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REYNOLDS, Allan Eugene, 1942-
EVALUATION OF AN INSTITUTIONAL ATTENDANT TRAINING PROJECT.

The University of Oklahoma, Ph.D., 1971
Psychology, general

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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

EVALUATION OF AN INSTITUTIONAL ATTENDANT TRAINING PROJECT

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

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NORMAN, OKLAHOMA

1971

EVALUATION OF AN INSTITUTIONAL ATTENDANT

TRAINING PROJECT

APPROVED BY

DISSERTATION COMMITTEE

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ACKNOWLEDGEMENTS

The author wishes to express his sincere appreciation to the chairman of his doctoral committee, and director of this study, Paul D. Jacobs, Ph.D., who gave so generously of his time during the course of the investigation. Furthermore, the author acknowledges with appreciation the help given by Vera M. Gatch, Ph. D., Mildred Jacobs, Ph.D. and John R. Morris, Ph.D., who served as members of his doctoral committee.

The author's sincere thanks is extended to the Oklahoma Department of Public Welfare; especially, O. C. Elsea, Ph.D., supervisor of the Psychological Unit, for his immeasureable moral and personal encouragement. Also, the Enid State School staff, specifically, Gerald Paine, Superintendent, and Tim Ferguson, Assistant Superintendent.

Sincere gratitude is expressed to the author's colleagues, Don Hume, and Leonard Schwartzburd, for their invaluable aid and suggestions which made the completion of this study possible.

The author is particularly grateful to his wife, Eunice, who gave unselfishly of her time and energy while assisting in the final preparation of the manuscript. Her moral support and continued encouragement sustained him throughout the entire period of graduate study.

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
MANUSCRIPT TO BE SUBMITTED TO A PROFESSIONAL JOURNAL	vi
EVALUATION OF AN INSTITUTIONAL TRAINING ATTENDANT TRAINING PROJECT	1
INTRODUCTION	1
METHOD AND PROCEDURE	5
RESULTS	8
DISCUSSION	10
CONCLUSION	13
REFERENCES	14
APPENDICES	18
APPENDIX I: PROSPECTUS	19
APPENDIX II: TEST BOOKLET	52
APPENDIX III: TABLES	60

LIST OF TABLES

Table		page
1.	Characteristics of Experimental and Control Groups	61
2.	Chi Square Test for Rosenzweig P-F Pre-Post Test Reaction Type Frequencies	62
3.	Indices of Attendant's Self Perceptual Change on the Leary Interpersonal Check List	63
4.	OASIS Means and Variances	65
5.	OASIS ANOVA Summary	66
6.	CPI Standard Score Means and Variances	67
7.	CPI ANOVA Summary	68

Manuscript to be submitted to

a Professional Journal

EVALUATION OF AN INSTITUTIONAL ATTENDANT TRAINING PROJECT

INTRODUCTION

The goal of employee training programs is to increase personnel capability and develop specific job skills. However, the critical appraisal of training outcome is a problem frequently overlooked because of the practical and theoretical problems inherent in this kind of research. The standard practice is to ignore objective program evaluation (Quay, 1960), and rely upon the subjective opinions of "experts" to determine the effects of training (McGhee & Thayer, 1961). There is a general acceptance that "training" produces positive results, thus, causing little need for specified training objectives (Burke, 1969).

The application of sophisticated methodology of evaluation is seriously lacking in the field of training research. Therefore, the present investigation attempted to apply rigorous experimental procedures to evaluate a five week training project for institutional attendants.

The primary objective of evaluating training programs is the assessment of behavior change in relationship to the training

objectives. This is accomplished through the direct and/or indirect measurement of the relative merits of various training methods. The most popular methods for training attendants are largely planned along the lines of classroom lectures, manuals, case-study approach, and on-the-job experience (Hall, 1970; Quay, 1960; Shafter, Chandler, & Coe, 1957). Many newer techniques have developed in the attempt to change attendant's self image of custodian to social therapist (Gardner, 1971; Ishiyama, Batman & Hewitt, 1967). Some of these include, T-Groups, sensitivity training, critical incident technique, structured role playing, etc., all of which reflect the difficulties and problems encountered in the attendant's environment.

Gardner (1971) contends that the current training methods would be more successful in changing behavior if an accurate feedback system about job performance were initiated. Panyan, Boozer, & Morris (1970) found the most powerful job reinforcement was feedback from the attendant's supervisor, co-workers, and significant others. On this principle, Gardner (1971), describes inservice training as a process of behavior feedback to enhance attendant's experiencing themselves as responsible, resourceful, and capable individuals. Such a training program is based upon the hypothesis that the growth of the patient is directly related to the growth of the attendant personnel. So, rather than improve the techniques of training, Gardner (1971), contends that successful training is highly dependent upon the ability of the trainer to support and provide accurate feedback to facilitate personal growth.

The experimental investigations on the characteristics of the effective training leader fall into four distinct categories: (1) trainer personality and trainer style (Deutch, Pepitone, & Zander, 1948; Reisel, 1959); (2) participant perceptual change of self and trainer (Lohmann, Zenger, & Weschler, 1959; Vansina 1961); (3) impact of trainer on group development (Psathas, & Hardert, 1966; Stermerding, 1961); and (4) participant change as related to trainer social influence (Cooper, 1968; Peters, 1966).

The individual characteristics of attendants also play an important part in training outcome. The successful attendant has been differentiated from the unsuccessful attendant on such variables as personality descriptions (Catlell, & Shotwell, 1954), responsibility (Rettig, 1956), work tenure (Cleland, & Peck, 1959), and long term employment (Butterfield, & Warren, 1962).

The majority of studies in training research measure behavior change in specific job behavior. According to Buehler (1969), the critical test of trainee improvement is observable behavior, and the evaluation of training is only valid as it makes specific reference to the occupational goals.

However, the measurement of specific job behavior may not account for behavior change of participant's at other levels of functioning. For example, Pryer, Distefano, & Poe (1966), evaluated the effects of training on psychiatric aides and found no evidence that training enhanced job satisfaction or attitudes, but significant changes occurred in knowledge of job skills. Therefore, it would seem that an accurate assessment of training

would necessitate more than one measurement of behavior functioning.

The present study attempted to measure behavior change using three separate and distinctive test instruments. Attendants were given pre-post test measures to ascertain differences in reaction to frustration, job attitudes, and self-perceptions. The experimental (E) group participated in a five week training project, while the control (C) group received no formal job training during the same five week period.

The attendant training program was provided by a large State Institution for mentally retarded. Seven to eight yearly training cycles are planned and funded through a five year Hospital Inservice Training Grant (HIST). Training is conducted by eighteen full-time and part-time instructors under the direction of a qualified project coordinator. The training program is a 200 hr. combination of formal instruction (112 hrs.), observation experience (8 hrs.), and field experience (80 hrs.). The training methods include: classroom teaching, lectures, group discussion, case study methods, educational films, role playing, consultation, on-the-job experience, and several field trips to demonstration projects. The HIST project is designed to sharpen the skills of the attendant staff in order to assist the severely and profoundly retarded resident to better achieve his potential.

Based on the training objectives as outlined in the HIST Grant the following hypotheses were tested. (1) Following training, the E and C groups will differ in their reactions to

frustration as measured by the Rosenzweig Picture-Frustration Study. (2) Following training, the E and C groups will differ in self-perceptions as attendants, measured by the Leary Interpersonal Check List. (3) Following training, the E and C groups will differ in their job attitudes, as measured by the OASIS.

The California Psychological Inventory was administered (pre-test only) as an experimental check to discriminate for personality differences between the E and C groups which could account for possible discrepant findings.

METHOD AND PROCEDURE

Selection of Subject.--The E group consisted of eight female subjects (Ss), previously choosen by a representative selection committee (composed of administrative personnel, psychological, cottage, and nursing staff) to participate in the HIST project. The C group consisted of eight randomly selected attendants who had received no prior job training, and matched the E group on the variables of sex, age, education, and length of employment (see Appendix III, Table 1).

Testing Procedure.--The E group was tested on the first and last days of training, while the C group was tested on the same first and last two days of attendant training. Participation in the study was voluntary.

The E and C groups were administered a pre and post test in the following sequence: Rosenzweig Picture-Frustration Study

(P-F Study), Leary Interpersonal Check List (ICL). Organizational Attitude and Satisfaction Inventory (OASIS), and California Psychological Inventory (CPI, pre-test only).

P-F Study.--The P-F Study is a controlled projective technique designed to assess patterns of reaction to typical frustrating situations. Most experimental studies using the P-F technique have demonstrated that the test is subject to self-censorship and measures Level I (self-rating) rather than Level II (overt behavior) behavior. To control for self-censorship, Schwartzburd (1968), devised the multiple timed response method of P-F administration which shifts the focus from what the Ss write, to how much they write (see Appendix I); thus, measuring Level II behavior which is the concern of the present investigation. To determine the Ss type of reaction to frustration responses were scored as either: ego-defensive (E-D), obstacle-dominate (O-D), or need-persistent (N-P). Scoring followed the procedure established in the Revised Scoring Manual for the Rosenzweig P-F Study, (1947). The experimenter (E), and an independent judge achieved 86% scoring reliability. Judges were not in agreement on some responses (indicated as unscoreable) and the responses were therefore omitted from the study.

ICL.--The E and C groups were administered the ICL which is a check list of 128 adjectives, used to measure how Ss chose to present themselves as attendants (Level II behavior). The standard procedure of administration and scoring was followed as established by Leary (1957). The discrepancy score of 26 was

taken as a cutting point. All Ss at or below this figure were defined as showing little or no change, while those falling above 26 were defined as manifesting moderate or extreme change.

OASIS.--The OASIS is a flexible test instrument composed of 15 words and phrases for use in the measurement of the pleasantness and un-pleasantness of any situation where emotional and affective reactions are of concern (Jacobs, Frame, Kirby, & Munz, 1970). A locally constructed job questionnaire was constructed consisting of 3 scales of 9 statements each (see Appendix II). The scales were: self opinions, perceived opinions of the hospital administration, and opinions concerning other attendant's (Level I behavior). The Ss responded to each statement (statements were identical for each scale but re-randomized) using the response categories of the OASIS which yielded a separate index of feeling with an empirical value for the statement. A sample statement might be, "This is the way I feel about the current quality of patient care in this institution." This procedure measured the respondent's attitudes toward the statements in question, as well as their perceptions of the administration and other attendants' regarding these issues (see Appendix II).

CPI.--The CPI was administered on the pre-test to both the E and C groups. The test consists of 480 items which yield 18 measures of interpersonal behavior providing a comprehensive survey of Ss social interaction. Scoring followed the standard procedure with the 18 CPI scoring templates (Gough, 1957). Due to the failure of one S in each of the E and C groups to

complete the CPI test, an N=7 per group, was necessary for the CPI statistical analysis.

Experimental Design.--The P-F Study reaction type responses (E-D, O-D, N-P) were tested using the Chi Square test to determine differences between the E and C groups.

The frequency of ICL discrepancy scores were tested using a series of Chi Square tests with Yates Correction Factor for small samples (Hays, 1963) to determine E and C group changes.

The OASIS experimental design consisted of a 2 x 3.2 factor analysis of repeated measures (Kirk, 1968). The first factor (A) representing the E and C groups, the first repeated factor (B) representing the three attitude scales (B_1-self as attendant, B_2-perceived attitude of hospital administration, B_3-perceived attitude of other attendants), and the second repeated factor (C) representing the pre-post test measures of Factor B (see Appendix III, Table 4 for means and variances).

The CPI experimental design consisted of a 2 x 3 repeated factor analysis of variance with the non-repeated factor (A) representing the E and C groups, and the repeated factor (B) representing the 18 personality traits (see Appendix III, Table 6, for CPI means and variances of CPI standard scores).

RESULTS

P-F Study.--The Chi Square test revealed a significant pre-post test difference in reaction type responses (E-d, O-D, N-P)

for the E group (χ^2=10.03, df=2,$p < .01$); whereas, the C group pre-post test reaction type responses were nonsignificant (χ^2= 4.47, df=2, $p > .10$). Comparison of the E group pre-post test response frequencies indicate, E-D decreased, O-D minimal difference, and N-P increased. The response patterns on the pre and post test indicate E-D > N-P > O-D, which is consistent with the established adult norms (see Appendix III, Table 2).

ICL.--The Chi Square test using Yates Correction Factor for small samples (N=16) revealed a significant difference between the E and C group discrepancy scores (χ^2=4.65, df=1, $p < .05$). Other Chi Square tests revealed no significant self-perceptual changes of the E group in the dimensions of dominance-submission (χ^2=.03, df=1, $p > .50$), or hostility-love (χ^2=.12, df=1, $p > .50$). Comparison of the frequency of discrepancy scores (26 as the cutting point for change) revealed that 5 E Ss changed self-perceptions, while no C Ss change self-perceptions (see Appendix III, Table 3).

OASIS.--A test of homogeneity of error terms for the 2 x 3.2 mixed ANOVA revealed the assumption of homogeneity was upheld for Subj: W/Groups ($F_{max}(2,7)$=1.07, $p > .05$), B x Subj: W/Groups ($F_{max}(2,14)$=2.98, $p > .05$), C x Subj: W/Groups ($F_{max}(2,7)$=1.40, $p > .05$), and BC x Subj: W/Groups ($F_{max}(2,14)$=1.29, $p > .05$).

The 2x3.2 Split-plot ANOVA results revealed a nonsignificant A (E and C groups) main effect ($F < 1.00$), B (attitude scales) main effect ($F_{(1,14)}$=1.48, $p > .20$), and C (pre-post test difference) main effect ($F < 1.00$). No interaction effects approached

significance (see Appendix III, Table 5).

CPI.--A test of homogeneity of error terms for the 2 x 3 Split-plot ANOVA revealed the assumption of homogeneity was upheld for the Subj: W/Groups (Fmax (2,6)=1.72, $p > .05$). Since the other term, B x Subj: W/Groups (Fmax (2,102)=1.08, $p < .05$) revealed a lack of homogeneity, the data were analyzed in original form using conservative F tests (symbolized by Fc) where there was a lack of homogeneity (Kirk, 1968).

The CPI results revealed a nonsignificant A (E and C groups) main effect ($F < 1.00$), but a significant B (18 personality dimensions) main effect ($Fc(1,12)=6.12$, $p < .05$). There were no significant interaction effects ($Fc(1,12)=1.09$, $p > .20$), thus no personality differences existed between the E and C groups (see Appendix III, Table 7). No further analyses were performed on the personality dimension data since differences on this dimension are to be expected, and not meaningful to the objectives of the present study.

DISCUSSION

The two-fold purpose of this investigation was to assess the results of a five week attendant training program, and to present a methodological system to measure the program objectives.

P-F Study.--Following training, the E group revealed a different reaction to frustration than the C group which supported hypothesis # 1. There was a decrease in the type of reaction

where the Ss ego predominated by blaming himself and others (E-D) for the frustration; while, there was an increase in reactions of problem solving and goal directed thinking (N-P). There was basically no change in the number of pre-post test responses where the frustrating situation dominated (O-D) the Ss reaction (see Appendix III, Table 2). This shift reflects a highly desired change in patterns of reactions to frustration, since coping with frustration plays an important therapeutic function in the attendant's relationship with retardates. The P-F Study results can be assumed to serve as a predictor of the attendant's overt behavior in typical work situations, since the modified method of P-F administration (Schwartzburd, 1968) measures Level II behavior. As a controlled projective technique, the P-F Study methodology is useful in training evaluation since the data are quantifiable, and the goal is specified.

ICL.--Following training, the E group revealed a greater change in self perception than the C group which supported hypothesis # 2. The fact that the amount of change in self-perceptions for the E Ss was significant, but the "direction of change" was nonsignificant (in the dimensions of dominance-submission, hostility-love), suggests that each E subject reacted differently to the experience of training. After training, some Ss perceived themselves as more dominate or hostile, others as more submissive or loving (see Appendix III, Table 3). "Change" for the E Ss seemed dependent upon the individual attendant, not upon the methods of training. Although the training program affected attendant's

self perception, the data are limited for making on-the-job predictions. Nevertheless, the ICL methodology is applicable to the evaluation of training in measuring both the kind and amount of "change" over time on several behavioral levels.

OASIS.--Several speculations should be made regarding the lack of difference between the E and C groups on all factors of the OASIS. First, the training experience may not have been an effective means to change the attendant's attitudes toward himself, administration, or other attendants.

Another explanation regards the nature of the three attitude scales (see Appendix II). Both the E and C group Ss expressed much apprehension and concern over the scales referring to their perceived attitudes of the institutional administration. Ss found it difficult to believe that their performance on the questionnaire would be held in the utmost confidence, since the administrative personnel initially requested their participation in the project. Consequently, the nonsignificant findings could possibly have resulted as a function of censored answers, and the inability of the Ss to feel protected and safely "project" their attitudes.

Another explanation for the nonsignificant findings regards the nine randomized statements over the three scales (see Appendix II). Unfortunately, the E and C group Ss lacked the necessary information to answer many of the pre-test statements. However, on the post test the E Ss were well informed, and the C Ss had gained no new information. This situation still resulted in no differences between the groups, lending further support to

the censorship variable.

Thus, a combination of lack of information, apprehension, and censorship, seems to be the most plausible explanation for the nonsignificant findings.

Although the results for this specific OASIS were nonsignificant, this methodological procedure is adaptable for any training evaluation since, (1) any questionnaire can be constructed to measure specific attitudes, (2) the empirical values are not statement specific, (3) and the data can be considered as interval level measurements (Jacobs, et. al., 1970).

CPI.--The CPI detected no significant difference between the E and C groups which supports the premise that the findings of the P-F Study and ICL were a result of the training experience rather than a function of group personality differences.

CONCLUSIONS

The implications of the present investigation suggest the practical and theoretical problems inherent in training research can be overcome with an appropriate methodological approach. To accomplish this goal requires (1) stated program objectives, (2) more than one measurement of behavior, (3) selection of test instruments that measure training objectives, (4) and pre-post test measures with correct statistical designs to insure adequate controls.

As a prerequisite to all research in this area, some planning should be made for follow-up evaluations at periodic intervals to determine the long term gains of training.

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APPENDICES

APPENDIX I

PROSPECTUS

EVALUATION OF AN INSTITUTIONAL ATTENDANT TRAINING PROJECT

DISSERTATION PROSPECTUS

In recent years considerable attention has been focused on the training of attendants employed by state residential institutions. In an effort to improve the quality of services, training programs have been designed to increase attentant's knowledge, skill, and job performance (Lee & Dean, 1971). Generally, most institutions assume staff training programs do accomplish their purposes. However, in a recent survey, Belasco & Trice (1969), found less than one percent of the current institutional training programs to be systematically evaluated using adequate designs and methodology.

Burke (1969) postulates that the lack of critical appraisal of training programs is a result of uncertain program objectives, and the blind acceptance that training produces positive results. After examining over 400 training programs, House (1969), concluded that few programs have contributed demonstrable or measurable effects on staff behavior. McGehee & Thayer (1961), point out the standard practice is to depend upon the opinions of "experts" as the most common method to answer questions about training effects.

The application of methodological precision is lacking in

the field of program evaluation. The benefits of rigorous, experimental investigation would provide institutions with an opportunity to utilize the most efficient methods and procedures to insure optimal results from training efforts.

The purpose of this present investigation is to objectively evaluate the impact of an established inservice training program for attendants. Before considering inservice training in depth, a review of training development in residential institutions is relevant.

Historical training perspective.--Traditionally, the most productive institutional attendant was one who acquired his own skills and was "self made" (Belsjoe, 1970). He was viewed as a simple helper who supervised the patient's daily activities, attended to his personal needs, and performed the familiar custodial chores (Gardner, 1971). Any training of employees was considered wasteful and time consuming.

As progressive institutions recognized the vast untapped source of manpower within institutions, trial and error services became obsolete. The Department of Health, Education and Welfare, and The National Institute of Mental Health awarded substantial inservice grants to selected institutions to increase inservice training (Distefano, & Pryer, 1964). Such grants not only increased attendant training, but served to intensify evaluation of the effectiveness of these programs.

The Johnston Research Center developed a curriculum guide to standardized attendant training procedures (Cochran, & Steiner,

1966), and the Southern Regional Education Board (SREB) initiated a five year Attendant Training Project to improve services in sixteen southern states. The latter project provided a SREB test as a basic tool for evaluating attendant training, and served as a benchmark for future program evaluation (Barnett, & Bensberg, 1964).

Training methods.--According to a survey (Shafter, Chandler, & Coe, 1957), institutional training programs are largely planned along the lines of incorporating both classroom or laboratory training and performance on the job. Investigations by Quay (1960) indicate lectures, group discussion, and use of a manual are the most popularly used methods in attendant training.

Edgett (1947) outlined an elaborate 125 hr. program of lectures presented by professional staff. No attempt was made to evaluate the program, but a proposal to standardize such a course was the result. Quay (1960) compared four different training methods and found the most effective method in changing attitude was the lecture technique which transmits large amounts of information in short periods of time.

A modified lecture approach described by Hall (1970), as the dialogue technique, is used by skillful leaders to engage the learner in "round robin" discussion. This discussion technique was utilized by Wax (1962), and Johnson, & Whitney (1962) to teach attendant supervisors employee counseling, and sharpen their observation and understanding of patient behavior. The didactic approach is considered successful, but is limited by the skill of

the instructor, learner threat to self exposure in groups, and trainee involvement in content (Hall, 1970).

The case method, or "conference" technique incorporates features of the lecture and dialogue, with the addition of small group discussion. Pre-selected case studies are analyzed, diagnosed, and recommended solutions to the problematic situation depicted (Hall, 1970). Cleland and Cochran (1958), developed a series of case studies which resulted in a textbook of institutional case problems. Gannon (1970), points out the principle advantage of the case study method is the feedback discussion, in regard to an understanding of individual and group processes from a social scientific viewpoint. Hall (1970), criticizes the case method because the solutions often provided by the group (or instructors) are a "speculative overview of philosophical issues." And, the diffusion of content results in a limited criteria for evaluating the conclusions or effect under the case method.

Maier (1955), synthesized the case study method with psychodrama to develop a new form of training designated as "structured" role playing. The leading practitioners include Malcolm Shaw, and William Shutz, with institutions like Esalen and the National Training Laboratories utilizing role playing as a dynamic and flexible training tool. Wohlking, & Weiner (1971), explain structured role playing objectives focus on making the trainees more proficient in some job related skills, and to modify job attitudes.

Four conditions of role playing were investigated by Jansen,

& Stolurow (1961), to determine if role playing was an effective and acceptable method of training psychiatric aides. The results suggested role playing is a feasible training technique, but additional study is necessary to determine the required conditions for affecting behavior change.

On the basis that Vaugh & Teitlebaum (1962), found attendants unable to translate classroom material in action, Rossier, & Steiger (1969), chose role playing techniques to train psychiatric attendants to cope with stressful, face to face, relationships with patients. The attendants, measured on four different rating scales and role play tests improved significantly as a group. However, group A (role play experience, but no monitor) improved the most, those in group C (observation of role play) did almost as well, while group B (trained with monitored prompting) improved the least (Rossier, & Steiger, 1969).

Apparently, exposure to role play technique, if it is followed by discussion is an effective technique. However, Rossier and Steiger's (1969) study illustrates Wohlking and Weiner's (1971) criticism that training objectives are often indirectly related to the role playing methods.

In an attempt to overcome this inherent problem, Ishiyama, Batman, & Hewitt (1967), confronted attendants with the experience of being patients in another mental health institution. Role playing was designed to make an aide aware of the patient's situation, and to increase the aide's consciousness of those aspects of the patients role which are crucial to patient progress. Aides were

hospitalized six hours without ward attendant's knowledge of their real identities. Immediately following release, the aides were interviewed, and re-interviewed fourteen weeks later to see if the experience had led to positive behavioral changes. The results indicate when Ss were labeled as patients they began responding as patients (Ishiyama, et. al., 1967).

In order to change the institutional aide's self image from that of custodian to social therapist, Sensitivity and T-Group training has been used to reflect difficulties and problems which actually exist in the attendant's environment. The T-Group is a structured approach and the control of learning content is determined by the participants (Hall, 1970). Much of the research data indicates the success of the T-Group method is very dependent upon the skill of the trainer. Thus, the trainer's role would appear to be the most critical variable (discussed later in this paper) for consideration.

Wolfle (1951), refers to inservice training as the "applied psychology of learning." Several authors, Glaser (1961), Maier (1955), McGehee & Thayer (1961), Ryan (1947), and Wolfle (1951), point out the learning principles of feedback and reinforcement as most relevant to institutional attendant training.

Hall (1970), refers to the central hypothesis underlying feedback for attendant training as a source of additional motivation toward behavior change. Gardner (1971) proposes that attendants do not need more training, they need more accurate feedback about performance.

In a recent article, Panyan, Boozer, & Morris (1970), initiated a feedback system to increase the daily use of operant training methods by non-professional personnel. Since reinforcement for trainer's behavior in terms of patient's progress is often delayed, the authors posted weekly feedback sheets to inform attendants of their performance on a specified work assignment. The feedback sheets increased the percentage of training sessions conducted by staff, however, further evidence suggested the behavior of the staff's supervisors and co-workers operated as a more powerful reinforcement.

Millerson (1967), verified the feedback response resulting from significant others as a potent reinforcing stimulus in modifying trainee behavior. Other effective reinforcing stimuli suggested by Ayllon, & Azrin (1968) include salary increases, trading stamps, video-taped records, recognition, disapproval, progress reports, etc.

The critical incident technique is a modification of Flanagan's (1954) work in job analysis and employee evaluation. Barnett and Bensberg (1964), support the critical incident technique because it involves: (1) an analysis of some particular aspect of an attendant's job; (2) describes the behavioral responses which denotes successful job completion; (3) laboratory setting where attendant can perform his job; (4) and finally, upon the completion of the post-test, immediate feedback on errors suggests corrections for future performance.

A task-orientated evaluation was investigated by Steiner,

& Cochran (1966), using the simulated critical incident technique to determine a group of forty attendants ability to perform seven different nursing procedures. The data were inclusive, but an inquiry revealed the attendants gained more experience with this training procedure, and the technique proved a valuable tool in teaching and evaluating attendants' performance.

Aside from the formalized training approaches, Benn (1952), describes "blitz-training," as a training method originally developed from the classic Hawthorne investigations. Blitz training enables management to train personnel to the highest level of skill they are capable of attaining in the shortest possible time. An example of such training is reported by Cleland, Cochran, Love & Vowell (1962), in which broad scale training resulted in a reduction of patients' seizures, accidents, escapes, and negativistic behavior.

The most recent innovation in training methodology is proposed by Gardner (1971), in light of investigations at Orient State Institute. The major underlying training hypothesis is that the growth of the patient is directly related to the growth of the attendant. Rather than improve methodology, Gardner (1971), describes the institutional training environment as one to help attendants to experience themselves as responsible, resourceful, and capable individuals.

Gardner (1971), summarizes this personal growth approach under seven major assumptions: (1) every individual is capable of providing educative or therapeutic treatment for mentally

retarded or emotionally disturbed children; (2) attendants do not need more traditional training, they need more feedback; (3) individuals are most comfortable with their own style, using their own words, and incorporating ideas into their own conceptual framework; (4) individuals operate most effectively and are highly motivated when they are given responsiblity for individual patients as well as the functions associated with patient progress; (5) communication and support are best between peers; (6) leadership is best when it is based upon competence and not authority; (7) and finally, the growth of the patient is directly related to the growth of the attendant.

In terms of evaluation, Gardner (1971) suggests the staff psychologist acquaint himself with the attendant and his problems, in contrast to the traditional diagnostic procedure of evaluation. Thus, inservice training becomes whatever the psychologist feels competent to perform. The psychologist no longer is the "expert" who dictates policy and methods of training, but becomes a resource person. If the need for evaluation is questioned, evaluation may then be investigated in terms of how well the psychologist is able to support other individuals, particularly attendants (Gardner, 1971).

Characteristics of effective leaders.--Research on the relationship between the characteristics of training leaders and the effectiveness of training programs falls into four distinct categories: (1) relationship between trainer personality and trainer style; (2) participant perceptual change in reference to

the trainer; (3) trainer's impact on group development; (4) processes of trainer influence as they relate to participant change.

Deutsch, Pepitone, & Zander (1948), and Reisel (1959), performed similar clinical studies to show the interrelationship between the personality needs of the trainer and his subsequent behavior in the training group. The results of thorough clinical examinations, and behavioral content analysis, revealed that psychological needs dictate in part a leader's training philosophy and behavior in the group. The findings of these two studies are highly tentative, but they illustrate an important variable affecting training outcome.

Stermerding (1961), investigated the indirect influence of the trainer and subsequent group development. Participant's completed forms to indicate in which of three possible areas they were learning from the group: about themselves, about groups, or about their daily work. A content analysis of trainer interventions revealed trainer A displayed a group orientated approach; while trainer B directed his interventions toward group members. Related to this, group A was seen to accentuate the "group" aspects of learning, while group B equally emphasized learning about themselves, and their daily work. Thus, trainer behavior in the group and group development are inextricably related.

Psathas & Hardert (1966), investigated the impact of trainer interventions on the pattern of group behavior, specifically normative behavior. The authors hypothesized that trainer interventions contain implicit norm-messages dictating to participants what norms

should be established in the group. Trainer interventions were reliably classified into "ought" and "should" statements that have the implicit message of appropriate T-Group behavior.

In addition, Psathas, & Hardert (1966), found trainer interventions were consistently judged by participants into four normative categories: analyzing group interaction, feelings, feedback, and acceptance concern. As the group progressed the categories changed from one period to another. Analyzing group behavior is highest in the beginning of groups, and acceptance concern is predominate toward termination of the group. This evidence offers support for the emergence of group patterns as related to the norms of the trainer.

Lohmann, Zenger, & Weschler (1959), performed a study to determine whether trainee self perceptions, and trainee perceptions of the leader changed during T-Group training. Results showed leaders were perceived by trainees as significantly more adequate at the beginning than at the end of the group. Despite the diminished idolization, trainees continued to perceive the leader as more adequate than themselves. Also, by the end of the training sessions, the trainees perceptions of the leader and the leader's self perceptions tended to converge.

Vansina (1961), extended the study of participants perceptions of the leader to suggest that trainee attitudes and opinions move closer to those of the leader as the group progresses. Two groups of training students were instructed on a four day residential course. Each participant and the trainer described his actual

self and ideal self (image of ideal leader) on a pre-test, post-test item sort. The finding indicated the trainees self image was significantly more similar to that of the leader at the latter sorting.

The social influence of identification and internalization was investigated by Cooper (1968), to determine how trainees change in respect to their affiliation with the group leader. In an identification based trainer influence process (trainer perceived as attractive): (1) the trainees took on an attitude of the trainer; (2) trainees' self-concept did not change; (3) the trainees work associates reported them to have no significant change six to nine months after the group. The trainer influence process of internalization (trainer perceived as congruent) change occurred in the, (1) trainee's self-concept, closer self and ideal-self match; (2) direction of perceived leader's attitudes and behavior did not change; (3) trainee's work associates reported subjects as having changed significantly six to nine months after the training group.

Peters (1966), found similar results using the semantic differential to investigate the relationship between trainee identification and personality change. Specifically, trainee's self-perception converged with the leader's self-perception. Men showed greater self-concept convergence than women. The author concluded the group leader serves as a "reference-other" or role model for the trainee, and identification is a relevant learning mechanism.

Characteristics of effective attendants.--Most methods of evaluation emphasize job performance as an assessment criteria rather than personality change. Recognizing this situation, Catlell and Shotwell (1954), studied 105 attendants using the Sixteen Personality-Factor Questionnaire to differentiate successful from less-successful attendants. The more successful attendants were shown to be more emotionally mature, possessed of more superego strength, and generally more conservative. The most significant differentiating factor was superego strength.

The theoretically successful psychiatric aid according to Tarjan, Shotwell & Dingman (1956), is a quiet, somewhat withdrawn, shy individual, with a high degree of conformity and inclination to accept the opinion of others.

Rettig (1956), conducted a study to differentiate responsible and irresponsible attendants. The socially responsible attendant described by judges ratings is about forty five, characterized by warmth, kindness, permissiveness, as well as authoritativeness, objectivity, and definiteness of action.

Attempting to avoid the subjectivity in describing attendant characteristics, Cleland & Peck (1959), selected attendants on the basis of work tenure to find the type of person who might be expected to remain on the job. Measured by the California F-Scale, the model long term attendant was described as having a rural background, highly authoritative, and placed clearly in life in a role as a "little parent."

In a more recent study of long term employment as a

criterion of success, Butterfield, & Warren (1962), compared three groups of attendants on the MMPI. The authors questioned whether the failure of the MMPI to support the hypothesis that personality variables affect an aide's competence may be due to a lack of reliable criteria. Shotwell, Dingman, & Tarjan (1956), maintain that "no instrument can be expected to predict behavior unless the job to be predicted can be defined and reliably evaluated.

Buehler (1969), states the problem with the traditional assumption that personality influences job performance is that non-behavioral measuring instruments substitute the language of personality for the language of observable behavior. Peterson (1965), reviewed all such instruments and came up with an intra-trait correlation among personality tests of .30. His findings are supported by other investigators such as Guion (1967), Meehl (1960), and Mischel (1967). Thus, Buehler (1969) maintains the critical test of trainee improvement is observable behavior, not personality change. And, the evaluation of trainee's observable behavior is only valid as it makes specific reference to the occupational system for which the trainee is being prepared.

All of the above research information compiled on inservice training programs leads to the conclusion that there are many extraneous variables that influence the outcome of evaluation. In an attempt to overcome some of the inherent problems mentioned above, the present investigation proposes a vigorous methodological evaluation of the inservice training program at Enid State School for the Mentally Retarded.

Nature of services at Enid State School.--The Enid State School located at Enid, Oklahoma, is a residential institution caring for more than 1,000 mentally retarded individuals. A simplified statement of the aims of the program at Enid State School is, "to accept a resident who cannot obtain services which he needs in the community, assist him in developing his capacity through available training programs, and eventually return him to the community setting."

In addition to providing residential care, Enid State School serves as a diagnostic center for the 23 northwestern counties in Oklahoma. Applicants for Services for the Mentally Retarded in the State are evaluated at Enid State School in order to determine what services the State of Oklahoma may have available for the particular individual.

The generalized characteristics of the resident population at Enid State School include the fact that nearly sixty per cent are severely and profoundly retarded. Staff concern over upgrading and improving services to this portion of the population has led to the development of two federal grants. The Hospital Improvement Project (HIP) concerns itself with developing the severely retarded resident to a more meaningful level of existence through a multi-discipline training and stimulation program. A key to achieving success in the HIP Program is dependent upon the effective utilization of attendant trainers prepared in the Hospital Inservice Training (HIST) Grant-Developing Trainers of the Severely Retarded (program of concern for this study).

Training involves small groups of eight to ten specially selected attendant employees who are relieved of regular duty to participate in five full weeks, or two hundred hours of inservice training. Seven to eight training cycles are provided yearly. Training is conducted by eighteen full-time and part-time staff instructors and staff personnel under the full time direction of a qualified coordinator. These include: two pediatricians, a consultant psychiatrist, a psychiatric social worker, a recreational therapist, an arts and crafts therapist, a speech and hearing therapist, a physical therapist, two registered nurses, a special education teacher, and an experienced administrator of residential facilities for the retarded.

A selection committee composed of representatives from administration, personnel, psychiatry and psychology, supervisory personnel in cottage life,and nursing service make all recommendations regarding admittance to the HIST Program.

Training consists of classroom teaching, lectures, discussions, observations, demonstrations, on-the-job training, educational films, film strips, and special consultants, as well as field trips to demonstration projects, including the Behavior Shaping and Sensory Stimulation program for the mentally retarded at Casady School, Oklahoma City.

In general, the aim of the HIST Program at Enid State School is to develop personnel well grounded in a progressive philosophy of care and treatment of severely and profoundly retarded individuals. The training aims are to create insight on the part of the

employee in regard to his role as an individual capable of modifying the environment of the retardate to such an extent that it will positively effect the retardate's behavior and adaption to life. The HIST Grant as submitted by Enid State School outlines numerous goals or objectives, three of which concern the present investigation: (1) To increase attendant's handling of frustrating situations, attendants are placed in actual stress situations between attendant and resident, between residents, and between attendants (the latter via role playing techniques). (2) To enhance the attendant's adoption of attitudes that are condusive for working with the severely and profoundly retarded. (3) To assist the attendant in perceiving himself as an adequate and confident attendant trainer of the mentally retarded.

Statement of the Problem.--The problem of the present study is to investigate whether the 200 hr. HIST program at Enid State School significantly changes attendant behavior in terms of (above stated program objectives) the attendant's reaction to frustration, perceptions of self, and job attitude. A second purpose is to present a methodological system to accurately measure the program objectives.

The Rosenzweig Picture-Frustration Study will be administered on the first and last training days to the experimental or training group (E), and a matched control or no training group (C), to analyze for differences in reactions to frustration.

The Leary Interpersonal Check List will be administered to both the E and C groups on the first and last days of training to

analyze for differences in perceptions of self as attendants.

The OASIS will be administered on the first and last days of training to the E and C groups to analyze for differences in job attitudes.

Based on the objectives as outlined in the HIST Grant the hypotheses specifically tested will be:

(1) Following training, the E and C groups will differ in their reactions to frustration as measured by the Rosenzweig P-F Study.

(2) Following training, the E and C groups will differ in self-perceptions as attendants measured by the Leary Interpersonal Check List.

(3) Following training, the E and C groups will differ in their job attitudes as measured by the OASIS.

As an experimental check, the California Psychological Inventory will be administered (pre-test only) to discriminate for significant personality differences between the E and C groups which could account for possible discrepant findings.

METHOD

Subjects.--Ss for the E group will be Enid State School employee attendants who have been selected by the training committee for the regularly scheduled five week HIST Project. Ss for the C group will be randomly selected from the remaining attendants

who have not been previously instructed in any formal job training. In addition, the C group Ss will be matched with the E group on the variables of sex, age, education, and length of employment.

Apparatus.--The apparatus will consist of four separate and distinctively different tests; three of which (P-F, ICL, and OASIS) will be used to test the three proposed hypotheses and the fourth (CPI) as an experimental check to determine whether there exists significant personality differences between the E and C groups.

Rosenzweig Picture-Frustration Study (P-F).--The Picture Frustration Study, or-by its full name- the Picture-Association Study for Assessing Reactions to Frustration, represents a limited projective procedure for disclosing patterns of response to every day frustration that are of widely recognized importance in both normal and abnormal adjustment. The material of the test consists of a series of 24 cartoon pictures each depicting two persons who are involved in a mildly frustrating situation of common occurrence. The figure at the left of each picture is shown saying certain words which either help to describe the frustration of the other individual, or which are themselves actually frustrating to him. The person on the right is always shown with a blank caption above. Facial features are purposely omitted from all the pictures (Rosenzweig, Fleming, & Clark, 1947).

A number of investigators (Albee, 1950; Albee, & Goldman, 1950; Holtzberg & Posner, 1951; Melhman & Whiteman, 1955; Weinberg,

1952), have concluded there is no relationship between P-F scores and overt behavior in actual frustrating situations. Most studies with the P-F have demonstrated that the test appears to be subject to self-censorship, thus, measuring Level I (self-rating) rather than Level II (overt behavior) behavior. Schwartzburd (1968), devised a method by which self-censorship is minimized. The timed multiple response method of administration shifts the focus from what subjects write in response to the P-F items, to how much they write. The results supported the hypothesis at the .0001 level of confidence, which lends strong support for a method of controlling self-censorship to measure Level II behavior (Schwartzburd, 1968).

The timed multiple response method of administration will be used for this present study in order to measure Level II behavior of the E and C groups. This method involves a set of 35mm transparency slides which will be made of the 24 P-F items, each item being represented by a separate slide. A 35mm slide projector will be used to project the P-F items on the white wall which will serve as a large screen. Pencils and specially prepared booklets for the Ss to record their responses will be provided. There will be 12 pages divided in half, with space for the Ss to record up to six responses for each of the 24 P-F items. Each of the responses will be recorded in a cartoon like "bubble" of approximate size as those in the original test booklet. A stop watch will be used for timing (Schwartzburg, 1968).

The S is instructed to examine the situation and write on a similar blank caption answer sheet as many replies to the frustrating situation as enter his head. It is assumed as a basis

for the P-F Study that the S consciously or unconsciously identifies himself with the frustrated individual in each picture situation and projects his own bias in the replies given. To determine this bias each response is scored as to the direction of aggression (extrapunitiveness, intropunitiveness, or impunitiveness) and/or reaction type (concern of the present investigation). Under type of reaction, responses are scored as either Obstacle-dominance (O-D), in which a given response indicates that the S is blocked by the frustration; Ego-defense (E-D), in which the ego of the S predominates and he goes on to blame himself or attack others; or Need-persistence (N-P), in which the Ss response is toward a solution of the frustrating problem (Rosenzweig, et. al., 1947).

Interpersonal Check List (ICL).--The ICL is routinely employed to measure Level I, II, and V behavior. Level I behavior defines the overt public communication of the S upon others. Level V behavior measures Ideal Self descriptions. Level II behavior (concern of the present investigation) refers to the Ss conscious descriptions of self and specified others. The only criterion for determining Level II behavior is by a conscious verbal report by the S which reflects how the S chooses to present himself and his view of the world. The reported Level II perceptions are scored in terms of a circular continuum which consists of 128 adjectives, eight for each point on the circle. The check list is calibrated in four degrees of intensity and the array of adjectives is balanced according to the expected frequency of usage. The S examines all

the listed items and checks those words and phrases which he believes describes his behavior. Since each item is already pre-scored, his responses automatically give a standardized picture of his own description of self and "others." Test -retest reliability for scores in the eight octants average .78, suggesting the ICL scores can have sufficient stability to be useful in pre-post test research designs (Leary, 1957). The discrepancy score of 26 will be taken as cutting point. All Ss at, or below this figure will be defined as showing no change, while those falling above 26 will be defined as manifesting moderate or extreme change.

OASIS.--The Organizational Attitude and Satisfaction Inventory is a highly flexible attitude questionnaire with 15 different words and phrases for use in the measurement of pleasantness-unpleasantness of any situation where affective or emotional reactions are of concern (Jacobs, Frame, Kirby, & Munz, 1970). A local job questionnaire will be constructed consisting of three scales and nine statements each. The scales will be concerned with: self opinions, perceived opinions of hospital administration, and opinions concerning other attendants. Ss will respond to each statement (statements are identical for each scale, but re-randomized) using the response categories of the OASIS which yields a separate index of feeling with an empirical value for the statement. This procedure will measure the respondent's attitudes toward the statements in question, as well as their perceptions of the administration and other attendants regarding these issues.

California Psychological Inventory (CPI).--The CPI consists

of 480 items and yields 18 measures of social interaction. Each single score is intended to cover one important facet of interpersonal behavior, and the total set of 18 is intended to provide a comprehensive survey of social interaction. Test-retest coefficients are reported to be as high as found in personality measurement (Gough, 1957).

Design.--The experimental design for the P-F Study will consist of a pre-post test measure using the Chi-square test to determine differences in frequency of reaction type responses (O-D, E-D, N-P) between the E and C groups.

The experimental design for the ICL will consist of a pre-post test measure using the Chi-square test to determine differences in frequency of discrepancy scores. Yates Correction Factor will be utilized for the ICL in order to improve the strength of the Chi-square test for a small sample (Hays, 1963).

The experimental design for the OASIS will consist of a 2 x 3.2 factor analysis of repeated measures. The first factor (A) representing the E and C groups, the first repeated factor (B) representing the three attitude scales (B_1-self as attendant, B_2-perceived attitude of hospital administration, B_3-perceived attitude of other attendants), and the second repeated factor (C) representing the pre-post test measures of factor B.

The experimental design for the CPI will consist of a 2 x 3 factor analysis of variance with the non-repeated factor (A) representing the E and C groups, and the repeated factor (B) representing the 18 personality traits.

Procedure.--The E group will be tested on the first and last day of the 5 week training program. The C group will be tested on the same days as the E group, except additional testing sessions will be required due to Ss different work shifts.

The testing room will be the inservice training classroom which has four large tables to accomodate four Ss on each side.

P-F Study.--The procedure for the P-F Study will require a slide projector set up at one end of the room using the in-service classroom wall as a screen. The light will remain sufficient to allow Ss to record their responses, but not to bright to interfere with a clear projection of the P-F slides. Instructions for the E group and C group indicate that Ss will have one minute to write answers for each picture flashed on the wall. In reality, 75 seconds will be allowed for each item in order to motivate Ss to work fast and record more answers. Procedural questions will be answered as simply as possible. As each picture is flashed on the wall the examiner will read the item in a neutral monotone. As soon as the reading is complete the examiner will say, "start writing," and timing will begin. The picture will remain on the wall for the 75 sec. period, whereupon, the examiner will say, "Finish the one you are on and then stop." When each S has stopped writing, the next picture will be projected on the wall and the procedure repeated. The 24 items will be given in sequence as they appear on the standard Rosenzweig P-F Study (Schwartzburd, 1968).

The P-F responses will be scored independently by the

experimenter and another judge having prior experience with the P-F Study. Scoring will follow the procedure established in the Revised Scoring Manual for the Rosenzweig P-F Study (1947). The data will be scored by the two judges without their knowledge whether the responses are pre-or post test results, or from which group the responses are recorded. This will be accomplished by having a third party cover the identifying information with non-transparent tape. Scoring of the data will be the same for the E and C groups, with each response to each picture being scored separately. Each response will be scored on the basis of the categories of Obstacle-dominance (O-D), Ego-defense (E-D), and Need-persistence (N-P). Direction of aggression will not be scored. The Ss raw scores for each category will be totaled and then all Ss scores in each category will be combined to establish a total frequency of pre-post test raw scores for the E and C groups.

ICL.--The administration of the ICL will immediately follow the administration of the P-F Study. The examiner will read aloud the standard ICL instructions. After procedural questions are answered Ss will be instructed to begin marking those items generally descriptive of themselves as attendants. There is no time limit.

OASIS.--The administration of the OASIS will immediately follow the last Ss completion of the ICL. The examiner will read aloud the standard OASIS instructions. After procedural instructions are answered, Ss will be instructed to begin marking those words or phrases that indicate how they feel about the proposed

statements. Each statement on the OASIS questionnaire results in a separate index of feeling for which an empirical value is established. These indices will be summed and a mean computed for each of the three attitude scales: (1) self as attendant, (2) perceived attitude of Enid State School administration, (3) and attitude of other attendants.

CPI.--The administration of the CPI will immediately follow the OASIS, pausing for a break to relax. After the five minute break, the examiner will read aloud the standard instructions for the CPI. After procedural instructions the Ss will be instructed to begin marking true or false on a standard CPI answer sheet to 480 different items. Scoring will follow the standard procedure using the 18 hand scoring templates (Gough, 1957). Ss will be free to leave the testing room when they complete the CPI.

The total testing time is estimated to take from two to two and one half hours, depending upon the test orientation of the Ss.

The above procedure will be implemented for both the pre and post testing periods, except for the CPI which will be used only as a pre-test measure for this present study.

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APPENDIX II

TEST BOOKLET

Form T2

OASIS

This questionnaire is designed to allow you to respond to issues regarding job behavior. We want to know how you feel.

On the following pages are several statements with lists of words and phrases opposite them. For each statement, indicate how you feel by placing the code letter of the word or phrase next to the statement. Read all the words and phrases so you will be familiar with the range of feeling they represent. It's best to mark your first impression.

Now let's look at an example:

THIS IS THE WAY I FEEL ABOUT:

1. TALKING TO OTHERS ABOUT THE JOB I DO_____

If you like talking to others about your job, after looking at the words and phrases, you would probably write the code letter for something like FEELING GOOD. If you don't like talking to others about your job, you would write the code letter for something like UNEASY.

Please give us the following information

Name _____Age_____Sex_____

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This is the way I normally feel _____

This is the way I feel about:

1. What is being taught in this training program _____
2. Behavior modification as a method of treating mentally retarded persons _____
3. The current quality of patient care in this institution _____

This is the way I feel about:

4. The results of training programs of this type _____
5. My potential abilities as a trainer in behavior modification _____
6. The length of this 5-week training program _____

This is the way I feel about:

7. The training leader for this program _____
8. My performance as an attendant _____
9. Working with mentally retarded persons _____

A. DISTRESSED

B. UNRUFFLED

C. THREATENED

D. AT EASE

E. TIMID

F. EXTREMELY TERRIFIED

G. FEARFUL

H. UNEASY

I. MARVELOUS

J. ALRIGHT

K. NOT MATTERING

L. THRILLED

M. FEELING GOOD

N. SCARED STIFF

O. KEEN

This is the way I think the people in the Enid State School Administration normally feel _____

This is the way I think the people in the Enid State School Administration feel about:

1. What is being taught in this training program _____
2. The length of this 5-week training program _____
3. The current quality of patient care in this institution _____

This is the way I think the people in the Enid State School Administration feel about:

4. My performance as an attendant _____
5. The training leader for this program _____
6. Working with mentally retarded persons _____

This is the way I think the people in the Enid State School Administration feel about:

7. Behavior modification as a method of treating mentally retarded persons _____
8. My potential abilities as a trainer in behavior modification _____
9. The results of training programs of this type _____

A. DISTRESSED

B. UNRUFFLED

C. THREATENED

D. AT EASE

E. TIMID

F. EXTREMELY TERRIFIED

G. FEARFUL

H. UNEASY

I. MARVELOUS

J. ALRIGHT

K. NOT MATTERING

L. THRILLED

M. FEELING GOOD

N. SCARED STIFF

O. KEEN

This is the way I think the attendants at the Enid State School normally feels _____

This is the way I think the attendants at the Enid State School feel about:

1. Working with mentally retarded persons _____
2. The current quality of patient care in this institution _____
3. The results of training programs of this type _____

This is the way I think the attendants at the Enid State School feel about:

4. The training leader for this program _____
5. My potential abilities as a trainer in behavior modification _____
6. What is being taught in this training program _____

This is the way I think the attendants at the Enid State School feel about:

7. My performance as an attendant _____
8. Behavior modification as a method of treating mentally retarded persons _____
9. The length of this 5-week training program _____

A. DISTRESSED

B. UNRUFFLED

C. THREATENED

D. AT EASE

E. TIMID

F. EXTREMELY TERRIFIED

G. FEARFUL

H. UNEASY

I. MARVELOUS

J. ALRIGHT

K. NOT MATTERING

L. THRILLED

M. FEELING GOOD

N. SCARED STIFF

O. KEEN

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APPENDIX III

TABLES

Table 2

Chi Square Tests for Rosenzweig P-F Study Pre-Post Test Reaction Type Frequencies

Experimental Group		
	Pre	Post
E-D	489	436
O-D	134	136
N-P	261	325
$\chi^2 = 10.03$, df=2, $p < .01$		
	unscoreable responses = 13	

Control Group		
	Pre	Post
E-D	359	310
O-D	133	106
N-P	163	178
$\chi^2 = 4.47$, df=2, $p > .10$		
	unscoreable responses = 6	

Table 3

Indices of Attendant's Self Perceptual Change
on the Leary Interpersonal Check List

Frequency of Discrepancy Scores

	Discrepancy score	Exp.	Control
	0	1	5
No Change	23	1	2
	26	1	1
	41	3	0
Change	44	2	0

Chi Square Test for "Amount" of Change

	Exp.	Control
No Change	3	8
Change	5	0

$\chi^2 = 4.65$, df=1, $p < .05$
(Yates Correction Factor applied)

Table 3 (cont'd)

Chi Square Tests for "Direction" of Change

	Pre	Post
Dominance	3	3
Submission	5	5

$\chi^2 = .03$, df=1, $p > .50$
(Yates Correction Factor applied)

	Pre	Post
Hostility	7	8
Love	1	0

$\chi^2 = .12$, df=1, $p > .50$
(Yates Correction Factor applied)

Table 4

OASIS Means and Variances

Experimental Group

	Self opinions		Opinions of Administration		Opinions of other attendants	
	pre	post	pre	post	pre	post
$\bar{X}$	9.67	9.79	10.71	10.23	10.54	10.90
S^2	1.27	2.17	2.72	5.23	4.50	1.59

Control Group

	Self opinions		Opinions of Administration		Opinions of other attendants	
	pre	post	pre	post	pre	post
$\bar{X}$	9.82	10.75	10.63	9.93	11.22	10.69
S^2	2.58	.41	2.46	.36	1.37	1.85

Table 5

OASIS ANOVA Summary

Source of Variation	SS	df	MS	F	p*
Between Subjects	47.88	15			
A (Groups)	1.00	1	1.00	.30	< 1.00
Subj: W/Groups	46.88	14	3.35		
Within Subjects	167.57	80			
B (Scales)	11.08	2	5.54	1.48	> .20
AB	2.23	2	1.16	.31	< 1.00
B x Subj: W/Groups	105.10	28	3.75		
C (Pre-Post Test)	.07	1	.07	.67	< 1.00
AC	.04	1	.04	.38	< 1.00
C x Subj: W/Groups	14.73	14	1.05		
BC	5.04	2	2.52	2.68	> .10
ABC	2.92	2	1.46	1.55	> .25
BC x Subj: W/Groups	26.36	28	.94		
TOTAL	215.45	95			

P* - Two Tailed Test

Table 6

CPI Standard Score Means and Variances

Experimental Group

	Do	Cs	Sy	Sp	Sa	Wb
$\bar{X}_2$	38.00	33.57	33.29	36.14	37.43	41.86
S^2	90.33	197.62	163.24	92.48	119.29	273.14
	Re	So	Sc	To	Gi	Cm
$\bar{X}_2$	40.00	44.00	49.00	32.71	43.71	50.43
S^2	121.00	44.67	106.00	141.57	203.24	27.62
	Ac	Ai	Le	Py	Fx	Fe
$\bar{X}_2$	40.71	39.14	32.14	47.43	40.86	56.43
S^2	128.57	96.81	87.14	60.62	137.14	67.29

Control Group

	Do	Cs	Sy	Sp	Sa	Wb
$\bar{X}_2$	35.29	32.00	35.86	42.43	40.86	31.71
S^2	92.90	111.33	114.81	144.29	84.14	301.57
	Re	So	Sc	To	Gi	Cm
$\bar{X}_2$	36.43	39.71	42.14	37.43	40.29	49.43
S^2	169.29	70.90	120.81	241.95	60.90	312.29
	Ac	Ai	Le	Py	Fx	Fe
$\bar{X}_2$	38.71	46.71	34.00	51.85	50.57	53.57
S^2	128.57	198.57	228.33	301.14	49.62	53.29

Table 7

CPI ANOVA Summary

Source of Variation	SS	df	MS	F	P
Between Subjects	11578.28	13			
A (Groups)	.90	1	.90	.0009	< 1.00
Subj: W/Groups	11577.38	12	964.78		
Within Subjects	28939.72	238			
B (Personality traits)	9216.93	17	542.17	6.12	< .05*
AB	1646.31	17	96.84	1.09	> .20*
B x Subj: W/Groups	18076.48	204	88.61		
TOTAL	40518.00	251			

*Conservative F test (df=1,12)