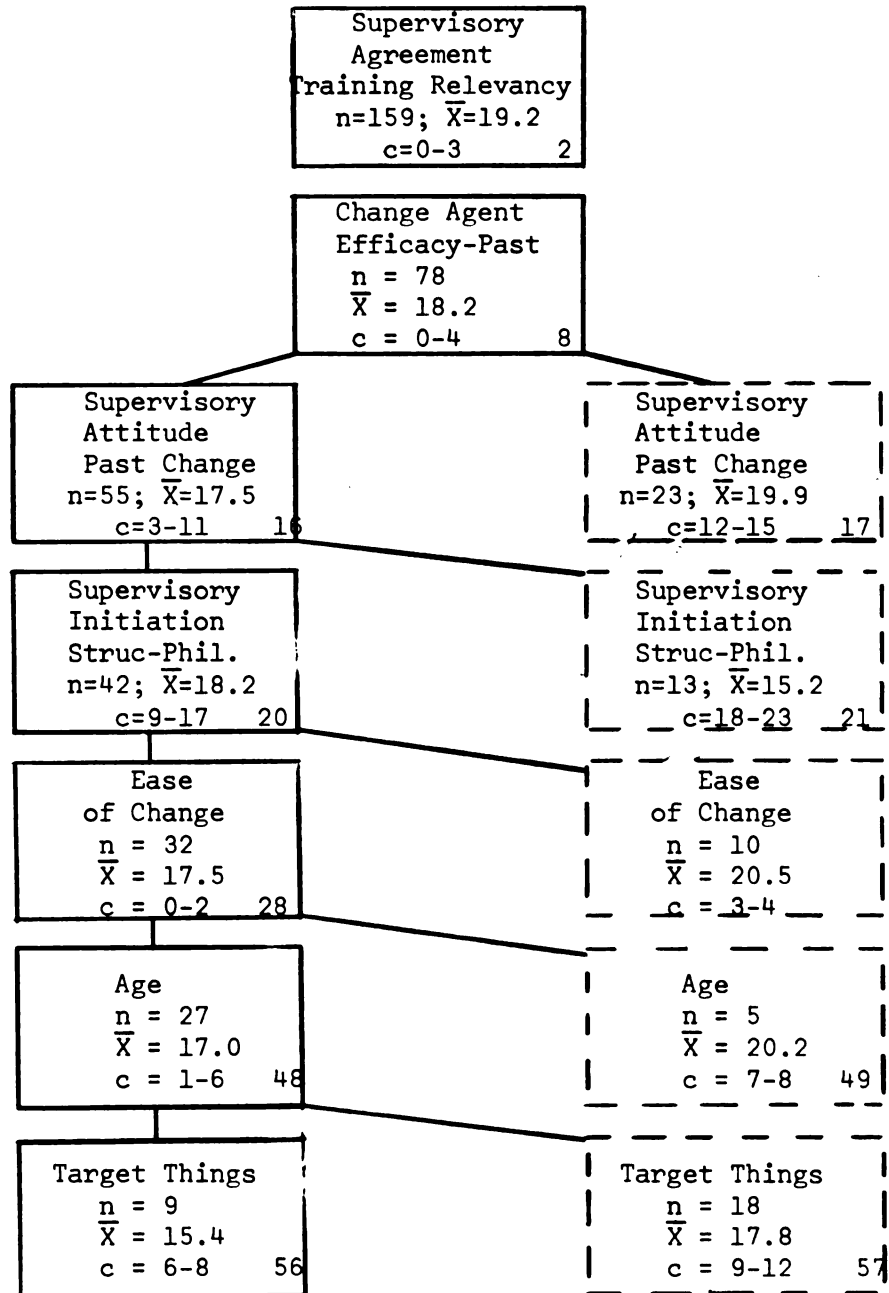


Figure IV (contd) Configurational Analysis of Prediction of Change Agent Efficacy