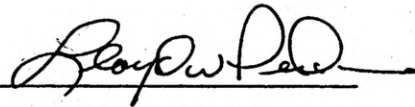


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CORRELATES OF PERSONALITY CHANGE
IN COUNSELING STUDENTS

by

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A professional paper submitted to the Graduate Faculty
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ABSTRACT

This study attempted to ascertain the degree to which graduate students in counseling experience changes in personality. Ten counselor trainees were subjected to a pre-test/post-test treatment spanning one quarter's training at Montana State University. In addition to employing the Sixteen Personality Factor Questionnaire to provide an empirical measure of change, the investigation utilized the subjects' self-perceived post-treatment reports of personality changes and directions of such as an instrument composed of the semantic descriptions of each of the 16PF's bipolar personality factor scales. This was done to provide a minimally variant basis for correlating subjective perceptions of change with corresponding objective measures thus providing an indicator perhaps of counseling students' awareness of change or stasis. A third hypothesis dealt with the relationship of four biographic variables to measured and self-reported personality change on each of the 16PF scales. None of the objectively measured means of group changes achieved significance, whereas 83 changes out of a possible 160 were perceived on the self-report instrument. The suggested lack of agreement between empirical and self-perceived change was reinforced by the fact that on only one of the sixteen factor scales did correlations between the two achieve significance. Insufficient evidence was available to proceed beyond speculation of whether the self reports were inflated or the 16PF was too insensitive to assess the level of changes perceived by the group. The study did ascertain, via subjective means, that three primary sources of influence were responsible for the perceived changes. From most frequent to least were: counseling instructors, counseling classmates, and "no one in particular." Although correlations between the biographic variables of age and sex and assessed change achieved significance on three of the thirty-two scale and measurement combinations, it would be speculative to infer beyond the fact that "some relationships" between the correlated variables and factors appear to exist.

CHAPTER I

INTRODUCTION

The profession of counseling and psychotherapy is unique in that so many diverse titles, theories, and techniques, are employed by its practitioners to achieve a single goal--the facilitation of a positive behavior change or psychological growth in the individual seeking help.

It would then appear logical that measuring a counselor's effectiveness in terms of the change or growth of his client is a valid way in which to assess not only the caliber of the counselor but also the efficacy of his training program. However, this line of thought became suspect in 1952 when a landmark survey by Hans Eysenck embroiled the profession in heated debate and outcome research gained the necessary impetus to look beyond some of the surface issues involving the process of psychotherapy.

In addition to Eysenck's claim that psychotherapy had been unable to establish any significant differences between subjects experiencing therapeutic involvement and control groups exposed only to the non-specific treatments of daily living (1952), several other similarly held beliefs have since been called into dispute. The notion that aspirants to the profession of counseling could be

molded through academic endeavor into the counselor prototype dictated by a particular theory was contradicted by studies revealing that counseling students change very little in attitude, values, and interpersonal functioning after admission to graduate school (Bergin & Solomon, 1963; Carkhuff, 1966; Carkhuff & Berenson, 1967; Rochester, 1967).

Further challenging the traditional view of counselor education are studies which discovered little or no correlation between counselor effectiveness and prerequisite academic performance and admission test scores (Arbuckle, 1968:434; Bergin & Solomon, 1963; Witmer & Lister, 1971). In fact, Carkhuff and Berenson report that each of the most potent therapists they have been able to bring together was either "thrown out of his graduate training program or led a very tenuous graduate school existence" (1967:14).

The research assessing the efficacy of traditional training programs is inconclusive by self admission of some of the more vocal critics (Carkhuff, 1966:361; Eysenck, 66:40); however, there is a trend in the conclusions being drawn suggesting that a counselor is effective by virtue of his basic personality which, according to some doesn't change appreciably during his or her graduate training.

The growing credence enjoyed by this hypothesis can be demonstrated by the prevalence of studies employing standardized instruments to not only measure effective counselor personality but predict success after training. A few of these will be discussed in Chapter II.

The evolution of counselor training selection may eventually be aimed at accepting those candidates whose performance on a personality inventory correlates highly with successful therapists and counselors who have preceded them. Such procedure would require the development and use of a near unimpeachable instrument with which to justify such exclusive decisions. Interestingly enough the justification warranting rejection of an applicant would have to be based on the assumption that he or she could not function effectively as is or change enough toward the norm to become a successful counselor. Thus it becomes essential to determine to what extent counseling students are capable of change.

STATEMENT OF THE PROBLEM

The problem of this study will be (1) to ascertain if significant personality change occurs among graduate students in counseling at Montana State University over a

period of one quarter as measured by the Sixteen Personality Factor Questionnaire, (2) to determine the extent to which they are aware of a change in themselves, (3) to cite the sources of influence Montana State University counseling students identify as precipitating their growth, and (4) to assess the degree of relationship between change and the factors of age, sex, educational background and vocational experience.

NEED OR PURPOSE OF THIS STUDY

It is essential to evaluate the effectiveness of educational programs lest their general goal of enhancing the quality of life be assumed as having been achieved. In the case of counselor education at Montana State University, if no demonstrable changes in students' attitudes, personality, or interpersonal functioning can be measured, then perhaps no internal means of measuring program effectiveness is possible, and alternative methods must be developed. If the research implying a lack of correlation between counselors effectiveness and their scholastic record (grades) is valid, then it would appear that this traditional predictor of success is an insufficient indicator of program quality.

Because of the preceding reasons, it is necessary to investigate the effects of Montana State University's counseling program on its students in terms of a) their psychological change over time and what factors influence such, b) their effectiveness with clients after graduation, and c) the correlation of their effectiveness with their formal academic achievement. It is suggested that the answers to these questions are critical not only to the growth of the counseling program at Montana State University but the profession as a whole as well.

GENERAL QUESTIONS TO BE ANSWERED

This study will endeavor to answer the following questions:

1. Will graduate students in counseling demonstrate changes in personality during one quarter of resident training at Montana State University?
2. Will Montana State University students be able to identify whether or not they have experienced a personality change and, if so, designate the direction of their growth?
3. What sources of influence will Montana State

University counseling students acknowledge as precipitating their growth?

4. Will the factors of sex, age, educational background, and vocational experience be related to the measured and self-perceived personality changes of Montana State University counseling students?

GENERAL PROCEDURE

Chapter II contains a limited review of studies selected to provide a synopsis of the controversy over the counseling student's ability to change.

Chapter III will describe in detail the investigation procedures. The Sixteen Personality Factor Questionnaire (16PF), an instrument which purports to measure major dimensions of personality, will be administered during winter quarter, 1974, to graduate students enrolled in three core counseling courses (Counseling Theory, History and Theory of Groups, and Personal Inventory and Interpretation) at Montana State University. The instrument will be administered during the first week of the quarter and re-administered during the final week of instruction. Upon completion of the post-test students will be asked to complete a brief questionnaire designed to measure their ability to

perceive the changes identified by the 16PF. The data generated by statistical comparison will be analyzed and significant values relating to personality change reported.

LIMITATIONS AND DELIMITATIONS

Chapter II will be delimited in that no attempt to provide an exhaustive review of literature will be made.

Because of time constraints imposed by the investigators employer, this study will be delimited to the duration of one quarter. In that longitudinal research is warranted by the topic of this paper, the conclusions to be drawn from this investigation are decidedly limited in application.

Because College of Education policy disallows the compulsory participation of students as research subjects, sampling for this study will necessarily involve solicitation of volunteers from the three aforementioned counseling courses. This limitation precludes the inference of conclusions beyond the sample studied.

The lack of a control group imposes a limitation on this investigation insofar as attributing personality changes directly to the subjects' counseling training.

For the purposes of this study the investigator has made the assumption that counseling students continue

to experience changes in personality even after acceptance into the training program. Whereas the possibility exists that counseling students become such by virtue of prior changes or existing qualities of personality that may not change appreciably during training, this investigation is again limited in interpretation.

Personality is a complex structure in which changes are necessarily distributed continuously rather than discretely. As such they may be influenced by any number of psychological components and theoretically be so subtle as to defy measurement by the most sensitive instrument. The Sixteen Personality Factor Questionnaire is reported by its authors to possess a range of construct validity between $+ .58$ and $+ .92$ and an average reliability of $+ .83$ on its sixteen scales. Such equivocal credentials impose a severe limitation in view of a critical need for accuracy and sensitivity.

DEFINITION OF TERMS

Personality Change and Growth are deemed to be synonymous and for the purposes of this paper, descriptive of movement in either direction on any of the factor scales of the 16PF.

Differences between the complexities of the psychotherapeutic phenomenon and the broader, perhaps less sophisticated applications of traditional counseling are not discrete issues in this paper. Because the ultimate goal of each is the same, i.e. the facilitation of positive change in the behavior of an individual who, being in need, seeks help from a trained counselor/therapist, Counseling and Psychotherapy will herein be employed interchangeably in that context.

SUMMARY

Despite the foregoing limitations, this investigation will attempt to make some tentative assessments of the degree of personality change experienced by counseling students during their training at Montana State University.

It is hoped that this study will help demonstrate the need to more clearly delineate critical counselor attributes and the process of developing them and elicit comprehensive research aimed at evaluating program effectiveness.

CHAPTER II

REVIEW OF LITERATURE

INTRODUCTION

The material presented in this review was selected to acquaint the reader with the theory and research in the area of counselor personality, training, and effectiveness, and to establish a rationale for this study.

Although this overview is by no means comprehensive in light of the volumes of literature addressing counselor education, hopefully it will emphasize the need to test further the theories from which the practice of psychotherapy is evolving taking into account all the contingencies which inevitably influence its outcome.

Philosophers and theorists through the ages have debated the "funnel theory" of education, i.e., the concept of depositing knowledge in the mind of the learner. Arbuckle, is questioning the essence of learning how to counsel, quotes Gibran's Prophet:

No man can reveal to you aught but that which already lies asleep in the dawning of your own knowledge. . . . For the wisdom of one man lends not its wings to another (1963:164).

Arbuckle lent further impetus to the critical examination of counselor education by distinguishing between

"process" and "product"--the difference between developing one's "humanness" and acquiring cognitive understanding (1963). These are the salient components, the myriad variations of which vastly delineate among individual counselors and psychotherapists and dictate an appraisal of the following research.

OUTCOME RESEARCH

The Controversy

The ultimate consideration in any system of endeavor designed to achieve a goal is the pragmatic question: Does it work: In an attempt to shed some scientific light on psychotherapeutic effectiveness, the researchers of the last two decades have both challenged and supported this and other basic principles of traditional counseling philosophy. Carkhuff and Berenson (1967) are prolific spokesmen for those who have interpreted the research as having cast considerable doubt onto the efficacy of psychotherapy. Carrying their interpretation a step further, they have labeled some of the following traditional beliefs as "myths" and cited the research on which they base their conclusions.

1. Counseling and psychotherapy are most likely to rehabilitate the troubled person. [Research shows that] troubled people, both children and adults, are

are as likely to be rehabilitated if they are left alone as if they are treated in professional counseling and psychotherapy (Eysenck, 1952, 1960, 1965, Levitt, 1957, 1963).

2. Clients can only benefit from experienced and professional practitioners in the human relations area. [Research indicates that] counseling and psychotherapy can have constructive or deteriorative consequences for clients, and these changes can be accounted for by level of the therapist's functioning on facilitative dimensions, and independently of the therapist's orientations (Carkhuff 1967a; Carkhuff and Truax, 1966; Truax and Carkhuff, 1963, 1964, 1966).

3. In order to become effective practitioners we must spend many years and thousands of hours learning all that is learnable in the areas of counseling and psychotherapy. [Research reveals that] there are no training programs which have demonstrated their efficacy in terms of a translation to client benefits; there is a suggestion that on those dimensions related to constructive client change or gain, the trainees deteriorate in functioning (Bergin and Solomon, 1963; Carkhuff, 1967a; Carkhuff, Piaget, and Pierce, 1967).

4. Students can only grow intellectually with intellectually resourceful and knowledgeable teachers. [Research shows that] students may be facilitated or they may be retarded in their intellectual as well as emotional growth, and these changes can be accounted for by the level of the teacher's functioning on the facilitative dimensions and independently of his knowledgeability (Aspy, 1966, 1967; Aspy and Kratchovil, 1966; Carkhuff, 1970).

5. Academic achievement equals creativity. [Research indicates that] academic achievement is independent of all other real-life indices of creative achievement and leadership (Holland and Richards, 1965).

(1967: 13-14).

As proponents of the attitude that psychotherapy is generally ineffective, Carkhuff and Berenson align themselves with Hans Eysenck whose landmark survey of outcome research in 1952 incited the vigorous, continuing debate over psychotherapeutic effects.

Eysenck purported to show that about two-thirds of all neurotics who enter psychotherapy improve substantially within two years and that an equal proportion of neurotics who never enter therapy improve within an equivalent period. Eysenck based his conclusion in part on an analysis of 24 articles covering 8,053 cases of which he selected 7,293 as being psychoneurotic. Appendix C summarizes Eysenck's research and displays the criterion categories of improvement he imposed on the therapists' reports.

Allen Bergin contends that the endurance of the controversy over Eysenck's findings can be attributed to three main factors:

(a) the fact that the contest has raged around an absolutely vital question, namely, whether traditional therapies have any unique, positive effect at all, (b) the fact that most of the evidence on the subject is ambiguous enough to be subject to considerable variation in interpretation, and (c) the fact that (a) and (b) have permitted individuals to adopt highly subjective and emotionally tinged views of the subject, which are thus difficult to modify by rational argument or evidence (Bergin & Garfield, 1971:218).

Bergin goes on to illustrate his point (b) above by researching all the original cases surveyed by Eysenck and reconstructing the improvement categories according to his own logic, e.g., subtracting premature dropouts from failures and including "moderately improved" patients in the "improved" division. Some striking differences in percentages of success, due largely to the handling of the large dropout rate in psychoanalysis, were obtained (see Appendix D).

Eysenck's insistence that premature dropouts from therapy are to be considered failures in terms of computing success rates is a value judgement which, according to Bergin, is unfair but a "subjective bias whose truth value is unverifiable" (1971: 226).

Whereas Carkhuff in association with Berenson gives the impression of dogmatic, Eysenck-like skepticism, his view of therapeutic outcome appears slightly modified when publishing with Traux. Together they contend that even though he was certainly biased,

after a careful review of the relevant research literature, it now appears that Eysenck was essentially correct in saying that average counseling and psychotherapy as it is currently practiced does not result in average client improvement greater than that observed in clients who receive no special counseling or psychotherapeutic treatment (1967: 5).

Even in their attempt to translate their conviction into more broadly acceptable language perhaps, Truax and Carkhuff's contention is not supported by authors whose research is considerably more comprehensive. Bergin noted that,

despite the limitations of the studies published prior to 1952, the results up to that time must be considered encouraging. . . .[in part because] the longer and more intensive the treatment, the better the results" (1971:227).

Meltzoff and Kornreich (1970) point out that only thirty-seven of the studies examined by Truax and Carkhuff (1967) utilized some kind of control group which in their opinion, is an essential ingredient in a valid study. Nineteen of these were found by Traux and Carkhuff to indicate that treated patients do not improve more than controls, and eighteen indicated that they do. Nineteen to eighteen for Meltzoff and Kornreich "would not constitute overwhelming support of the ineffectiveness of psychotherapy" (1970:177). They continue to say that,

Reviews of the literature that have concluded that psychotherapy has, on the average, no demonstrable effect are based upon an incomplete survey of the existing body of research and an insufficiently stringent appraisal of the data (1970:177).

The following is a summary of outcome research surveyed by Meltzoff and Kornreich (1970:174).

	Adequate Studies	Questionable Studies	Total
Positive	48	33	81
Null	9	11	20
	—	—	—
Total	57	44	101

Bergin and Garfield (1971) reported more conservative findings in their survey of 48 studies (52 groups) which are presented in Appendix E. The following summary (1971:238) is provided to allow comparison with Truax and Carkhuff (1967) and Meltzoff and Kornreich (1970).

	Positive Outcome	In Doubt	Negative Outcome	Totals
Experienced therapists	20	8	10	38
Inexperienced therapists	2	5	4	11
Control group	11	4	8	23
No control group	11	11	7	29
Design adequacy 1	5	2	3	10
Design adequacy 2	12	4	9	25
Design adequacy 3	5	9	3	17
Brief duration (5-20)	3	5	2	10
Moderate duration (21-49)	7	5	3	15
Long duration (50-600)	9	1	6	16
Analytic therapy	11	3	8	22
Eclectic therapy	9	8	6	23
Client-centered therapy	1	4	1	6
Group of therapists	16	13	12	41
One therapist's report	6	2	3	11

Authors' Note: Totals sometimes do not add up to 52 because of missing information.

Bergin and Garfield state that their view of the literature must be "considered more favorable than that of Eysenck's 1966 survey" although they "certainly cannot point to more than a moderately positive, average therapeutic effect" (1971:229).

A Representative Sample

One of the studies included by Eysenck in his 1966 survey as supporting his negative outcome thesis was reported by Barron and Leary (1955). A total of 150 psycho-neurotic patients who applied for therapy were split into three groups: Forty-two in individual therapy, eighty-five in group therapy and twenty-three had to be assigned to a waiting list (control). Barron and Leary describe the three groups as comparable in diagnosis, prognosis, severity of initial condition, age, sex, and education and all were administered the MMPI before and after treatment or waiting. They summarized their results as follows:

1. The mean pre-post MMPI scores of patients undergoing both group and individual therapy showed significant improvement on symptom scales [$\alpha = .05$].
2. Patients who decided to enter therapy but who were required to wait for treatment showed some MMPI improvement during the waiting period, primarily in prognosis.
3. The therapy patients did not improve significantly more than did the waiting-list controls (1955:245).

Barron and Leary continued their summary, however, with two more statements which further prompted a developing awareness in the phenomenon known as "placebo effect" on which Eysenck placed little regard.

4. These results suggest that the use of "waiting-list" controls in investigation of changes in therapy may be complicated by therapeutic factors involved in the initial intake evaluations and decisions.

5. The use of additional "nonwaiting-list controls" is suggested for future investigations on the effect of psychotherapy (1955:245).

Cartwright and Vogel (1960) also tended to discredit the effects of continuing therapy but demonstrated the difference that experience makes in therapy. They tested twenty-two self-referred psychoneurotic patients at four strategic times during the course of their therapeutic program with the Butler and Haigh Q sort, a self descriptive test from which a Q adjustment score was computed, and the Thematic Appreception Test (TAT) from which a diagnostic rating was extracted. Cartwright and Vogel begin their conclusions as follows:

1. Therapy affects adjustment based on self-description whereas equal waiting time does not.

2. A long waiting period for this type of patient improves the mental health picture as revealed by the TAT.

3. Equally long therapy does not necessarily improve the mental health picture (1960:126).

and then the premonition of "deterioration effect:"

4. An experienced therapist is effective in improving the mental health both as revealed by the TAT and self described.

5. An inexperienced therapist is ineffective in improving the health as revealed by the TAT.

6. From the last two conclusions it appears that therapists have special effects, depending on the level of their experience (1960:126).

David Martin (1971) credits Bergin with issuing the second of the two most potent challenges to the field of psychotherapy. The first exploded with Eysenck's 1952 negative outcome survey and the second less volatile but more constructive realization came with Bergin's development and discussion of the "deterioration effect." One of the studies Bergin probably examined was Myers and Auld's (1955) in which differences in therapeutic successes between eleven senior staff psychiatrists and twenty-eight second year psychiatric residents at Yale University's outpatient clinic were compared on the basis of case record examination. Their published conclusion was this:

Experience and training of the therapist are related to treatment outcome. Specifically, we found that the longer the duration of contact and the greater the training and experience of the therapist, the higher the patient's chance of being discharged from treatment as improved. Whether these results would hold for other clinics or other definitions of outcome of therapy is not known. This must be determined by further studies (1955:54).

Barrett-Lennard's University of Chicago study (1962) attempted to show that length of stay, which was adjudged as an indirect approximation of outcome, was significantly longer for patients who were afforded the opportunity of consulting with "expert" therapists than for those who were seen by nonexperts. Barrett-Lennard is taken to task, however, by Meltzoff and Kornreich for some rather shoddy statistical manipulations, use of the titles "expert" and "non-expert," and the inclusion of some patients whose "pre-therapy adjustment levels were so high that there was concern about a ceiling effect" (1970:271).

Since so much reliance is placed on the reports of therapists in making research decisions as to whether patients do experience improvement or not, the study and conclusions of Katz, Lorr, and Rubinstein are particularly germane in concluding this brief sampling of outcome studies. Katz, et. al., (1958) reported that therapists rating of improvement correlate significantly with years of experience as demonstrated by their work with 116 veterans diagnosed as psychoneurotic, psychosomatic, character disorder, and psychotic. They conclude their article with the following:

We can only wonder whether increased years of experience actually result in greater success in

therapy or whether the standards and perceptions determining improvement ratings of psychotherapists change with increased years in the field(1958:413).

Toward Unification

According to Bergin the research has provided sufficient evidence to suggest that "the really fertile questions and issues regarding outcome lie in new directions and lead toward new types of inquiry" (Bergin and Garfield, 1970:218). He is arguing in part here against the general nomathetic approach to psychopathology in which the preoccupation has been with patient groupings too broad and overt behavioral evaluation procedures, too coarse to detect subtle "divergent" and "internal" changes resulting from psychotherapy (Bergin and Strupp, 1972). David Martin quotes G. L. Paul (1967) in succinctly defining the thesis of Bergin's argument "the question towards which all outcome research should ultimately be directed [is]:

What treatment by whom is most effective for this individual with that specific problem, and under which set of circumstances (1971:166).

COUNSELOR TRAINING AND PERSONALITY

In view of the proliferation of standardized instruments purporting to delineate or quantify varying numbers of personality variables, it has become increasingly

fashionable to employ these psychometric tools in the research. However, because of their diverse nature and the dubious ability of many to accomplish their stated objectives, personality tests have rendered considerable research usable only to the extent to which they themselves can be understood. Those that manage to survive and even flourish do so primarily by virtue of their reliability and validity. Given the additional impetus of such trait-factor theories as the interpersonal core of primary and secondary facilitative factors model proposed by Carkhuff et al. (1967), it is foreseen that even more sophisticated instruments will evolve.

The literature is filled with studies that attempt to measure constructs of personality that predispose or facilitate the counselor's effectiveness. The following research will illustrate this view.

Myrick, Kelly and Wittmer sought to determine the ability of the Sixteen Personality Factor Questionnaire (16PF) to distinguish between effective and ineffective rated student counselors enrolled at the University of Florida during the 1968-69 academic year (1972). It was found that twenty students chosen from those rated as effective on the Counselor Evaluation Rating Scale (CERS)

differed significantly from twenty selected as ineffective on four of the 16PF's sixteen scales.

In comparison to their ineffective classmates, effective student counselors scores as:

more warm and sociable (Factor A)	$\alpha = .01$
more asserting and aggressive (Factor E)	$\alpha = .05$
more venturesome and socially bold (Factor H)	$\alpha = .01$
more tender minded (Factor I)	$\alpha = .05$

Myrick et al. also found that the 16PF differentiated significantly between sexes on Factors G and N. Whereas the nineteen male student counselors scored in the direction of casual and expedient, their twenty-one female counterparts scored in the opposite direction toward conscientious and persistent.

The interaction effect found for Factor N presents a unique situation. The group of effective male counselors scored very high (11/50), indicating a shrewd, calculating personality. The effective female counselors scored quite low (7.40) on the same factor, thereby characterizing themselves as forthright and natural. It appears that these two character extremes are both related to counseling effectiveness when manifested by the appropriate sex. Extreme shrewdness in female counselors or openness in male counselors, however, could be perceived by clients as inappropriate sex-role behavior and might consequently interfere with one's ability to establish effective counseling relationships (1967:299).

The study by Myrick et al. is also important in another sense because of their recommendation that the 16PF be given consideration as an instrument to be used in selecting students for admission to counselor training programs. Here is the assumption that affective personality constructs, like the more cognitively loaded attitudes and values, will not permanently change as a result of counselor education.

A study by Wehr and Wittmer should be mentioned to demonstrate another step in the evolution of the psychological testing of students in counseling. This study also employed the 16PF to assess differences between fifty-five counseling students at the University of Florida and thirty-four Santa Fe Junior College students being trained as counseling para-professionals. The researchers introjected a cautionary note in evaluating the eight significant differences found by saying:

Perhaps the lower scores counselor aides received on intelligence, maturity and emotional stability. and their higher self-opinionated and apprehension scores in part reflect their general immaturity in relation to the more mature counselor education students, while their higher casualness, sensitivity, and unconventionalism may be attributed to their lack of higher educational training. The finding indicating more sensitivity on the part of the paraprofessionals may imply that too much education is detrimental to

one's sensitivity or perhaps that the more education one has, the more cognitive and more removed from one's feelings one may become (1973:260).

A regression equation (IPAT, 1968) was employed in this study to predict the counseling effectiveness of the two groups within the three rating categories below.

	Excellent	Average	Poor
Females			
Counselor education students (N=30)	.59	.27	.14
Paraprofessional (N=24)	.41	.23	.36
Males			
Counselor education students (N=25)	.31	.58	.11
Paraprofessional (N=10)	.10	.50	.40
		(1973:257)	

According to Wehr & Wittmer's implication concerning the significant personality differences between the two groups, one probably wouldn't expect the paraprofessionals to be projected this well.

To the contrary Carkhuff argues that:

. . .the overwhelming preponderance of systematic evidence available today indicates that the primary conditions of effective treatment are conditions which minimally trained nonprofessional persons can provide. The conditions are not the monopoly of doctoral training and there is strong reason to believe that they are often not achieved in doctoral training. In some cases graduate training may even retard or contribute to the deterioration of the trainee's ability to offer these conditions (1966:364).

Of all those who would rally to respond to Carkhuff's grandiloquent bias, Bergin and Strupp offer a credible if not more scientific reply,

Prominently researched personality dispositions of the therapist include such variables as empathy, warmth, and genuineness. Measurement of these has met with fair success. Contrary to earlier contentions, however, they can not be regarded as the sole, or even the major, factor determining therapeutic outcome. It seems more reasonable to conclude that one the therapist has achieved a fair level of therapeutic skills and is successful in providing a modicum of warmth, empathy, etc., outcome is more importantly a function of technical competence and patient characteristics (1972:29).

At the University of North Dakota, Munger, Myers, and Brown (1963) attempted to assess the effects of National Defense Education Act (NDEA) Guidance Institute experience on participants' attitudes concerning counseling. On the basis of unexpected results obtained from five in-training and follow-up administrations of Porter's Test of Counselor Attitudes (TCA) given to participants of an eight-week training program during the summer of 1959, the decision was made to hold a similar but intensified semester-long institute at the same school the following year. Like the first group, the second consisted of secondary school educators and counselors who also were administered Porter's TCA on several occasions during and after their training. Two statistically significant between-group differences were found:

1. The eight-week group achieved a higher peak in expression of understanding (category III on the TCA) in a shorter period of time and rapidly returned to near pre-institute level after training, whereas the semester-long group never reached the amplitude achieved by their predecessors on the category III profile but continued to increase toward it even after training had ended ($\alpha = .01$, two-tailed test).

2. On category V of the TCA (probing and diagnostic response) the scores of the short-term group dropped sharply during training and rose rapidly after training while the long-term group ratings dropped more gradually and continued to decrease after training ($\alpha = .02$, two-tailed test). These findings were highly encouraging until tempered by the discovery that attitude changes associated with the semester-long institute had, by the end of three working months after the end of training, become indistinguishable from the "back-slid" attitudes of the eight-week trainees. The experimenters chose to conclude that "rather than learning new attitudes, the eight-week trainees were learning what the faculty thought were the proper answers to the Porter" (1963:419). The finding generating most optimism, according to Munger et al., was that "attitude changes

associated with institute training, regardless of length, were more persistent for trainees who were later employed as counselors than for those who were not" [significance was not reported] (1963:419). In light of this latter finding one might logically reconsider the observed attitudinal deterioration among non-counseling institute graduates as a possible function of disuse or extinction rather than misrepresented learning for the purpose of pleasing the faculty.

In an attempt to shed more light on the persistence of attitudes, Rochester (1967) sought to assess their retention in 126 counselor-trainee participants in eight concurrently running one-year-long NDEA Guidance and Counseling Institutes.

The Porter Test of Counselor Attitudes (TCA) and the Allport-Vernon-Lindzey Study of Values (SOV) were universally administered at the beginning (in 1964), the end (in 1965), and one year after the end (in 1966) of the institutes.

Employing two-tailed correlated t-tests Rochester found significant changes on three of the TCA categories:

1. Probing score (category III) saw a significant decrease from beginning to end and then significant gain

between end (1965) and 1966 scores back in the direction of the 1964 pre-training level ($\alpha = .05$). Since there was no significant difference between 1964 and 1966 means Rochester concluded that the student, one year after the training program, reverted to his original level of probing attitude.

2. Interpretive score (category IV) followed precisely the same pattern as did category III with the 1964-1965 difference significant at the .01 level and the 1965-1966 difference, back toward the original, significant at the $\alpha = .05$. Again the conclusion was that no permanent change occurred.

3. Evaluative score (category V) continued to decrease throughout and after training. The change between 1964 pre-test and 1966 re-test was significant at the $\alpha = .05$ level and was the only significant change in accord with the movement or direction established during the training period. The conclusion was that acceptance of evaluative responses continued to grow even after leaving the program. The only significant change identified by the SOV occurred during the training period (1964-1965) on the religious value which decreased in numerical representation ($\alpha = .05$ level) and did not regain pre-test level.

Rochester's conclusions are based on the stringent condition that in order for any permanent attitude changes to have occurred there must have been statistically significance between the 1964 and 1966 measurements. Like Eysenck's rigid interpretation of what constituted patient improvement, Rochester's treatment is subject to debate. Nevertheless, he reported that in general 1) the permanency of attitude changes as measured by the Test of Counselor Attitudes seems questionable and 2) value or personality changes, as measured by the Study of Values, appear to be minimal.

Pullen (1973) conducted a study to determine if the personalities of paraprofessional trainees would be modified by an intensive in-training counseling-aide program. He evenly divided his sixty subjects into a control group that experienced no training and an experimental group that was exposed to a mix of academic presentations and sensitivity-type group discussions. All subjects were pre- and post-tested three weeks apart on the Guilford-Zimmerman Temperment Survey and the 16PF. With a level of $\alpha = .05$ required for significant change on all scales and factors, Pullen reported that the experimental group's means of changes statistically exceeded those of the control

group in the areas of increased sociability and decreased tension. Experimental group changes approached but did not reach significance on four other variables indicating a tendency to become more observant of others, more tactful, reflective, conscientious, realistic, self reliant, structure oriented, and conservative (1973:6091).

In response to the rapid growth in popularity of group experience, Cecere (1969) sought to determine what effects training groups (T-Groups) might have on the personalities of counseling student participants. He hypothesized that they would become (1) more open to their own continuing experience, (2) more apt to give and accept help in a group setting, (3) more sensitive to the group process, and (4) more effective as a group member. The instruments chosen to measure the hypothesized changes were the Interpersonal Relations Orientations-Behavior (FIRO-B). Pre- and post-test differences were significant only with increased altruism and increased masking behavior (both are indices of the IOS), no level of significance was reported. Cecere did recommend that additional research be conducted to test the differences between intensive (everyday) group experience and the less involving variety he had studied.

Kassera and Sease (1970) conceived a relatively comprehensive testing design to assess and compare the personalities of counseling students at varying levels of training over a period of one semester in relation to a similarly tested control group of education students. Four instruments were administered pre and post to each of the students in three groups: advanced counseling, beginning counseling, and the control. On the California Psychological Inventory post-test advanced counseling students scored significantly higher than the control on two of eighteen subscales: Socialization and Flexibility ($\alpha = .05$). The researchers concluded that these results,

lend some support for counselors being more conscientious, responsible, honest and confident, insightful, and adventurous than educators at large, [but] because of the limited number of significant scales, one might seriously question the importance that can be applied to the findings" (1970:210).

On the Rokeach Dogmatism Scale no statistically significant differences were found although the means for the advanced counselor groups were higher than for the control or beginning group. The researchers felt that this indicated a "tendency for individuals further along in their counselor education to be less dogmatic, less authoritarian and more open minded" (1970:211).

On the postmeasure of the Acceptance of Self and Others Scale, a significant difference ($\alpha = .05$) was found between the advanced group and the control. Kassera and Sease concluded that this "lends support to the hypothesis that counselor education does enhance the acceptance of others by counselor candidates" (1970:211).

On the Porter's Test of Counselor Attitudes, the advanced counseling group consistently scored significantly higher than both beginning counseling and control groups in four categories: Evaluative, Supportive, Probing, and Understanding. Additionally, pre to post changes on these scales were significant in a positive direction for both the beginning and advanced counseling groups which, according to the experimenters, "lends credence to the concept that counselor education aids individuals to become less evaluative, less supportive, to make fewer probing responses, and to emit more understanding responses" (1970:211).

Kassera and Sease further reported that,

attributes of sex, age, teaching experience, counseling experience and undergraduate grade-point average do not appreciably affect counselor attitudes as measured by this study. The analysis of covariance indicated that these characteristics were not determining factors in producing significant differences among the various groups (1970:211).

SUMMARY

In summarizing the mélange of considerations addressed in this chapter the perspicacity of Bergin and Strupp once again lends itself:

Evidence documented by research as well as clinical observation leaves no doubt that the person of the therapist, in both a positive and negative sense, represents an important force in the therapeutic encounter. Client-centered therapists have placed personal qualities of the therapist on a pedestal, whereas psychoanalysis and behavior therapists have accorded them relatively scant attention. The route by which therapist personality factors enter and influence technical operation, however, needs to be mapped out much more thoroughly. At present it is not at all clear how therapist personality and technical operation are to be differentiated, yet separation of these strands is an important research task which might be greatly aided by collaborative endeavors (1972:28-29).

CHAPTER III

PROCEDURES

The problem of this study was to measure 1) the personality change of Montana State University counseling students with respect to age, sex, educational background, vocational experience, and 2) the accuracy of self-assessments of growth.

It is important to assess counselor student change periodically and longitudinally in order to identify 1) what personality constructs are the most fluid, 2) what facets of their education are the most effective in facilitating growth, 3) what biographic factors or other variables contribute to or detract from the ability to change, to name just a few of the essential questions dealing with the process of becoming a counselor or psychotherapist. It doesn't seem logical that one could acquire the knowledge and skill to facilitate growth in others without ever having experienced change in himself.

CHAPTER DESCRIPTION

The material to be presented in this chapter will appear in the following order: A description of the population to be studied and a definition of the categories

involved, the method of data collection to include choice of instrument with descriptions of its general make up and the factors it purports to measure, the method of organizing the data, the statistical hypotheses, the statistical procedures chosen to analyze the data, precautions taken for insuring accuracy, and concluding the chapter--a summary.

POPULATION DEFINITION AND TREATMENT DESCRIPTION

The population selected for this study was initially all graduate students enrolled in three core counseling courses during Winter Quarter 1974 at Montana State University. The three courses were: History and Theory of Groups, Counseling Theory, and Personal Inventory and Interpretation. Because of the College of Education policy disallowing compulsory participation of students as research subjects, random sampling or utilization of all counseling students was impossible. This limitation, therefore dictated as the population of this study those students who responded to the investigator's letter of solicitation (see Appendix A).

Eighteen volunteers were pre-tested in the University Testing Laboratory during the first week of Winter Quarter instruction, beginning January 2, 1974. Ten of the original

volunteers were post-tested in the same manner during the last week of instruction, ending March 15, 1974. Since all testing was accomplished under precisely the same conditions in the Testing Laboratory at a time which was individually convenient, it is assumed that no substantial variations in test environment and student "set" developed as extraneous variables in the testing phase of the study. Because of the investigative nature of this study, no measures were taken to control any of the influencing categories external to the three counseling courses, e.g., family members, other instructors, clergy, etc., which may have influenced or precipitated a change in the personality of the population members. The categories in this study are defined as those people who are identified as facilitators of growth: Dr. Horswill, Dr. Hossack, some other instructor (to be specified by subject), counseling classmates, friends other than counseling classmates, family members and other, e.g., physician (to be specified by subject).

METHODS OF COLLECTING DATA

The Sixteen Personality Factor Questionnaire (16PF) developed by Drs. Raymond B. Cattell and Herbert W. Eber,

was the major data collecting instrument employed in this study.

The sixteen bipolar personality scales of the 16PF inspired the development of the investigator's questionnaire, which was used primarily to assess the accuracy of the subjects' self perceived growth (see Appendix B).

The procedure which was followed in the execution of this study is as follows:

1. The investigator secured permission for sufficient time during the first meeting of each of the three specified counseling courses to present his verbal and written solicitation of subjects to participate in the study (see Appendix A).

2. Arrangements were made with University Testing Laboratory personnel to have them issue Form A of the 16PF to all students identifying themselves as respondents to the investigator's request for subjects. Laboratory staff monitored the questionnaire administration and insured that only the last four digits of the subjects' social security account numbers appeared on answer sheets upon completion and handing in of materials.

3. Classes were notified during the last instructional week of Winter Quarter to again report to the Testing Lab for the post-test.

4. Lab personnel were briefed to perform in the same manner as with the pre-test administration with the exceptions of

- a) distributing the investigator's post-questionnaire to subjects when they handed in the post-test materials, and
- b) presenting a note of thank you to subjects who had completed all required materials and had insured that the last four digits of their social security account number appeared on the two Form A answer sheets and the post-questionnaire. The collection phase terminated on March 15, 1974.

CHOICE OF THE INSTRUMENT

Although the 16PF is purported by its authors, Cattell and Eber, to measure the major dimensions of a subject's personality, the essential reason for selecting the instrument was its ability to provide a statistical psychological baseline against which to compare subsequent measurement. The investigator was concerned primarily with detecting change and not with identifying what theorized constituents of personality may have been altered.

Description of the Instrument

The 16PF Form A consists of 187 items developed through factor analysis and portrays a graphic and statistical profile of the subject on each of the sixteen primary dimensions postulated to comprise the personality. Each subject's profile can be compared to the mean profiles of over one hundred existing clinical and vocational criterion groups and variations among each dimension statistically tested for significance. According to Institute For Personality and Ability Testing publications, the 16PF is currently in use as [sten] an initial screening and diagnostic instrument and vocationally as a research tool in training programs for such occupations as airline hostess and school counselor.

Each of the sixteen dimensions of personality are assigned letters of the alphabet "A" through "O" minus "D," "J," and "K" and plus Q_1 , Q_2 , Q_3 , and Q_4 . Each dimension is dichotomized on a continuum to provide for individual variation, e.g., "reserved" versus "outgoing," "submissive" versus "dominant," etc. The subject's location along a continuum is reported as "stens" (standard tens), which are half standard deviations, e.g. a sten of 5 equals a standard deviation range of 0 to $-\frac{1}{2}\sigma$, sten 6 = 0 to $+\frac{1}{2}\sigma$, sten 4 = $-\frac{1}{2}\sigma$

to - 10, etc. This comparison to the norm group permits a statistical analysis of the difference between subject's sten score and norm groups sten score for any factor.

Norms

Although the 16PF is normed for 1105 college males and 1012 college females from eighteen states, the investigator's intent was to compare MSU counseling students with themselves, not with the norm population scaled scores. Therefore, pre- and post-test raw scores were matched and analyzed for significant change.

Reliability

The reliability of the 16PF is computed for each of the sixteen scales utilizing the split-half technique for an undefined population (N = 450). These range from + .71 to + .93, averaging +.83.

Validity

Although Cattell and Eber claim that "external concrete validities are known" for the 16PF, they don't include such in their test manual. The reporting of only construct validities for each scale disallows exact interpretation in terms of what high and low scores actually

mean, but still provides a scale to measure movement in the case of this investigation.

The construct validities reported range from +.73 to +.96 for the composite A and B forms. Using the Spearman-Brown Prophecy Formula to extract Form A from the reported composite A and B validity range of + .73 to + .96, the range reduced to + .58 to + .92.

Description of the Sixteen Factor Scales

A person with a low score
on is described as:

A person with a high score
is described as:

Factor

A RESERVED, detached, critical, cool	OUTGOING, warmhearted, easy- going, participating
B LESS INTELLIGENT, con- crete-thinking	MORE INTELLIGENT, abstract- thinking, bright
C AFFECTED BY FEELINGS, emotionally less stable, easily upset	EMOTIONALLY STABLE, faces reality, calm
E HUMBLE, mild, obedient, conforming	ASSERTIVE, independent, aggressive, stubborn
F SOBER, prudent, serious taciturn	HAPPY-GO-LUCKY, heedless, gay, enthusiastic
G. EXPEDIENT, a law to him- self, by-passes obli- gations	CONSCIENTIOUS, persevering, staid, rule-bound

H	SHY, restrained, diffident timid	VENTURESOME, socially bold, uninhibited, spontaneous
I	TOUGH-MINDED, self-reliant realistic, no-nonsense	TENDER-MINDED, dependent, over-protected, sensitive
L	TRUSTING, adaptable, free of jealousy, easy to get on with	SUSPICIOUS, self-opinion- ated, hard to fool
M	PRACTICAL, careful, con- ventional, regulated by external realities, proper	IMAGINATIVE, wrapped up in inner urgencies, careless of practical matters, bohemian
N	FORTHRIGHT, natural, art- less, sentimental	SHREWD, calculating, worldly, penetrating
O	PLACID, self-assured, confident, serene	APPREHENSIVE, worrying, depressive, troubled
Q ₁	CONSERVATIVE, respecting established ideas, tol- erant of traditional difficulties	EXPERIMENTING, critical, liberal, analytical, free- thinking
Q ₂	GROUP-DEPENDENT, a "joiner" and good follower	SELF-SUFFICIENT, prefers own decisions, resourceful
Q ₃	CASUAL, careless of pro- tocol, untidy, follows own urges	CONTROLLED, socially- precise, self-disciplined, compulsive

Q ₄ RELAXED, tranquil,	TENSE, driven, overwrought,
torpid, unfrustrated	fretful

METHOD OF ORGANIZING DATA

The data generated by this study will be presented in tabular form in Chapter IV under the Statistical Hypothesis to which it applies.

STATISTICAL HYPOTHESES

As stated in Chapter I this study will attempt to answer the following questions:

1. Will graduate students in Counseling demonstrate changes in personality during one quarter of resident training at Montana State University?
2. Will MSU Counseling Students be able to identify whether or not they have experienced a personality change and, if so, designate the direction of their growth?
3. What sources of influence will MSU Counseling Students acknowledge as precipitating their growth?
4. Will the factors of sex, age, educational background, and vocational experience be related to the measured and self-perceived personality changes of MSU Counseling Students?

From these questions evolved the following statistical hypotheses:

H_{o_1} - There will be no significant difference between pre-test and post-test means of the group on any of the sixteen factor scales.

H_{1_1} - There will be a significant difference between pre-test and post-test means of the group on one or more of the sixteen factor scales.

H_{o_2} - There will be no significant correlation between self-perceived and measured change on any of the sixteen factor scales.

H_{1_2} - There will be a significant correlation between self-perceived and measured change on one or more of the sixteen factor scales.

H_{o_3} - Question three does not translate to a statistical hypothesis therefore H_{o_3} will not exist as such.

H_{o_4} - None of the variables of sex, age, educational background, and vocational experience will correlate significantly with self-perceived or measured changes on any of the sixteen factor scales.

H_{1_4} - One or more of the variables of sex, age, educational background, and vocational experience will

correlate significantly with self perceived or measured change on one or more of the sixteen factor scales.

ANALYSIS OF DATA

Null hypothesis number one was tested by applying the t-test for related samples. Pre- and post-test scores were electronically processed and examined for significant differences on each of the sixteen factor scales across the group of subjects.

Data pertaining to question number two was also electronically processed to test the null hypothesis that no correlation (Pearson r) existed between self-reported change and actual change as indicated by the differences between the pre-test and post-test raw scores of the population on each of the sixteen scales.

Question number three was resolved by visually inspecting the responses given as sources of influence facilitating perceived change on each of the sixteen scales.

Null hypothesis number four was tested by electronically comparing the factors of sex, age, educational background, and vocational experience, with measured self-perceived changes utilizing the Pearson Product-Moment Correlation Coefficient (Pearson r). Educational background

referred to the college degree held at the time and was coded as a binary since only two levels were represented (bachelors and masters). Vocational experience was also coded as a binary to simplify correlation and was defined as having worked in the field of education versus having not done so.

The $\alpha = .05$ level of significance was selected as the statistical standard since this value is by convention a relatively equitable compromise in guarding against both Type I and Type II errors.

PRECAUTIONS TAKEN FOR ACCURACY

All statistical calculations were performed at the Montana State University Computer Center using standard programs for computing t ratios and Pearson r correlation coefficients. All manual work was double checked by qualified personnel.

The investigator refrained from discussing the study with his fellow counseling students until after all data were in.

SUMMARY

The Sixteen Personality Factor Questionnaire was

administered to graduate students enrolled in three counseling courses during the first and last instructional weeks of Winter Quarter, 1974, in an effort to detect personality change and determine what factors correlate with it. A brief questionnaire of the investigator's design was also administered after the post-test to secure biographical information and help ascertain the accuracy of self-perceived growth. The t-test for related samples was used to analyze pre- and post-test raw scores and Pearson r's were computed to determine the relationship between biographic variables and personality change. All data are presented in tabular form along with appropriate decisions based on $\alpha = .05$ level of significance in Chapter IV. The findings are discussed and some concluding comments are offered in Chapter V.

CHAPTER IV

RESULTS

INTRODUCTION

The results of the study described in the preceding chapter are presented in the following format: 1) each of the three null hypotheses and the one question are restated, 2) results pertaining to each are presented in tabular form on the page following the hypothesis or question, 3) statements of acceptance or rejection of null hypotheses are made based upon the data presented in the tables, and alternatives to those rejected nulls are discussed briefly where appropriate, 4) the results are then related to the specific questions the null hypotheses were designed to answer. A brief summary of the results concludes this chapter.

Chapter V contains an analytical summary of the findings of this study, conclusions based on the summary, and recommendations felt to be warranted by this investigation.

REPORT OF RESULTS

The first null hypotheses (H_{01}) was stated as follows:

There will be no significant difference between pre-test and post-test means of the group on any of the factor scales of the Sixteen Personality Factor Questionnaire.

The results of the comparison of pre- and post-test means are displayed in Table 1 on the following page. Because none of the computed tests for significance yielded a ratio beyond the critical values of t at the $\alpha = .05$ level for $df = 8$ ($t = \pm 2.306$), the first null hypothesis was retained. The first question the investigator was trying to answer was:

Will graduate students in counseling demonstrate changes in personality during one quarter of resident training at Montana State University?

Retaining H_{O_1} would appear to indicate that the Montana State University counseling students as a group did not experience any appreciative changes in personality insofar as the 16PF describes and is able to detect such.

Variations in the mean differences among the scales cannot be evaluated as tendencies toward group change or the result of individual change having been dampened by the group because the test-retest reliability of the 16PF (+ .71 to + .93) alone could account for considerable variation.

The second null hypothesis (H_{O_2}) was stated as follows:

TABLE 1

A COMPARISON OF THE GROUP'S PRE-
AND POST- TEST SCORES (N=10)

Personality Factor (16 PF)	Mean Difference (Post minus Pre)	Standard Deviation	t Ratio
A	.60	3.17	.599
B	.50	1.35	1.168
C	- .20	4.47	- .142
E	- .20	4.59	- .138
F	-1.30	5.08	- .810
G	.80	1.62	1.562
H	- .10	4.01	.091
I	.50	3.31	.478
L	- .70	4.42	- .500
M	-1.00	3.89	- .813
N	-1.20	2.74	-1.385
O	- .60	2.67	- .709
Q ₁	- .10	1.97	- .161
Q ₂	.20	2.10	.302
Q ₃	.10	3.38	.094
Q ₄	-1.60	3.34	-1.515

Significance was defined at the .05 level utilizing a
a two-tailed t-test, critical value of $t = \pm 2.306$, $df = 8$

There will be no significant correlation between self-perceived and measured change on any of the sixteen factor scales.

Table 2 on the following page lists the mean differences for both measured (pre-test/post-test) and self reported (questionnaire) data plus the Pearson Product-Moment Correlation Coefficient (Pearson r) for each. The H_{02} was rejected because correlations in excess of the critical value of $r = \pm .632$, given $\alpha = .05$ and $df = 8$, were obtained on two of the sixteen scales. The alternative hypothesis (H_{12}) states that

There will be a significant correlation between self-perceived and measured change on one or more of the sixteen factor scales.

However, because one of the significant coefficients (Factor N) is negative, suggesting an inverse relationship between measured and self-perceived movement on the scale, an affirmative answer to the corresponding question below is at best equivocal.

Will Montana State University counseling students be able to identify whether or not they have experienced a personality change and, if so, designate the direction of their growth?

The third question to which the investigator addressed this study was:

What source of influence will Montana State University counseling students acknowledge as precipitating their growth?

TABLE 2
A COMPARISON OF MEASURED AND SELF-REPORTED
PERSONALITY CHANGE (N=10)

Bipolar Personality Factor (16PF)	Mean Change		Pearson r
	Measured	Self Report	
A - Reserved vs Outgoing	.59999	.60	.02718
B - Less Intelligent vs More Intelligent	.50000	.70	.42471
C - Affected by Feelings vs Emotionally Stable	-.20001	.50	.66835*
E - Humble vs Assertive	-.20001	.20	.05360
F - Sober vs Happy-Go-Lucky	-1.30000	.00	.46415
G - Expedient vs Conscientious	.79999	.40	-.15939
H - Shy vs Venturesome	-.10001	.20	.22768
I - Tough Minded vs Tender Minded	.50000	.40	-.04803
L - Trusting vs Suspicious	-.70001	-.40	-.02873
M - Practical vs Imaginative	-1.00000	.30	.16939
N - Forthright vs Shrewd	-1.20001	-.40	-.76936*
O - Placid vs Apprehensive	-.60001	-.10	-.31523
Q ₁ - Conservative vs Experimenting	-.10001	.30	-.05849
Q ₂ - Group Dependent vs Self Sufficient	.20000	.30	.58076
Q ₃ - Casual vs Controlled	.09999	.40	.10183
Q ₄ - Relaxed vs Tense	-1.60001	-.50	.27402

*Significance was defined at the .05 level, Critical value of $r = \pm .632$, $df = 8$

This question is concerned with self-perceived changes and tries to establish who were instrumental in changing the group which was studied. The data accumulated via the questionnaire at Appendix B is presented on Table 3 on the following two pages. Conclusions will be discussed in Chapter 5.

The fourth null hypothesis (H_{O_4}) stated that,

None of the variables of sex, age, educational background, and vocational experience will correlate significantly with self perceived or measured changes on any of the sixteen factor scales.

The computed correlations between the group's biographic variables and their self-perceived and measured changes are presented in Table 4 on the following two pages. Because the Pearson r exceeded the critical value of $\pm .632$, given $\alpha = .05$ and $df = 8$, in three instances, H_{O_4} was rejected.

The alternative (H_{1_4}) was an inclusive statement that,

One or more of the variables of sex, age, educational background and vocational experience will correlate significantly with self-perceived or measured change on one or more of the sixteen factor scales.

The investigator was interested in answering the question:

Will the factors of age, sex, educational background and vocational experience be related to the measured and self perceived personality changes of Montana State University counseling students?

TABLE 3

SUMMARY OF SOURCES AND SETTINGS INFLUENCING
SELF PERCEIVED PERSONALITY CHANGES
(N=10)

Bipolar Personality Traits	Number of Subjects indicating a change in each Direction	Sources of Influence								Setting	
		Most Influential									
		Less Influential								In Class	Out of Class
Counseling Classmate	Dr. Horswill	Dr. Hossack	Other Instructor	Non-Classmate Friend	Family Member	Other	No one In Particular				
Reserved, Detached vs Outgoing, Warm, Sociable	- 6	1	2	2			1		1	3	5
Less Intelligent vs More Intelligent	- 7		1	3	1	1			2	6	4
Affected by Feelings, Unstable vs Emotionally Stable Mature, Calm	1 6	3	1			1		1	1	3	4
Humble, Conforming vs Assertive, Aggressive	1 3			1		1		2		1	3
Sober, Serious vs Happy-Go-Lucky	1 1			1					1	1	
Casual, Expedient vs Conscientious, Persistent	- 4			2					2	2	1
Shy, Restrained vs Venturesome, Socially Bold	1 3	2		1					1	2	3

Table 3 (continued)

Bipolar Personality Traits	Number of Subjects indicating a change in each Direction	Sources of Influence									Setting	
		Most Influential										
		Less Influential										
		Counseling Classmate	Dr. Horswill	Dr. Hossack	Other Instructor	Non-Classmate Friend	Family Member	Other	No one In Particular	In Class	Out of Class	
Tough Minded, Realistic vs Tender Minded, Sensitive	5	1	2	2		1	1			3	5	
Trusting, Adaptable vs Suspicious, Self Opinionated	1	2	1	1					1	4	3	
Practical, Conventional vs Imaginative, Unconventional	5	2	2	2					1	3	1	
Forthright, Natural vs Shrewd, Calculating	1	1		2					1	1	3	
Placid, Confident vs Apprehensive, Worrying	4	2								2	2	
Conservative, Accepting vs Experimental, Critical	3	1	1	2	1	2				2	4	
Group Dependent vs Self Sufficient	1	1				1			1	2	2	
Uncontrolled, Follows own urges vs Controlled, Self Disciplined	4		1	1								
Relaxed, Unfrustrated vs Tense, Fretful	-			1			1		1		2	
Totals	4	2										
	7	3	2	1			1		1	4	6	
	2	2	1	1			1		2			
	83	17	12	21	1	7	6	3	13	39	48	
		15	11	13	1	0	2	0	8			
		32	23	34	2	7	8	3	21			

TABLE 4

CORRELATIONS BETWEEN BIOGRAPHIC VARIABLES AND
PERSONALITY CHANGE (N=10)

Person- ality Factor	Change Index	Biographical Variables			
		Sex	Age	Education Level	Vocational Experience
A	Measured	-.29871	.06382	.48226	-.51595
	Self Report	-.16666	-.14430	-.10205	-.24999
B	Measured	.00004	.46779	.00001	.31786
	Self Report	-.35634	-.03306	.32733	.35636
C	Measured	.18304	.10485	.14158	-.18302
	Self Report	.00000	.23335	.00001	.00000
E	Measured	.45942	.52184	-.03445	-.31676
	Self Report	-.27216	.31980	-.16666	-.06803
F	Measured	.22033	.21906	.08303	-.17794
	Self Report	.45644	.74520*	.00001	-.45643
G	Measured	.63776*	-.01972	.06509	-.23912
	Self Report	.16667	.00000	.10207	-.16666
H	Measured	.39682	.27989	.01314	-.45042
	Self Report	-.27216	.28614	.25000	-.06803
I	Measured	.13009	.08849	-.15931	-.39022
	Self Report	.12309	.13702	-.30151	-.43081
L	Measured	.33078	.33571	-.27404	.05838
	Self Report	.18464	-.62421	-.07538	-.18463
M	Measured	.05536	.24646	.27117	-.27674
	Self Report	-.38254	.40218	.15618	.06377
N	Measured	-.17269	.42337	.13462	-.37682
	Self Report	.25000	-.22676	-.10206	.58334
O	Measured	.03219	.14326	.01971	-.27345
	Self Report	-.17496	-.56987	-.28571	.46657
Q ₁	Measured	.15298	.21893	.29441	-.26219
	Self Report	.25504	.30755	-.23426	.06377
Q ₂	Measured	-.18461	.01015	.32664	-.43078
	Self Report	-.06375	.35487	.15618	.06377
Q ₃	Measured	-.27998	.31640	.52996	-.29270
	Self Report	.58334	.70089*	.10207	.25001
Q ₄	Measured	.28346	.34422	.33138	.23194
	Self Report	.50637	-.38205	-.31008	.00000

*Significance was defined at the .05 level, Critical value of $r = \pm .632$, $df = 8$

None of the correlations between the group's mean changes (measured and self-perceived) on each of the 16PF scales and the biographic variables of education background and vocational experience achieved significance. This finding suggests that with the group studied the level of education or the fact that some had prior teaching, counseling and administration experiences and others had none does not provide any predictive power in terms of the amount of change indicated on either the 16PF or the investigator's questionnaire.

Sex does appear to have some relationship to the way the group members responded to the pre- and post-test on Factor G (expediency versus conscientiousness). The data suggests that the ages of the group members are related to some degree to the amount of self-reported changes recorded on Factor F (sober versus happy-go-lucky) and Factor Q₃ (casual versus controlled).

SUMMARY

Despite the limitations of this study some cautious generalizations can be made. According to the data obtained from the pre/post administration of the 16PF and the investigators' questionnaire employing the verbal descriptions

of the 16 bipolar factor analytic scales, measured group personality change did not achieve significance. In contrast, self-perceived changes were indicated on 83 occasions out of a possible 160 opportunities. In order of their frequency of selection the three primary sources of influence acknowledged as inspiring self-perceived change were 1) counseling instructors, 2) counseling classmates, and 3) no one in particular (self generated). According to correlations between measured and self-perceived movement on each of the factor scales, the group appeared to collectively detect change and direction on only one of the sixteen factors (c-affected by feeling versus emotionally stable) the attempt to determine if biographic variables and related to self-reported and measured change yielded a very tentative possibility that sex may be related to change on Factor G and age to variations on Factor F and Q_3 .

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The problem of this study was to assess the degree of personality change occurring among Montana State University Counseling students during one quarter of training. The Sixteen Personality Factor Questionnaire, plus an instrument composed of the semantic descriptions of Cattell and Eber's sixteen dichotomized personality factors, were employed to obtain both a standardized measurement and a self-perceived representation of personality change. It was envisioned that securing both measured and self-perceived differences or similarities for each scale on the test would permit correlations from which a gauge for assessing counseling student awareness might evolve. Results indicate that the group did not experience significant changes as measured by the 16PF. In addition, on only one of the sixteen scales was the group's self-perceived change significantly related to its measured mean change.

In terms of self-perceived change the post-treatment questionnaire data indicated that over one-half of the changes that were capable of occurring did so (83/160). Acknowledged as influential in facilitating these changes

were counseling instructors with 43.8% of the credit, counseling classmates -24.6%, "no one in particular" -16.1%, other instructors -1.5%, non-counseling classmates -5.4%, family members -6.2%, and "other" -2.3%. Out of the 87 reported settings in which the changes occurred, 43 were outside the counseling classroom.

Finally the biographical factors of sex, age, degree status (educational background), and vocational background (previous in-school employment or not) were cross correlated with both measured and self-perceived mean changes to determine if some relationship (predictive value) would immerge. Sex appeared to be related to Factor G-expedient versus conscientiousness and age tends to covary with Factor F-sober versus happy-go-lucky and Factor Q₃-casual versus controlled.

CONCLUSIONS

It is doubtful that specific conclusions are warranted in this study in view of the numerous limitations specified in Chapter III; however, some observations and tentative comments may be in order.

In that no significant personality changes were detected, it should be pointed out that the hypothesis

was designed to test group means and not those of individuals. Since the median age of the ten subjects was 28.5 years perhaps some rigidity came into play. There also exists the possibility that the 16PF is too coarse an instrument to detect the salient changes the investigator hypothesized would occur as a result of counselor education. It would seem apparent from the review of literature that training-facilitated changes are possible in highly specialized areas of the psyche, e.g. attitudes, values, and technical knowledge, which may be outside the measurement capability of the 16PF. Of course, there is the strong possibility that there was no group personality change.

The numerous changes indicated on the post-treatment (self-perception) questionnaire can be examined in several ways. The type of measurement used on the investigator's questionnaire is continuous whereas on the 16PF it is discrete, thereby allowing for exaggerated self-perceived change without concomitant measurable variation. There exists a remote possibility that some inflation occurred on the self-report questionnaire as a result of subjects' wanting to look good or provide more "appropriate" data for their classmate's study.

Insofar as the general lack of correlation between self-perceived change and measured change is concerned, the above considerations also apply. In addition, there is the problem of translating statistical factor loadings into semantic language. Cattells' sixteen factors are statistical constructs which have been assigned a generic word description. One can then imagine the wide variation possible when a response is made to such a word on the basis of a personal experience or a connotative definition.

The rejection of the second null hypothesis must be a qualified one since a single significantly directional correlation among sixteen is a dubious predictor, particularly in view of the probability of error being one in twenty. There may well have been some predictive power in the self-perceived change of the group of Factor C, however there is doubtful support for such a belief as is suggested by its singular existence.

The biographic variables of age and sex would seem to make a stronger case for some followup research. The preponderance of studies attempting to correlate biographic factors with such things as therapeutic outcome, however, have generally not produced positive results.

Worthy of note is the data obtained concerning the source and location of self-perceived change. As one would expect, counseling instructors rank highest when their tallies are combined. However, there is some implication for counselor training perhaps in the recognition that, when each category is viewed separately, classmates, outside of class, were important influences on how the group members perceived the ways in which they changed.

It was the intent of the investigator to shed some light on the area of personality change with respect to counselor training. Although he has failed to substantiate the research hypothesis which launched the study, some beneficial things have resulted, particularly an appreciation for proper planning, comprehensive literature review, and exacting procedure. In light of some new awarenesses, the following recommendations are proffered.

RECOMMENDATIONS FOR FURTHER RESEARCH

The results of this study lead the researcher to make the following recommendation.

1. It is suggested that studies similar to this one be conducted in the future.

2. It is suggested that in future similar studies, larger groups be utilized employing a control and random sampling techniques if the general population cannot be studied.

3. It is suggested that although continued research with the Sixteen Personality Factor Questionnaire is warranted, other instruments with more impressive reliability and validity coefficients should be considered.

4. It is suggested that the need to evaluate the counseling program at Montana State University remains high in the priority for research and that studies like this one, regardless of shortcomings be continuously encouraged for the mutual benefit of student and program.

5. It is suggested that the answer to program efficacy lies in the conduct of comprehensive longitudinal studies that measure the progress and development of student attitudes, values, personality variables, and cognitive skills, and that such a study be a continuing effort sponsored by the Department of Education at Montana State University and co-staffed by graduate students of demonstrated ability.

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APPENDIX

18 January 1974

Dear Friend,

I am soliciting your help in conducting a study concerning personality change in the process of education. More specifically, I am asking you to complete an inventory on two occasions during Winter Quarter 1974.

It is not my intent to put you under a psychometric microscope, as it were, and measure your suitability for a career in your chosen field. I am interested in you as part of a group; therefore, I will have no cause to single out and publish your individual scores nor will I even use them without your permission. In addition, I will ask you to respond to two questions concerning whether or not you experienced any changes and toward whom or because of whom such occurred.

To preserve your privacy I suggest that on all materials to which you respond indicate such as being yours only by the last four digits of your social security account number.

I want to stress that the qualitative aspects of your personality as suggested by the inventory should be interpreted only by a qualified member of the Testing and Counseling staff; this study does not address these aspects. My interest lies only in detecting quantitative changes, if any, without regard for type of personality.

Remember that this is a voluntary commitment. Please contact Dr. Richard Horswill, my advisor, or me (587-2688) if you have questions.

Sincerely,



Bud Pedersen
Graduate student,
Counseling

APPENDIX B

Hi!

That was tedious exercise, wasn't it?! Please "Hang in There" for about seven more minutes as you read and answer the following items.

This study will be based upon three sources of information: The two inventory answer sheets and this brief instrument. Will you please insure that the last four digits of your social security account number appear on each of these sheets before you leave the testing lab.

The last four digits of my social security account number are _____.

Please circle the following information which best describes you:

1. Sex: Female
 Male
2. Age: Please Specify Your Age _____
3. Major: Counseling
 Other (Please Specify) _____
4. Minor: Counseling
 Other (Please Specify) _____
5. Level of Degree now Held:
 Bachelors
 Masters
 Doctorate

6. Prior Vocational Experience:

Teacher

Counselor

Administrator

Other (Please Specify) _____

None, I'm Going Straight Through for my
Advanced Degree

Consider each of the pairs of personality characteristics on the next page as being on opposite sides of a continuum. Compare yourself now with how you were at the beginning of winter quarter with respect to each of the trait pairs. If you feel you have changed toward one side or the other, regardless of the degree, indicate such by circling the arrow that points toward your new position on the continuum. If you have experienced no change on a continuum, circle the corresponding "0" (zero). Whenever you circle an arrow (indicating you have grown or changed in a psychological way) please identify the person(s) that you feel most influenced that particular change by inserting on the blank to the right under column 1 the letter corresponding to one of the following:

- A. Classmate(s) from counseling course(s)
- B. Dr. Horswill
- C. Dr. Hossack
- D. Instructor or staff member other than B. or C.

- E. Friend other than A.
- F. Family Member
- G. Other (Please specify according to role, e.g.,
doctor)
- H. No one in particular influenced me

In the blank under column 2 indicate your choice of the second most influential person(s) if applicable.

When changes were precipitated by counseling classmates or instructors (Choices A, B, or C), did they occur as a result of mostly in-class or out-of-class interaction? Using an "I" for in-class and an "O" for out-of-class, place this response on the corresponding blank under column 3.

For example: Considering the first pair of characteristics--Reserved, Detached versus Outgoing, Warm, Sociable--I feel that I am a more open and friendly person as a result of the intimacy I shared with classmates and Dr. Hossack in a group dynamics lab. Because I attribute my growth primarily to my association with friends in the class setting and secondly to Dr. Hossack in his role as group facilitator, this response would be portrayed as follows:

		COLUMN	1	2	3
Reserved, Detached	←	0	↔		
Outgoing, Warm, Sociable				<u>A</u>	<u>C</u> <u>I</u>

Now It's Your Turn!

7.

COLUMN

	Most 1 Influence	Less 2 Influence	In or out- 3 of-class
Reserved, Detached ← 0 → Outgoing, Warm, Sociable	—	—	—
Less Intelligent ← 0 → More Intelligent	—	—	—
Affected by Feelings, Unstable ← 0 → Emotionally Stable, Mature, Calm	—	—	—
Humble, Conforming ← 0 → Assertive, Aggressive	—	—	—
Sober, Serious ← 0 → Happy-Go-Lucky	—	—	—
Casual, Expedient ← 0 → Conscientious, Persistent	—	—	—
Shy, Restrained ← 0 → Venturesome, Socially Bold	—	—	—
Tough-Minded, Realistic ← 0 → Tender-Minded, Sensitive	—	—	—
Trusting, Adaptable ← 0 → Suspicious, Self-Opinionated	—	—	—
Practical, Conventional ← 0 → Imaginative, Unconventional	—	—	—
Forthright, Natural ← 0 → Shrewd, Calculating	—	—	—
Placid, Confident ← 0 → Apprehensive, Worrying	—	—	—
Conservative, Accepting ← 0 → Experimenting, Critical	—	—	—
Group-Dependent ← 0 → Self-Sufficient	—	—	—
Uncontrolled, Follows Own Urges ← 0 → Controlled, Self- Disciplined	—	—	—
Relaxed, Unfrustrated ← 0 → Tense, Fretful	—	—	—

PLEASE TURN THE PAGE. . .

THAT'S IT!!

You have invested considerable time in aiding me with my research, and I will be most happy to share with you the results of this investigation when it is completed in May. Should you not be on campus this spring quarter, print your mailing address on the detachable portion below and I will insure that you receive a copy of my findings.

Please read and sign the following contract and then detach it to preserve your privacy.

Present all materials to the test monitor. Do the last four digits of your social security account number appear on the two inventory score-sheets and this questionnaire?

Ask the monitor to give you one of the "envelopes"; She'll know what that means.

Montana State University

Date _____

I, _____, hereby grant my permission for
(print name)
the use of my Sixteen PF data and questionnaire responses in the presentation of a research study conducted by Lloyd (Bud) Pedersen. I so grant with the understanding that I will in no way be singled out or identified as a respondent to this study.

(signature)

APPENDIX C

EYSENCK'S SUMMARY OF REPORTS OF THE
RESULTS OF PSYCHOTHERAPY

	N	Cured; Much Im- proved	Im- proved	Slightly Im- proved	Not Im- proved; Died; Left Treat- ment	Percent Cured; Much Im- proved;
<i>(A) Psychoanalytic</i>						
1. Fenichel [1920-1930]	484	104	84	99	197	39
2. Kessel and Hyman [1933]	34	16	5	4	9	62
3. Jones [1926-1936]	59	20	8	28	3	47
4. Alexander [1932-1937]	141	28	42	23	48	50
5. Knight [1941]	42	8	20	7	7	67
All cases	760	335			425	44
<i>(B) Eclectic</i>						
1. Huddleson [1927]	200	19	74	80	27	46
2. Matz [1929]	775	10	310	310	145	41
3. Maudsley Hospital Report [1931]	1,721	288	900		533	69
4. Maudsley Hospital Report [1935]	1,711	371	765		575	64
5. Neustatter [1935]	46	9	14	8	15	50
6. Luff and Garrod [1935]	500	140	135	26	199	55
7. Luff and Garrod [1935]	210	38	84	54	34	68
8. Ross [1936]	1,089	547	306		236	77
9. Yaskin [1936]	100	29	29		42	58
10. Curran [1937]	83		51		32	61
11. Masserman and Carmichael [1938]	50	7	20	5	18	54
12. Carmichael and Masserman [1939]	77	16	25	14	22	53
13. Schilder [1939]	35	11	11	6	7	63
14. Hamilton and Wall [1941]	100	32	34	17	17	66
15. Hamilton <i>et al.</i> [1942]	100	48	5	17	32	51
16. Landis [1938]	119	40	47		32	73
17. Institute Med. Psychol. (quoted Neustatter)	270	58	132	55	25	70
18. Wilder [1945]	54	3	24	16	11	50
19. Miles <i>et al.</i> [1951]	54	13	18	13	9	58
All cases	7,293	4,661			2,632	64

From Eysenk (1952)

APPENDIX D

RESULTS OF PSYCHOTHERAPY--SUM OF PERCENT CURED, MUCH
IMPROVED, AND IMPROVED (EXCLUDING SLIGHTLY
IMPROVED) BY DIFFERING CRITERIA

	Total N	A Eysenck Dropouts Included. Improved= Much Improved	B Bergin Dropouts Excluded. Improved= Moderately Improved or Better	C Alternative A-- Dropouts Included. Improved= Moderately Improved or Better	Alterna- tive B (Knight 1941 Dropouts Excluded Improved= Much Improved
Psycho- analysis					
1. Fenichel (1930) (Berlin)	484	39	91 (287/316)	59	59 (186/316)
2. Kessel & Hyman (1933) ^a Hyman (1936) ^b	25 30	62	68 60 (18/30)	No Dropouts Reported	89 (16/18)
3. Jones (1936) ^c (London)	56	47	68 (37/56)	No Dropouts Reported	47 (26/56)
4. Alexander (1937) ^d (Chicago)	142	50	69 (70/101)	49	69 (70/101)
5. Knight (1941) (Topeka)	41	67	76 (28/37)	68	76 (28/37)
All cases	753 ^c	44% (335/760)	83% (450/540)	60% (450/753)	62% (326/528)

Appendix D (continued)

	Total N	A Eysenck Dropouts Included. Improved= Much Improved	B Bergin Dropouts Excluded Improved= Moderately Improved or Better
Eclectic Psychotherapy			
1. Huddleson (1927) ^f	200	46 (93/200)	46 (93/200)
2. Matz (1929) ^g	760	41 (346/725)	42 (340/760)
3. Maudsley (1931) ^h	1721	69 (1188/1721)	69 (1188/1721)
4. Maudsley (1935) ^h	1711	64 (1136/1711)	64 (1136/1711)
5. Neustatter (1935) ⁱ	46	50 (23/46)	50 (23/46)
6. Luff and Garrod ^j (1935)	426	55 (275/500)	60 (253/426)
7. Luff and Garrod ^k (1935)	210	68 (122/210)	58 (122/210)
8. Ross (1936) ^l	1089	77 (853/1089)	78 (853/1089)
9. Yaskin (1936) ^m	91	58 (58/100)	64 (58/91)

Appendix D (continued)

	Total N	A Eysenck Dropouts Included. Improved= Much Improved	B Bergin Dropouts Excluded. Improved= Moderately Improved or Better
Eclectic Psychotherapy			
10. Curran (1937) ⁿ	69	61 (51/83)	68 (47/69)
11. Masserman and Carmichael (1938) ^o	30	54 (27/50)	57 (17/30)
12. Carmichael and Masserman (1939)	70	53 (41/77)	56 (34/70)
13. Schilder (1939)	40	63 (22/35)	60 (24/40)
14. Hamilton and Wall (1941) ^p	100	51 (53/100)	68 (68/100)
15. Hamilton, Varney and Wall (1942) ^p	100	66 (66/100)	83 (83/100)
16. Landis (1937) ^q	119	73 (87/119)	87 (104/119)
17. Institute Med. Psychol.	270	70 (190/270)	70 (190/270)

Appendix D (continued)

	Total	A	B
	N	Eysenck Dropouts Included. Improved= Much Improved	Bergin Dropouts Excluded. Improved= Moderately Improved or Better
Eclectic Psychotherapy			
18. Wilder (1945) ^r	54	50 (27/54)	50 (27/54)
19. Miles, et al. (1951)	62	58 (31/53)	58 (36/62)
All cases	7168	64 (4661/7293)	65 (4701/7168)

APPENDIX E

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criteria	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Wispe & Parloff	1965	Psychologists	55	Mixed analytic (exp.)	22 months 60 sessions	Publication rate	Yes	2		Negative, but criterion questionable
Cartwright & Lerner	1963	U of Chicago Counseling Center	28	Client-centered (exp.)	40 sessions	Therapist rating	No	3	54	In doubt; no control
Varble & Landfield	1969	Students	36	Eclectic (exp.)	8 sessions	Judges' ratings	Yes	2	75	Positive, but weak compared to controls
Lorr, McNair, Michaux & Raskin	1962	VA out-patients	133	Mixed analytic (exp.)	8 months 17 to 96 sessions	Therapist and Patient ratings (Miscellaneous tests)	No	1		Modest positive
Persons	1967	Institutionalized delinquent boys	41	Group and individual (exp.)	80 hours	Test scores (behavior ratings, parole violations, staying in community)	Yes	1	68 to 74	Positive
Jersild, Lazar, & Brodtkin	1962	School teachers	111	Psychoanalysis (exp.)	600	Self ratings	Yes	3	50 to 90	Positive, sample highly selective. Control group inadequate
Endicott & Endicott	1964	Outpatient neurotics	17	Analytic (one therapist-exp.)	20	Miscellaneous tests and therapist ratings	Yes	2		Negative
Heilbrunn	1966	Outpatient neurotics (excluding psychotics)	32	Psychoanalysis (one therapist-exp.)	500	Therapist rating	No	3	44	Negative

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criterion	Control Group	Adequacy of Design	Percent Improved (if Given)	Outcome
Heilbrunn	1966	Outpatient neurotics- (excluding psychotics)	48	Analytic	200	Therapist rating	No	3	48	Negative
Heilbrunn	1966	Outpatient neurotics (excluding psychotics)	75	Brief ana- lytic	50	Therapist rating	No	3	45	Negative
Aronson & Weintraub	1968	Outpatient neurotics- Character disorders, borderlines	127	Psycho- analysis (exp.)	2 to 3 yrs.	Therapist ratings	No	3	57 to 84	Modest positive results vary by criteria and diagnosis
Feifel & Ellis	1963	VA outpa- tients	63	Mixed (exp.)	50+ sessions	Patient and therapist ratings	No	2	62 to 90	Positive
Rogers, Gendlin, Kiesler & Truax	1967	Inpatient psychotics	14	Client- centered (exp.)	105	Numerous tests and behaviors	Yes	1	43	Negative, with qualifications
Strupp, Wallach, & Wogan	1964	Outpatient neurotics	44	Analytic (exp.)	166	Patient and thera- pist ratings on questionnaire	No	2	70 to 80	Positive, but sample favorably biased
Bieber et al.	1962	Male homo- sexuals	106	Psycho- analysis (exp.)	200	Behavior change	Yes	2	27 to 43	Positive, through sample favorably biased and control group inadequate

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criteria	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
McHair, Lorr, Young, Roth & Boyd (3-yr. follow-up of 1962 study)	1964	VA out-patients	81	Analytic (exp.)	60 sessions	Tests; Patient and therapist rating	No	1		In doubt due to small changes and no control
Cattell et al.	1966	Outpatient neurotics	46	(exp.)	6 sessions	Cattell Scales	Yes	3		In doubt due to inadequate control group and possible placebo effects
Sager, Riess, & Grendleach	1964	Out-patients, 103 including borderline	103	Analytic (exp.)	107 sessions	Therapist, Patient and researcher ratings of questionnaire	No	3	25 to 59 marked improvement; 60 to 37, small improvement	Appears positive; difficult to interpret
Fiske & Goodman (18-month follow-up)	1965	U. Chicago Counseling Center	69	Client-centered (mixed exp. levels)	26 sessions	Numerous tests, ratings, interviews and questionnaire	No	1		No change during post-therapy period
Riess	1967	Outpatients, 414 including borderline	414	Analytic (exp.)	57 sessions	Change in income	Yes	2		Positive
Uhlenhuth & Duncan	1968	Out-Patient neurotics	128	Eclectic (inexp. medical)	6 sessions	Patient symptom checklist	No	2	72	Positive, but placebo effects look improved
Weber, Elinson, & Moss	1965	Outpatients, 564 all diagnoses	564	Psychoanalysis (exp. and inexp.)		Judges' ratings of clinic records	No	2	30	Negative

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criteria	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Weber, Elinson, & Moss	1965	Outpatients, all diagnoses	732	Analytic therapy (exp. and inexp.)		Judges' ratings of clinic records	No	2	25	Negative
Koegler & Brill	1967	Outpatients, all diagnoses	27 to 39 depending on criterion	Analytic (in-exp.)/residents	5-5.5 months	Tests, patient and therapist ratings, and interview	Yes	1	87 on self-rating. but Change at placebo group was but not greater than 76 on same measure	Negative at follow-up. but Change at termination.
Koegler & Brill	1967	Outpatients, all diagnoses but more disturbed	162	Brief contact (in-exp.)/residents	10 sessions	Therapist and patient ratings	No	3	49 to 86 depending on criterion	In doubt due to criteria and lack of controls
Gottschalk, Mayerson, & Gottlich	1967	Mostly out patient neurotics	34	Emergency, brief therapy (exp. ?)	6 sessions	Research interview and self-rating	Yes	2	85, but docs not distinguish degree of improvement	Positive, but controls probably more disturbed
Shore & Massimo	1966	Delinquent boys	10	Vocationally oriented psychotherapy (exp.) therapist	10 months	Numerous test ratings and behavioral changes	Yes	1	70	Positive; only 30% change in controls
Jonckheere	1965	Outpatient neurotics	72	Eclectic (exp.)		Therapist rating	No	3	76	Indoubt; no control; liberal definition of improved

A SUMMARY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criterion	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Schjelderup	1955	Outpatient neurotics	28	Psychoanalysis (exp.-1 therapist)		Questionnaire, therapist rating, and observer rating (Pooled)	No	2	79	Positive, criteria rigorously applied and long follow-up
Orgel	1958	Outpatient peptic ulcers	12	Psychoanalysis (exp.-1 therapist)	600 sessions	Symptom removal	No	2	83	Positive, with 10 to 22 yrs. follow-up
Warne, Canter, & Witznia	1953	VA out-patient neurotics	30	Eclectic- (many inexp.)	125 sessions	Ratings of case records	Yes	2	20 (slight)	Negative
Warne, Canter, & Witznia	1953	VA out-patient neurotics	30	Eclectic (exp.)	27 sessions	Ratings of case records	Yes	2	53 (slight) because controls not matched	Positive, but (slight) in doubt
Sclien, Mosak, & Dreikurs; Shlien; and Henry & Shlien	1962 1965 1958	Outpatient neurotics		Client-centered and Adlerian: brief and unlimited (exp.)	20 & 37 sessions	Q sort, TAT, self-ratings	Yes	1	70 to 85 on one criterion	Positive, except time-limited at follow-up
Vorster	1966	Outpatient neurotics	65	Eclectic (exp.-1 therapist)	27 sessions	Therapist rating	No	3	89	Positive
Board	1959	Outpatients	228	Eclectic		Therapist and patient ratings	No	3	64 to 67	In doubt
Rosenthal	1955	In- and outpatient neurotics	12	Eclectic (inexp. residents)	5 months	Tests, questionnaire, and re-search interview	No	2	42	Negative

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criterion	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Ellis	1956	Homosexuals	40	Eclectic (exp.)	20 sessions	Therapist rating	No	3	65	Positive
Graham	1960	Neurotics	64	Analytic (exp.)	6 months	Therapist ratings of sexual satisfaction	Yes	2	44 to 76	Positive, but controls not equated
Feldman, Lorr & Russell	1958	VA neurotics and schizophrenics	5367	Eclectic-analytic		Therapist ratings	No	3	44 32	Negative, but difficult to interpret
Posenbaum, Friedlander & Kaplan	1956	Miscellaneous diagnoses	210	Analytic (inexp. residents)		Therapist ratings	No	3	68	In doubt
Berlemau & Steinburn	1967	Potential delinquents	28	Eclectic (exp.)	5 months	School discipline records	Yes	2		Negative
Mason	1956	Neurotics	31	Analytic (exp. - 1 therapist)		Therapist rating and interview at 18 months	No	3	45	Negative
O'Connor et al.	1964	Ulcerative Colitis patients	57	Eclectic-analytic (exp. ?)		Objective symptom change	Yes	1		Positive, with schizophrenic Ss deleted
Cappon	1964	Mixed outpatients	201	Eclectic-analytic (Exp. - 1 therapist)	35 sessions	Therapist, patient, and outsider ratings, and symptom change	No	3	40 to 75, depending on criterion	In doubt, but some positive evidence
L. Rogers ^a	1960	Mixed outpatients	4081	Eclectic (exp. and inexp.)	13 sessions	Therapist ratings	No	3	71	In doubt; no control and improved ratings questionable

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A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criterion	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Harris	1954	Neurotic out-patients	60	Eclectic (exp. ?)		Therapist follow-up interviews at 1 year and patient ratings	Yes (CO ₂)	2	20 to 27	Negative
Appel, b Myers, c Schefflen	1953	Hospitalized neurotics	4790	Eclectic		Various	No	3	68	In doubt
Rosenthal and Frank ^c	1958	Mixed out-patients	216	Eclectic (inexp. residents)	11 to 20 sessions	Therapist ratings	No	2	63 (continuers); 34 drop-outs	In doubt
Inter, Mach, Stone & Frank ^d	1968	Mostly neurotics	34	Eclectic (inexp. residents)	16 to 18 sessions 10 year f. up	Patient ratings, and interviewer and observer rating	Yes minimal contact therapy	1	59	In doubt; significant changes, but not greater than control
Truax, Wargo, Frank, ^e et al.	1966	Outpatient neurotics	40	Eclectic (inexp. residents)	4 months	Two global ratings by patient and therapist, and three specific change indices	No	2	70 on global rating only	In doubt. Just to no control and mixed results on different criteria
Betz	1962	Schizophrenics	421	Eclectic (inexp. residents)		Research analysis of charts and Changes in overt behavior	No	2	48	Negative
Betz	1962	Schizophrenics	432	Eclectic (inexp. residents)		Research analysis of charts and changes in overt behavior	No	2	73	Positive

A SURVEY OF SELECTED OUTCOME STUDIES PUBLISHED BETWEEN 1952 AND 1969 (continued)

Authors	Date	Population	Therapy N	Therapy Type	Average Therapy Duration	Criteria	Control Group	Adequacy of Design	Percent Improved (If Given)	Outcome
Cartwright	1957	U. Chicago Counseling Center	10	Client-centered (exp. and inexp.)	26	Q sort	Yes	2		Both in doubt; amount of change limited and controls = normals
	1961		19		37	Q sort	Yes	2		
Paul	1967	Speech-2 yr. anxious f. up students	12	Eclectic (exp.)	5 sessions	Behavior change and personality scales	Yes	1	25 to 50	Negative

^aSummary of Government clinics.

^bSummary of 14 studies.

^cThey review 3 other studies with N=772, showing improvement rates from 19 to 39 when drop outs are counted as failures.

^dAlso Imber et al. (1957) and Stone et al. (1961).

^eSee text for further analysis of Truax studies.

^fVariations in improvement rates within single studies are a function of differing criteria or differing diagnostic groups within the sample.

NOTE. Exp = Experienced Therapists; Inexp = Inexperienced Therapists. Adequacy of Design: 1 = good, 2 = fair, 3 = poor. Outcome is positive if change is greater than in control group, or (where there is no control group), percent improvement is substantially higher than 30 percent spontaneous rate documented.