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PREDICTING EFFECTIVENESS IN POTENTIAL TEACHERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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1971

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George and Marquerite—their encouragement is only surpassed by their generosity.

The beautiful people—Marguerite, Ellen, Jean, Mike, Mark, and Matt—may we continue to grow together.
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CHAPTER I
INTRODUCTION

The continuing challenge confronting all institutions involved in the preparation of teachers remains constant. To conclude which persons might best facilitate learning in the schools has long been approached from an objective frame of reference. The "appropriate" or "correct" method of teaching has yet to be identified. The appraisal of teacher effectiveness is one of the most complex phenomena facing the universities today. Recognition of spontaneous behavior as a means of reducing the discrepancy between intent and action has been advanced by Flanders (1964):

We live in a society in which genuine, helpful evaluation is quite uncommon. Notice how uncomfortable we feel when someone pays us a compliment and how defensively we respond to almost any kind of criticism. As a group, teachers are isolated from systematic information about their own behavior. However, research indicates that teaching performance depends upon the range of behavior a teacher can produce, the self-control required to provide particular patterns of influence, a teacher's sensitivity in diagnosing the requirements of the moment, and his ability to predict the consequences of alternative actions.

Isolation from meaningful information about personal behavior exists in teacher education programs just as in schools. It
is quite possible that this lack of information about self-behavior exists within all disciplines. With the ensuing cultural change affecting politics, education, and the arts, the whole realm of personal fulfillment continually faces new challenges.

A perceptual approach to understanding behavior is not original, but the widespread acceptance it is now gaining is definitely something new. The notion that human behavior is directed by an internal frame of reference, in other words, human behavior is controlled by those perceptions which contain a person's values, beliefs and purposes, provides an exciting overture to understanding the effectiveness of helping relationships. Combs (1969) aptly notes:

It is a belief which affects almost everything the person does. Most of an individual's perceptions begin on the periphery of his experience as observations, facts, or knowledge. This is why knowledge is not enough to produce a change in behavior. It is only as knowledge is experienced with deeper and deeper meaning so that it takes on the quality of belief (becomes central to experience) that it is likely to produce much change in behavior.

Certainly, the health of the individual, along with his oral and written communication abilities, grade point average, and the various traditional approaches used in selection and admission of candidates to teacher education programs are admirable. However, the selection and evaluation of effective future teachers has a higher priority, namely, the fulfillment of personal purpose combined with the
satisfaction of society's purposes. In essence, the need for some culminating process in the assessment of personal and professional development has readily been acknowledged. The resultant process seldom includes a phenomenological provision, that is, the opportunity to examine one's beliefs and one's unique manner of implementation. The difficulty arises from the myriad of ramifications linked to the traditional attempts to apply methods and techniques to persons, or equally restricting, the application of persons to techniques. Both procedures overlook the individual's immediate, living experience and fail to recognize that a singular perception may cause many diverse behaviors.

Conspicuous by its absence in the traditional selection and evaluation of teacher candidates is a recognition of the existential nature of the perceptual field. The use of "self" at the instant in which the behavior response is elicited involving such internal variables as beliefs, values, and purposes, demands scientific study. Kindergarten through doctorate, the concentration on "personal style" is of the utmost importance if man is to successfully cope with the society and environment thrust upon him.

Borton (1970) goes into detail about process curricula:

The power of isolating basic processes suggests that, when a student learns processes defined by the teacher, he should also become conscious of his own logical and psychological operations. Consciousness gives the student the power over his own mind, for with it he not only knows what he is doing--he knows that he knows.
The attempt to "capture" the perceptions of others and make connections between these phenomenological aspects and personality characteristics is a search for some identifiable axioms. The efforts to identify growth-producing behavior which tends to facilitate learning may now be generally replacing some of the traditional objective approaches used in education. Blocher (1969) comments on the reappraisal of the role of counseling as an educative process:

In very recent years the winds of change have begun to blow again, with resulting transformations in ideas around which counselors orient their practice. Concepts of congruence and confrontation, transparency and authenticity have gradually replaced outmoded images of neutrality and objectivity as the sine qua non of helping relationships.

Simulation is one approach that concerns itself with instantaneous and spontaneous responses. The reactions of participants are immediately recorded by the individual writing personal answers to questions pertaining to an incident viewed on a screen just moments before, through the use of film and projector. Implemented properly, simulation is an additional professional procedure in undergraduate and graduate education. Simulation places a major emphasis on appraisal which is conceived to be in the direction of improvement in performance. Cruikshank and Broadbent (1970) maintain that simulations are not only relevant but also allow individuals to be themselves:
... simulations are intended (with few exceptions) to permit the participant to be himself—to learn about himself as he tries out his unique behavior. There usually are no prescriptions. Simulations are safe.

Observing the immediate response of individuals by analyzing beliefs may give some insight into the actual behavior exhibited by those individuals.

It is not the intention of this study to categorize human experience. Rather, it is suggested that the persons involved in their own personal and professional development become aware of their own modes of behavior and discern personal meaning. There is adequate reason to contend that each person's behavior is affected by, and perhaps even characterized by, the pervading beliefs about one's self, belief about others, and belief about one's purposes. Once these beliefs are internalized, further perceptions might reveal some predictability in behavior. The notion that there exists a way of exploring effective and ineffective helping relationships is a relevant matter. This study supports an approach that brings into play such factors as manifest needs, personality type, open and closed mindedness, and creativity.

Educators have long been aware that the preparation of future counselors must include experiences beyond course work and practicum. The results of such a recognition often brings about a personal examination of the need structure of students in graduate programs prior to, or in conjunction
with, actual counseling experience. Personal growth groups are an example of a process used in counselor preparation programs to facilitate a perspective toward personal needs and dynamics. Olden's (1953) insight into the adult confrontation with children's primitive behavior may well express something about all human confrontation:

Good childhood or bad, unhappy or happy, if for some reason the adult can allow himself to live with the sufferings of his childhood and reach a degree of reconciliation with them as a part of his development; if he is able to "refeel" or relive the same emotions he had as a small child on this or another occasion; if he has managed to work through his early experience (not necessarily in analysis) and come to find it natural in retrospect and remoteness that he did once have infantile needs; if he considers these needs of the past as much a part of himself as his history is a part of himself; if in the course of growing up, and perhaps with the aid of his sense of humor, he has gained some perspective toward those needs--then he can begin to take for granted the child's primitive behavior.

Thus, it is a "developmental" approach suggested in this study. Those responsible for the preparation of persons entering the helping professions might be concerned with understanding the nature of the processes through which effective human behaviors are developed. The physiological, environmental, and psychological processes all join in to formulate the perceptions, meanings, and resulting behavior. This investigation concerns itself with the possibility of personality variables being related to phenomenological factors. It further investigates the potential effectiveness
of persons as helpers. Provided in the study is an opportunity to observe problem-solving behavior. The notion that coping behavior is a possible key to human effectiveness is a major consideration.

Statement of the Problem

It is the purpose of this study to examine the relationship between the phenomenological criteria of effective teacher characteristics and the noncognitive factors of a group of teacher assistants who were experiencing a course in inner-city classroom simulation. Given the perceptual organizations of these persons in a preparation program as measured by ratings of their perceptual frame of reference, the attempt will be made to identify predictor variables. Specifically, the study will attempt to answer the following questions:

1. What is the nature of phenomenological criterion data obtained over four conditions through a simulation experience conducted during a teacher education program?

2. How are these data related to personality variables obtained from the following instruments?

   Edwards Personal Preference Schedule
   Myers-Briggs Type Indicator
   Rokeach Dogmatism Scale
   Torrence Tests of Creative Thinking

3. What implications can be drawn for teacher education programs?
Importance of the Study

The significance of attempting to discover the fundamental elements guiding the essential quality and effective exercise of helping relationships is paramount in a society which continually feels the press for authenticity. The adaptation of man to a technical framework perpetuates the quest for understanding human behavior by looking at human symptoms. While the dynamics of interactions are important factors, our resistance to deal with the cause of behavior is legend. Our preoccupation with such symptoms as the teaching method and techniques of counseling overflow in the literature. This study suggests that continuing attempts to understand human behavior by looking at human symptoms is not likely to be very effective.

The importance of the study surrounds the notion that our beliefs about other persons, ourselves, our purposes, and our frame of reference are the bases for action or behavior. This investigation examines the instantaneous responses of individuals and investigates the relationship of the response to personality variables. The analytical attempt to discriminate between effective and ineffective helping persons raises many questions. Whether or not man finds adequate answers, Coleman (1969) views man as continuing to look toward science as a dependable source of information:
Psychologists have been reluctant to apply research findings to specific human problems for fear of going beyond what is actually known and falling into the same trap as the popular literature on "personality" and "adjustment," which often has only the sketchiest of scientific underpinning. Many psychologists, too, are reluctant to come to grips with values, seeing them as inherently a philosophical rather than a scientific concern. Yet we cannot wait until all of the scientific answers are in; we must operate on the basis of the information that we do have. Nor can we avoid the problem of values . . . In fact, our faith in science itself as a means of helping man is a value assumption.

The importance of the study is embodied in the concern to identify potentially effective helping behaviors by establishing a relationship between personality variables and phenomenological factors. The human needs of children are somewhat specific. The assumption is offered that the response which is most practical finds common roots and validity in how one perceives personal authenticity congruently in relation to others, to personal purpose, and to a general frame of reference.

**Limitations of the Study**

1. The study involves the rating of written protocols completed prior to actual classroom involvements.

2. The study focuses upon perceptual organizations and does not consider past achievement, teaching skills, or observations in an actual school setting.
3. The individuals rated and tested are not evenly represented by age, sex, race, and previous experience.

4. Operationally defined, the perceptual organization is the rater score attributed to the simulation worksheet protocol behavior of the subject.

Organization of the Study

Chapter I of this study includes the introduction, a statement of the problem, relevant questions, a discussion of the significance of the study, a brief indication of the limitations of the study, and a statement on the total organization of the study.

Chapter II of this study includes a review of the literature relevant to the research contained in this study.

Chapter III describes methods and procedures and statistical analysis of the data.

Chapter IV presents the results of the investigation.

Chapter V contains the summary, implications, and recommendations.
Prior to the last two decades, there was no great emphasis on, or concern about, the teacher-pupil interaction. During the past twenty years, and especially at this time, some introspective educators have been more willing to relegate methods of teaching to some other level in the hierarchy, and place an increased emphasis upon the importance of values and attitudes in the learning process. This increased awareness of the need to improve interpersonal relations is now found in all disciplines and in industry; witness the call for sensitivity training, basic encounter, personal growth groups, and the like.

This review deals with phenomenological analysis and personality characteristics, and their relationship to effectiveness as a helping practitioner. Many studies have been undertaken using personality traits in relationship to teacher effectiveness, but the analysis of perceptions in conjunction with the use of personality instruments appears to be somewhat sparse.
Statements concerning helping relationships (Rogers, 1959, 1962, 1969), (Combs, 1969) describe the interpersonal encounter as the most significant element in effectiveness. This immediately suggests existential, phenomenological, and psychological implications. Placing an emphasis upon these implications, reviewing the literature encumbered a search which sought those studies that contained facets or combinations of all three implications.

Thompson (1969) investigated teacher behavior and the helping relationship by incorporating students in the process of rating teachers. A total of 452 pupils in the seventh and eighth grades were requested to complete three instruments: (1) Relationship Inventory (Revised), (2) Pupil Rating of Teacher, and (3) the Social Distance Scale. Also included was the observation of the teachers by two raters using the Instrument for the Observation of Teaching Activities (IOTA). Two hypotheses were tested: (1) the quality of the interpersonal encounter is related to teacher effectiveness, and (2) the teacher sets the conditions for the quality of the relationship. That is, pupil characteristics are unrelated to their perception of their teacher. The results provide some support that the quality of the helping relationship is related to effectiveness. The research concluded that the perception of the pupil regarding the quality of the relationship is a crucial variable in the determination of effectiveness. This study was included
because it investigates Rogers' formulated theory or theoretical framework regarding effectiveness and the quality of human relationships. However, the results did not show that the teacher sets the conditions for the quality of the relationship. These findings do not deny the perceptual experience existing in the two-way communication. The study further alluded to the notion that "an effective teacher for one pupil may be ineffective for another pupil."

Rosen (1968) contended that teacher personality studies seldom investigate the psychological processes included in the elementary teachers' interpersonal relations with children. The researcher noted a contrast in the emotional tone of various classrooms. A study was directed toward understanding these contrasting relations with children. Thirty-eight women and six men were involved in the study. Analyses of teachers' written reports of their own childhood, their motivation to teach children, and their long-range career goals were included in the research. The forty-four subjects were in teacher education programs when the personality assessment data was obtained. All were full-time teachers at the time of classroom observations. The work included the assessment of teachers' emotional acceptance of their own childhood, and observations by professional educators, with follow-up interviews. The conclusions and implications were that there is reason to believe that it is possible to discover data which act as
reliable indicators of underlying psychological phenomena having to do with the ability to relate to children. This study was included because the researcher also uses an analysis of written protocols to identify certain processes. This particular study analyzed teachers' written descriptions and found affect words that revealed attitudes that reflect capacities to relate to children.

In the Combs and Soper (1969) study, the perceptual organizations of effective counselors were studied. Some of the unique features from that work will be incorporated into this study. Predictions were made based upon perceptual variables of how good counselors perceive others. Graduate research assistants rated perceptual inferences of graduate students preparing for positions as counselors. The results were scored and placed in rank order. Effectiveness ratings on the same students were then made by faculty members who had been responsible for supervising the counselors in preparation. All ratings and analysis were "blind." Rank order correlations were significant beyond the .01 level. The suggestions from this study are that the findings are highly significant and that there is a demand for further research.

Gooding (1969) applied the technique of employing perceptual organization inferred from observation and interviews in a study of effective and ineffective teachers. Effective and ineffective teachers were identified by
principals and curriculum co-ordinators from various elementary schools. Control variables were applied, i.e., teaching experience, with resulting statistical information finding no significant differences between means on any of the criterion variables. Seventy-seven subjects were asked to participate in "a study of effective teaching." The classifications resulted in nineteen effective and thirteen ineffective responding. Four judges were given special preparation in making perceptual inferences. Observations and interviews were rated by the judges, who had no previous knowledge of the teachers' classifications. Twenty perceptual variables were included in the rating sheets which were divided into two forms. Discriminant function analysis was employed and the data from inferences on observation yielded results which were significant at better than .01 level of confidence. Inferences on interviews were not so successful. The researcher concludes that "teacher education institutions will need to consider the question of attitudes and perceptions of teachers as significant aspects for the development of effective teachers."

Benton (1969) selected five perceptual characteristics to apply to clergymen and their pastoral counseling. Bishops of a diocese chose twenty effective pastors and twenty ineffective pastors using any criteria they desired, but not discussing the ratings with other bishops until after completion of the lists. Confidentiality was maintained, and
thirty-two priests met all criteria, seventeen effective and fifteen ineffective. Role-playing presentations were made incorporating pastoral problems. Responses were elicited from the participants and formed a protocol which could be judged or rated on the perceptual dimensions. Two subsequent means provided were the Picture Story Card, with the response involving how the pastor could minister to the people he composed a story about, and any three Pastoral Incidents the priest would like to refer to in which he considered himself doing an effective job. Responses were rated on all three procedures. Five hypotheses were tested comprised of the five perceptual characteristics applied by the bishops. The researcher accepted all five hypotheses at the .05 level of confidence. Reliability of the judges was also confirmed in the study. The findings supported the notion that perceptual organizations give understanding into helpful behaviors.

Dickman (1969) studies personality dimensions of student nurses in an effort to investigate possible differences in perceptual variables. Person-oriented and task-oriented types of relationships were the characteristics involved. The perceptual variables investigated were positive view of self, identification with others, and perceiving others as able. Sixty student nurses were selected. Four nursing instructors who had both taught and supervised each student were asked to identify person-oriented and
task-oriented groups of nurses. Defining task-oriented or person-oriented was done through an intensive preparation by the researcher. Each student had four ratings. The ratings were summed and twenty-three student nurses with high scores comprised the person-oriented group and seventeen student nurses with the lowest scores made up the task-oriented group. Using projection instruments, responses were obtained and analyzed. Judges were unaware of the subject groups to which student nurses had been assigned. Independent ratings were made by the judges and a rerating provided data on intra-judge reliability. Inter-judge reliability was estimated by an analysis of variance technique. An $r=0.72$ indicated high agreement among judges. A nonsignificant relationship between person-orientation and perceptual variables was reported. Even though the study does not show a significant relationship between perceptual organization and effectiveness as nurses, it is included because a clear relationship between perceptual organization and behavioral characteristics does exist, i.e., "self accepting persons tend to be more accepting of others."

Kerlinger and Pedhazer (1968) formulated a hypothesis that the "perceptions of the characteristics of the 'good' or effective teacher are in part determined by the perceiver's attitudes toward education." The authors maintain that those with progressive educational beliefs select person-oriented traits as desirables, and those individuals
with traditional education beliefs tend to select task-oriented traits as desirable. This earlier study may give some insight into the results of the Dickman study.

Usher (1969) investigated the relationship between college professors' ways of perceiving and their effectiveness ratings. Perceptual organizations were employed and research on faculty effectiveness was available. Twenty-five professors are included in the study. Effectiveness data consisted of Student Rating, Department Head Rating, Research and Publications, Professional Activities, Adjusted Total, and General Effectiveness Rating. The perceptual data involved three judges prepared to make inferences by discussion and practice observations. Preparation session data was found to be 83 per cent in agreement after eighteen hours of practice. Pearson Product-Moment correlations were computed to investigate the relationship between perceptual scores and effectiveness ratings. A consistency in correlation was reported regarding the "ways in which college faculty perceive themselves, other people, and their tasks." Effectiveness as rated by students, ratings on research and publications, and department head ratings reveal different aspects of effectiveness. Student ratings seem to determine effectiveness more clearly, but it probably deals specifically with classroom teaching competence. The fact that the sample was made up voluntarily caused some difficulty along with the objectivity of the effectiveness measures. No
significant relationship between the perceptual characteristics and the faculty effectiveness data was found other than student ratings.

Harvey, Prather, White, and Hoffmeister (1968) viewed belief systems in concrete and abstract concepts. By replicating the findings of an earlier study and testing certain assumptions, the researchers found that concreteness or abstractness of teachers' belief systems affect their overt behavior in the classroom. Also, teacher and student behavior was found to be significantly related. The authors contend that the results obtained in the study are directly related to the teachers' belief systems rather than the possible sociological correlates.

Fidelman (1962) attempted to apply some of the implications of the theory of open and closed belief systems to interpersonal perception. Presenting filmed interviews of strangers, ninety-six subjects who had scored at the extreme ends of a dogmatism scale, were asked to make certain predictions. These predictions revolved around personality characteristics. Experimental conditions were presented uniformly for control. Analysis of variances and t-tests were employed. The results concluded that the relatively closed subjects were significantly less accurate in their perceptions than were the relatively open subjects. The study also revealed that the closed subjects were more rejecting of the filmed persons. This research was included
because an insight into belief systems is a major consideration in this study.

Hamachek (1969) maintains that "there are clearly distinguishable characteristics associated with 'good' and 'bad' teachers." Stern (1963) admits: "It has become increasingly clear that we need to know more about what we do and how this affects the student, regardless of the reasons which might be given as to why we do them." Gage (1963) suggests that concepts from social psychology or from learning theory "be brought to bear on the question of why a teacher behaves the way he does." For those educators that can read the signs, a premium might possibly be placed upon some educational practice that emits a theory of awareness in interpersonal relationships and an insight into one's personal style in that relationship.

Summary

Studies which draw upon existential, phenomenological, and psychological implications are reviewed in this chapter. The studies which utilized combinations of these implications suggest that the quality of interpersonal human relationships contains meaningful perceptual experiences. These are either implicit, explicit, or both, regarding potential effectiveness in a helping relationship. The fact that many perceptual variables were identified in the various studies suggests that many are also similar in nature,
especially concerning effective versus ineffective helping relationships. Within each study an attempt was made to discriminate between two dissimilar behaviors, namely, effective and ineffective. While disagreement exists regarding the impact of variables on these behaviors, some relationship seems to be apparent across all of the research reviewed. In Chapter III, the methods and procedures included in this study are presented.
CHAPTER III

METHODS AND PROCEDURES

The determining considerations in this investigation are presented within this chapter. The setting actually is included within the various sections. The population is described followed by The Urban Teacher Education Project and the Inner-City Simulation. The Guidance Component is presented in detail with the succeeding section describing instrumentation. The methods and procedures employed in the ratings of effective helping behaviors are presented and immediately followed by a description of the treatment of the data.

Population.—The College of Education at The Ohio State University and the Cleveland Public Schools, both aware of the pressing need for better prepared teachers in the inner-city, initiated an Urban Teacher Education Project. The Dean of the College of Education sought out those students who were interested in such an endeavor. Several students responded and volunteered. The plea for interested students did not request only those enrolled in the College of Education. Twenty-three individuals accepted the challenge in the Autumn of 1969; thirty-two new student
volunteers followed for the Winter Quarter, 1970; and thirty-five for the Spring Quarter, 1970. The population for this study includes seventy-three of the students recruited from the Sophomore class. Although some students were listed on the official roles as Freshmen and Juniors, all participants closely approximated what is considered the "Sophomore" level in terms of the number of credits acquired. The ages of the participants range from the oldest at 32 years of age to the youngest at 18 years, with an average of 20 years.

The Urban Teacher Education Project.—Three elementary schools in the Cleveland inner-city became "teacher education centers." The Ohio State University Sophomores in the Urban Teacher Education Project were actively involved in the total school day as "Teacher Assistants." Henceforth, the subjects will be referred to as teacher assistants for the purpose of brevity, and the Urban Teacher Education Project, for similar purposes, will be referred to as the UTEP program. One day per week the teacher assistants were involved in community activities. The leadership for the "community experience" was engendered by a Cleveland businessman and university staff member. The community experiences provided included: home visitations with school attendance officers, visits to Neighborhood Community Centers, tours of U. S. Department of Labor Manpower Programs, activities in local elections at campaign
headquarters, visit with Chief Probation Officer of Criminal Court, visit Neighborhood Youth Centers, and an introduction and lecture by a Prime Minister of the Black Nationalist Party. All community activities were followed by group discussions.

The teacher assistants also attended university classes for credit three times per week. These sessions were held at noon and two nights after school hours. The usual number of credit hours were awarded upon successful completion of both the UTEP experience and required course work. Each teacher assistant received $13.00 per day in a bi-monthly pay check from the Cleveland Board of Education for services rendered. All UTEP participants were housed in a Cleveland hotel and were on their own in regard to their responsibilities to the University, the public schools and their social activities. A Graduate Assistant from The Ohio State University lived at the hotel and was a full-time counselor involved in the Guidance Component of the UTEP program. Another part-time UTEP staff member, an Elementary School Counselor living and working in the community, devoted time to the Guidance Component. This contribution was invaluable since a knowledge of the community provided much of the information needed to initiate cultural and social activity.

**Inner-City Simulation.**—The use of simulation materials will be employed in the study because of the
utilitarian nature of immediate written responses. From these written protocols, beliefs or perceptions are analyzed by scoring perceptual organizations. Each of the four incidents to be used provides a standardized setting in which the teacher assistants actually become research variables as they: (1) react to stress, and (2) display problem-solving or decision-making behavior.

The Inner-City Simulation Laboratory (1969) consists of filmed or written incidents which participants respond to in a special data book. The particular conditions simulated are taken from filming elementary classrooms in an actual inner-city school. Instructional simulation attempts to make the content of instruction more relevant by presenting lifelike situations. The incidents offered are engaging psychologically and this study will use the responses for the purpose of investigating potential helping relationships.

The teacher assistants were required to respond to many simulated incidents by assuming a teacher's role in a classroom. Four incidents were chosen and written responses became protocols rated in this study. The simulation was used as an orientation to teaching in the selected Cleveland Schools. Problem-solving and decision-making behaviors are evident as the participant puts into written words their personal reactions to a simulated situation. The four incidents selected included: (1) response to a child late
for school and very hungry, (2) response to a child failing to do assignments and refusing to remain after school to discuss the situation with the teacher, (3) response to a rather serious father-son argument where physical violence and threats of reprisal occur and complicate the situation, and (4) response to a very verbal "shut up" directed at the teacher. In each incident throughout the Inner-City Simulation, the participant is required to take the role of the teacher and respond to designated questions in the provided data book.

The I. C. S. Laboratory also includes such situations as the following: (1) "Orientation to Edison School" which involves a discussion with the school administrator; (2) an "Orientation to Urban Schools" which involves talks by administrators, teacher union officials, along with an overall introduction to the community; (3) insight into local agencies through dealing with the handicapped, (4) stealing in the classroom, (5) role playing involving parental concern, or the lack of concern, with grade reports; (6) standardized achievement tests, and many other everyday situations found in the average school. The feedback naturally varies from person-to-person, but the integration of theory into practice is a reality as the participant considers the behavior required of him personally. Complete elementary school cumulative records (K-6) containing progress records, test results, personal teacher comments,
and other pertinent information is included in the I. C. S. Laboratory. Also provided are such inserts as attendance reports, administrative memos, medical reports, discipline reports, and similar materials which add to the reality of the simulated classroom.

**Guidance Component of the UTEP Program.**—The Guidance Component was included in the Urban Teacher Education Project as a means of implementing the assessment of personal and professional development (Quaranta, 1969). Prior to actively working in the public schools of Cleveland, Ohio, the teacher assistants were administered a variety of instruments. These were to be interpreted at a later time during the UTEP experience. The full-time and part-time counselors, plus a visiting professor from the Department of Faculty and Special Services of The Ohio State University, assisted the teacher assistants with any of the difficulties encountered during the experience. A totally new living and working realm of experience brought out most of the adjustment demands for which the Guidance Component was designed and implemented.

Many of the difficulties were predictable, each of the diverse personalities reacting according to the nature of the demands the project presented. Some of the demands exceeded the adaptive potential of the participants and it became a learning experience as each in his own time began to realize that coping with stress is a never ending life
adjustment. The emotional states that arose were the usual anger, fear, and anxiety manifestations. The Guidance Component implemented by the counselors and staff provided both individual and group counseling. Further assistance was available from a full-time Ohio State University member in Guidance and Counselor Education who made weekly visits for large group instruction in Personal and Professional Development and to co-ordinate the entire Guidance Component. Professional personnel in the helping professions were identified in the community but never utilized because the need never arose.

The counseling experience brought about individual explorations of the teacher assistants' personal styles. The opportunities to examine the career and profession of teaching while on the job were numerous. The Guidance Component was a direct effort to allow the teacher assistants to investigate their own personal meanings from a sometimes "just manageable" experience. This approach to personal and professional development suggests several implications for self-evaluation and self-elimination in teacher education programs prior to Directed Teaching Experience of the Senior year. The prevention of reluctant teachers from entering the classroom atmosphere is of great importance to a humanistic approach in the preparation of teachers, and this model considers both personal fulfillment and society's needs.
Teachers in the various schools were soon located to assist in the Guidance Component. This occurred because of their interest in the UTEP program or because they were pursuing a degree in Guidance and Counseling in the surrounding educational institutions. This completed the communication factor envisioned in the original design of the Guidance Component. Five of the actual classroom teachers then became involved in taking the personality instruments and through interpretation by the UTEP counselors, experienced the same processes of self-investigation as did the teacher assistants. The excellent co-operation of the administrators and the Co-ordinator of Student Teachers is recognized as an active part in the successful fulfillment of the Guidance Component.

The instruments administered and interpreted to the teacher assistants are as follows:

- Edwards Personal Preference Schedule
- General Aptitude Test Battery
- Kuder Preference Record
- Myers-Briggs Type Indicator
- Mooney Problem Check List
- Ohio Vocational Interest Survey
- Rokeach Dogmatism Scale
- Strong Vocational Interest Blanks
- Torrance Tests of Creative Thinking

In addition, each participant was requested to furnish complete autobiographies, self-ratings, and peer ratings. Also the co-operating teachers were requested to rate the teacher assistants. This information was not used in grading the participants, but rather as an aid in their
educational, vocational, and personal development. The
trait-factor approach was not strictly adhered to in the
counseling process. The personal recognition of need struc­
tures, personality types, interests, and aptitudes, etc.,
was stressed, but it was a recognition of the existence of
all of these factors plus the implementation of the "self"
that was the goal of the Guidance Component.

Instrumentation

Four instruments administered pursuant to the Guidance
Component in the UTEP program were chosen from the battery
of instruments employed in the project. Selected were the
Edwards Personal Preference Schedule, the Myers-Briggs Type
Indicator, the Rokeach Dogmatism Scale and the Torrance Tests
of Creative Thinking. The selection of instruments is made
strictly from a personal interest in the design and the
variables measured.

Edwards Personal Preference Schedule.—The Edwards
Personal Preference Schedule (EPPS) was designed by Allen
L. Edwards and measures what the author calls normal person­
ality variables. Fifteen variables are included, their
names attributed to H. A. Murray (1938) and others. The
fifteen variables as listed in the EPPS manual are:

ach Achievement
def Deference
ord Order
exh Exhibition
aut Autonomy
aff Affiliation
Radcliffe's (1965) review of the EPPS discusses the evidence on the control of social desirability, the effects of ipsative scoring, and the evidence of validity. The criticism is leveled that the instrument's use in the testing of psychological hypotheses leaves something to be desired. However, the reviewer does commend the instrument as a research tool. Stricker (1965) mentions the EPPS and its popularity. Salient points concerning unforeseen limitations in construction, low intercorrelations of scales, test-retest reliability, and the excellence of the norms, are reviewed and critiqued. Validity data offered in the manual is labeled inadequate by the critic and he cites limitations due to "the statistical properties of ipsative scores." Stricker questions the construction of the EPPS because its focus is definitely not on the validity of the scales.

Edwards (1959) reports in the revised manual that the EPPS provides a test consistency measure along with a measure of profile stability. The instrument is made up of personality statements expressing scale values found on a continuum of social desirability resulting from the forced choice character in the items. The EPPS does not present results
which follow an ipso facto medical model or allude to psychiatric connotations.

Kerlinger (1964) comments that the EPPS is "a promising newer development in the measuring of needs" and believes the instrument useful in research concluding that it is "psychometrically satisfying."

**Myers-Briggs Type Indicator.**—Isabel Briggs Myers designed the instrument (MBTI) based upon Jung's (1923) theory of personality type. The author concurred that there is an orderly reason for personality differences by acknowledging diverse mental functions. Perception and judgment are considered to be entirely reasonable determinants of behavior. The theory lists independent preferences for perceiving (sensing or intuition) and two independent preferences for judging (thinking or feeling). Although considered completely independent, the resulting combinations, sensing plus thinking; sensing plus feeling; intuition plus feeling; and intuition plus thinking, produce different kinds of personalities according to the theory.

Jung also formulated two orientations to life, Extroversion and Introversion. The inner world of concepts and ideas (introvert), and the outer world of people and things (extrovert) are included as an integral part of the instrument. The remaining preference is between perceptive attitudes and judging attitudes as a way of life. The two choices are conversely related processes which the theorist
maintains govern one's life. Dominant and auxiliary processes are indicated and the development of each is an important part of any interpretation regarding personal effectiveness.

The following is an excerpt from the manual:

Creation of "Type" by Exercise of the Preferences

Under the theory presented here, personality is structured by these four preferences as to the use of perception and judgment:

<table>
<thead>
<tr>
<th>Perception as between</th>
<th>Affects individual's choice as to</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI Extroversion or Introversion</td>
<td>Whether to direct perception and judgment upon environment or world of ideas</td>
</tr>
<tr>
<td>SN Sensing or Intuition</td>
<td>Which of these two kinds of perception to rely on</td>
</tr>
<tr>
<td>TF Thinking or Feeling</td>
<td>Which of these two kinds of judgment to rely on</td>
</tr>
<tr>
<td>JP Judgment or Perception</td>
<td>Whether to use judging or perceptive attitude for dealing with environment</td>
</tr>
</tbody>
</table>

The "type" is considered by the theory to be that portion of the personality created by an individual through his choice and exercise of the four preferences. Actually, the four preferences combine to make possible sixteen (16) different "types." The basic qualities a person is likely to have is a result of choosing a preference. Caution in interpretation
is requested, but this may be said of any inventories attempting to obtain meaningful measures of personality.

Mendelsohn (1965) reviews the MBTI and discusses the Indicator in terms of its forced choice, self-report design. The critic cites the unusually large body of reliability and validity data available, and makes note that the inventory is "of considerable potential utility." The instrument's usefulness in personality research, especially regarding its relationship to measures of values and attitudes is a plus factor. The criticism is made that the assumed theoretical significance may not be proper within an individual personal interpretation.

Sundberg (1965) comments on the MBTI data providing evidence of the relationship of the scores on variables to success at certain jobs. Empirical relations of the inventory's scales are reported to be easily ascertained and insight into individual differences in cognitive preference may be gained by incorporating the instrument in research procedure. The complexity of construct validity remains according to the critic, but the suggestion is offered that the MBTI presents great possibilities regardless of the need for proof of certain explanatory constructs in Jungian theory.

Rokeach Dogmatism Scale.—The scale has as its fundamental purpose the measurement of openness and closedness in regard to belief systems. The belief system according to
Rokeach (1960), are those beliefs one verbalizes as well as those "countless other beliefs that he cannot verbalize." The author discusses these systems in terms of inferences from expressed behavior such as compulsive acts and expressive gestures. Further elaboration concerns belief-disbelief systems; that is, those subsystems that contain all conscious and unconscious beliefs accepted as true, and the subsystems of disbeliefs which are rejected as false. Predictions about behavior are deemed possible because of the "isolation or segregation of parts which describe their relationship" in a psychological system.

The scale generally measures authoritarianism and intolerance in a deductive manner. Statements appear on the scale and the individual responds by answering in terms of the extremes of agreement or disagreement. Ideological positions portraying particular characteristics are scored on a continuum. Agreement is scored as closed and disagreement as open, with the sum of scores on all items combined forming a total score on the scale.

Reliability is reported to range from .68 to .93. A number of revisions in the scale have been made to increase reliability and refine the instrument. Through item analysis, elimination of items made the Scale more satisfactory due to increased consistancy shown by significant statistical findings.
Torrance Tests of Creative Thinking.—The creativity tests are aimed at assessment of a natural human process and to define this creativity through an objective observation and measurement. The instruments are designed to recognize creative behavior, creative thinking abilities, and creative potential. Torrance's (1966) Norms-Technical Manual points out that he has attempted to provide a battery of figural and verbal activities that are recognized as paramount to creative achievement. The author broaches the questions of reliability by citing the nature of creative abilities and the problems of existing psychological states present during administration, including motivational factors. The traditionally estimated reliability may be lowered due to these factors, but the author claims an increase in usefulness in situations "designed to assess the influence of experimental methods." The question of validity is dealt with through the use of conceptualization. The concept involves the "qualities of the products resulting from a process of creativity." Content validity consists of an analysis of the lives of those creative persons whose performances are considered to be creative in every sense of the word. The behavior of these persons as children and young people are then used as a criterion to identify similar behavior in others.

The interpretation of scores on the TTCT consists of using T-scores based on fifth grade data which is said to be
satisfactory at all educational levels. The usual interpretation is based upon three verbal and four figural scores. Creative development is evaluated by relating scores to one another. Alternate forms are available for experimental designs.

*Ratings.*—Four graduate students enrolled in a counselor preparation program in Guidance and Counseling at Central Michigan University were asked to do ratings using the definitions of perceptual organizations presented in the Combs and Soper (1969) study. Twelve perceptual variables are defined in the work and will be used in this study. The categories are as follows:

A. With respect to their general perceptual orientation.

B. With respect to their perceptions of other people.

C. With respect to their perceptions of self.

D. With respect to purposes. (See Appendix G)

An eight hour workshop over a three day period was held to introduce the concept of perceptual analysis to the graduate students. The raters were requested not to discuss their findings until all ratings were completed. A statistical analysis is employed to test inter-rater reliability. The score sheet is based upon a seven point scale which includes all of the perceptual variables. (See Appendix A) The perceptions of the writers (teacher assistants) are rated and scored applying the notion of effectiveness in
"good" and "poor" helpers. The general perceptual orientation, perceptions of others, perceptions of self, and perceptions of purpose are scored by the raters. These scores make up the subscales which ultimately form the criterion measure.

**Data Analysis**

The criterion measure was derived from the raters' individual analyses of written responses to simulated classroom problems of elementary school children. Seventy-three teacher assistants are rated over four incidents. The analysis involves the rating of the perceptual organizations of the teacher assistants' written answers to "action" questions presented during the Inner-City Simulation experience. (See Appendix F)

**Statistical Procedure.**—A two-factor analysis of variance is employed to investigate the relative efficacy of the process of rating perceptual organizations. Interrater reliability is inferred by computing the F ratio for the raters, subjects, and interaction between raters and subjects. A random sample of twenty subjects was drawn from the population.

Stepwise regression is employed to compute a sequence of multiple linear regression equations. Each step adds an independent variable to a regression equation. The predictor (independent variable) which makes the greatest
reduction in the error sum of squares is added because it is the variable which has the highest partial correlation with the criterion measure (dependent variable). It is also the variable which has the highest F value.

The linear combinations (predictors) consist of fifteen EPPS scores, four MBTI scores, seven Torrance scores, and one Rokeach score. The criterion measure consists of the four perceptual reference subscores and a composite total score.

Means and standard deviations for all variables were derived. A correlation matrix was generated for all variables and Pearson product-moment correlations were tested for significance at the .05 and .01 levels of confidence, with 71 degrees of freedom. The stepwise regression solved the subproblem for the criterion measure involving seventy-three subjects and twenty-seven variables. An F test was applied to the multiple correlation. The findings are reported in Chapter IV of this study.
CHAPTER IV

FINDINGS

The problem of this study is to examine the relation between a phenomenological criterion rating of potential effectiveness in the helping relationship and certain non-cognitive measurements. Answers to specific questions were sought by examining the findings of the investigation. Fundamentally the study makes three inquiries: (1) What is the nature of the phenomenological criterion scores obtained? (2) How are these data related to personality variables? and (3) What implications can be drawn for Teacher Education Programs?

Problematically, it is necessary to first ascertain whether or not the raters could agree in scoring the perceptual categories. The raters were asked to score the entire population, rating twelve perceptual variables in each of the four incidents.

Inter-rater reliability findings are reported by computing an analysis of variance. The actual reliability is determined by arriving at a correlation between the raters. It is necessary to find the variance between subjects and an error term (interaction between subjects and
scorers). F ratios may be obtained by dividing both numerator and denominator by the error term.

Twenty numbers were selected from the population and the principle of randomization was applied to the investigation of inter-rater reliability. The sample size actually increases fourfold since each sample contains four individual protocols which are scored by the raters. Calculating scores across the score sheets, totals are obtained which make up subscores. Subscore A refers to general perceptual orientation; Subscore B to the perceptions of others; Subscore C to perceptions of self; and Subscore D to purposes. (See Appendix A) The assumptions that the population is normally distributed, the scores were sampled at random, the four raters are independent, and the variances are equal have been met and followed by the application of a two factor analysis of variance. Table 1 reveals that all subscores correlate .91 or better. Correlations of such magnitude suggest that the subscores are indiscriminate and that the total score can be used in the two factor analysis of variance. Evidently there are fewer criteria related to effectiveness than suspected.

Table 2 reveals the findings of the analysis of variance applied to arrive at inter-rater reliability. Upon finding that the perceptual variables did indeed overlap, it was decided to use only the total score in the random model. This technique has been reported by Murstein (1965)
### TABLE 1
**CRITERION MEASURE CORRELATION COEFFICIENTS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Subscore A</th>
<th>Subscore B</th>
<th>Subscore C</th>
<th>Subscore D</th>
<th>Composite Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscore A</td>
<td>1.000</td>
<td>0.921</td>
<td>0.932</td>
<td>0.948</td>
<td>0.970</td>
</tr>
<tr>
<td>Subscore B</td>
<td>1.000</td>
<td>0.915</td>
<td>0.950</td>
<td>0.975</td>
<td></td>
</tr>
<tr>
<td>Subscore C</td>
<td>1.000</td>
<td>0.930</td>
<td>0.966</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subscore D</td>
<td>1.000</td>
<td></td>
<td></td>
<td>0.984</td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N=20

### TABLE 2
**TWO-FACTOR ANALYSIS OF VARIANCE FOR INTER-RATER RELIABILITY**

<table>
<thead>
<tr>
<th>Term Name</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Raters</td>
<td>7601.34</td>
<td>3</td>
<td>2533.78</td>
<td></td>
</tr>
<tr>
<td>B Subjects</td>
<td>69125.44</td>
<td>19</td>
<td>3638.18</td>
<td>10.10</td>
</tr>
<tr>
<td>AB Raters x Subjects</td>
<td>20507.41</td>
<td>57</td>
<td>359.78</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>97234.29</td>
<td>79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*N=20
as a procedure in establishing scorer reliability. Table 2 reveals the F ratio obtained by this method. The application of the formula follows:

\[ F = \frac{MS_{\text{between subjects}}}{MS_{\text{subjects} \times \text{raters}}} \]

F = 3638 \quad F = 10.1

\[ r_{RR} = \frac{F-1}{F} = \frac{10.1-1}{10.1} = \frac{9.1}{10.1} = r_{RR} = .90 \]

Having established a .90 correlation between raters, the remainder of the study involves responses to the inquiries related to the investigation.

The first major research question presented previously in this study inquires as to the nature of the data obtained. Originally, it was decided to use each of the subscores in the stepwise regression. However, upon completion of intercorrelations between the subscores, there was reason to believe that the four subscores were not independent of each other.

Question #1: What is the nature of the phenomenological criterion data obtained?

The analysis of the correlation of the subscores to each other revealed little discrimination between the ratings. That is, it is obvious that the variables overlap. Discreet perceptual characteristics used in determining the effectiveness of "good" and "poor" helpers are not evident in one subscale more than another. Combs (1969) on this point, indicated that the number of truly discreet perceptual
characteristics involved in the discrimination of effective and ineffective helpers may be comparatively few.

Table 3 provides the subjects' composite total scores. No consideration was given to race, age, or sex. These scores constitute the composite totals over four incidents by four separate raters judging four perceptual organizations. (See Appendixes A, B, C, D, E, F) The composite scores make up a total of over 14,000 independent ratings of perceptual variables, or approximately 3,500 by each rater. Table 4 reveals the mean and standard deviation for the composite scores of 73 subjects. The totals range from a high of 901 to the low of 394. Low scores are indicative of "good" helpers or the more effective helpers.

Summary

There is reason to believe that the nature of the criterion data obtained reveals that in rating perceptual organizations, a general frame of reference, perceptions of other people, perceptions of self, and perceptions of the task, cannot be separated from one another. Analysis of the data reveals that these categories cannot be considered as discreet variables in the determination of effective and ineffective helpers. High and low total composite scores, or any of the subscale total scores might be used in attempting to distinguish between effectiveness and ineffectiveness.
### TABLE 3
SUBJECTS' COMPOSITE TOTAL SCORES*

<table>
<thead>
<tr>
<th>Subject Number</th>
<th>Raw Score</th>
<th>Subject Number</th>
<th>Raw Score</th>
<th>Subject Number</th>
<th>Raw Score</th>
<th>Subject Number</th>
<th>Raw Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>518</td>
<td>19</td>
<td>620</td>
<td>37</td>
<td>522</td>
<td>55</td>
<td>303</td>
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<td>2</td>
<td>643</td>
<td>20</td>
<td>676</td>
<td>38</td>
<td>643</td>
<td>56</td>
<td>570</td>
</tr>
<tr>
<td>3</td>
<td>755</td>
<td>21</td>
<td>534</td>
<td>39</td>
<td>634</td>
<td>57</td>
<td>668</td>
</tr>
<tr>
<td>4</td>
<td>644</td>
<td>22</td>
<td>677</td>
<td>40</td>
<td>701</td>
<td>58</td>
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<td>5</td>
<td>818</td>
<td>23</td>
<td>647</td>
<td>41</td>
<td>652</td>
<td>59</td>
<td>785</td>
</tr>
<tr>
<td>6</td>
<td>698</td>
<td>24</td>
<td>759</td>
<td>42</td>
<td>710</td>
<td>60</td>
<td>538</td>
</tr>
<tr>
<td>7</td>
<td>394</td>
<td>25</td>
<td>509</td>
<td>43</td>
<td>756</td>
<td>61</td>
<td>670</td>
</tr>
<tr>
<td>8</td>
<td>662</td>
<td>26</td>
<td>698</td>
<td>44</td>
<td>612</td>
<td>62</td>
<td>640</td>
</tr>
<tr>
<td>9</td>
<td>612</td>
<td>27</td>
<td>632</td>
<td>45</td>
<td>901</td>
<td>63</td>
<td>616</td>
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<tr>
<td>10</td>
<td>589</td>
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<td>669</td>
<td>46</td>
<td>862</td>
<td>64</td>
<td>607</td>
</tr>
<tr>
<td>11</td>
<td>667</td>
<td>29</td>
<td>483</td>
<td>47</td>
<td>480</td>
<td>65</td>
<td>728</td>
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<td>12</td>
<td>733</td>
<td>30</td>
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<td>48</td>
<td>567</td>
<td>66</td>
<td>585</td>
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<td>13</td>
<td>580</td>
<td>31</td>
<td>759</td>
<td>49</td>
<td>784</td>
<td>67</td>
<td>589</td>
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<td>587</td>
<td>32</td>
<td>717</td>
<td>50</td>
<td>694</td>
<td>68</td>
<td>643</td>
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<tr>
<td>15</td>
<td>678</td>
<td>33</td>
<td>825</td>
<td>51</td>
<td>586</td>
<td>69</td>
<td>660</td>
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<td>16</td>
<td>776</td>
<td>34</td>
<td>584</td>
<td>52</td>
<td>710</td>
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<td>17</td>
<td>649</td>
<td>35</td>
<td>570</td>
<td>53</td>
<td>664</td>
<td>71</td>
<td>566</td>
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<tr>
<td>18</td>
<td>575</td>
<td>36</td>
<td>638</td>
<td>54</td>
<td>750</td>
<td>72</td>
<td>487</td>
</tr>
</tbody>
</table>

* N=73

### TABLE 4
MEAN AND STANDARD DEVIATION OF CRITERION MEASURE*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness as a Helper</td>
<td>649.39</td>
<td>97.33</td>
</tr>
</tbody>
</table>

* N=73
The range of scores might be accounted for by the diversity of individual perceptions and the diversity of the four incidents from the Inner-City Simulation. It appears as though the simulation experience provided the subjects an opportunity to somewhat clearly identify something about their personal styles in attempting to solve problems or make decisions.

Research question two inquires as to the relationship between the subjects' scores on the various personality instruments and the criterion measure.

Question #2: How are these data related to personality variables obtained from the following instruments?

- Edwards Personal Preference Schedule
- Myers-Briggs Type Indicator
- Rokeach Dogmatism Scale
- Torrance Tests of Creative Thinking

Relationships among predictor variables and between single predictor variables and the criterion variable are presented in this chapter. Means and standard deviations of all the variables used in this study are deemed important to such an investigation and are included in the study. The means and standard deviations of the EPPS variables and Dogmatism variable are presented in Tables 5 and 6. Tables 7 and 8 contain the means and standard deviations of the MBTI variables and the TTCT variables.
### TABLE 5
MEANS AND STANDARD DEVIATIONS OF EPPS VARIABLES*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement</td>
<td>49.72</td>
<td>25.04</td>
</tr>
<tr>
<td>Deference</td>
<td>45.41</td>
<td>24.42</td>
</tr>
<tr>
<td>Order</td>
<td>45.41</td>
<td>26.37</td>
</tr>
<tr>
<td>Exhibition</td>
<td>50.52</td>
<td>24.99</td>
</tr>
<tr>
<td>Autonomy</td>
<td>62.00</td>
<td>23.42</td>
</tr>
<tr>
<td>Affiliation</td>
<td>50.10</td>
<td>25.31</td>
</tr>
<tr>
<td>Intraception</td>
<td>55.91</td>
<td>22.29</td>
</tr>
<tr>
<td>Succorance</td>
<td>56.86</td>
<td>24.59</td>
</tr>
<tr>
<td>Dominance</td>
<td>43.21</td>
<td>23.23</td>
</tr>
<tr>
<td>Abasement</td>
<td>52.31</td>
<td>26.05</td>
</tr>
<tr>
<td>Nurturance</td>
<td>59.24</td>
<td>23.45</td>
</tr>
<tr>
<td>Change</td>
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<tr>
<td>Heterosexuality</td>
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<td>Aggression</td>
<td>53.60</td>
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</table>

*N=73

### TABLE 6
MEAN AND STANDARD DEVIATION OF DOGMATISM SCALE VARIABLES*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
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</thead>
<tbody>
<tr>
<td>Dogmatism</td>
<td>137.73</td>
<td>24.09</td>
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</table>

*N=73
## TABLE 7
MEANS AND STANDARD DEVIATIONS OF MBTI VARIABLES *

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion - Introversion</td>
<td>97.71</td>
<td>17.20</td>
</tr>
<tr>
<td>Sensing - Intuition</td>
<td>100.53</td>
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</tr>
<tr>
<td>Thinking - Feeling</td>
<td>109.16</td>
<td>15.69</td>
</tr>
<tr>
<td>Judging - Perceiving</td>
<td>103.08</td>
<td>20.38</td>
</tr>
</tbody>
</table>

*N=73

## TABLE 8
MEANS AND STANDARD DEVIATIONS OF TORRANCE VARIABLES *

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Fluency</td>
<td>58.15</td>
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<td>Verbal Flexibility</td>
<td>77.63</td>
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<td>Verbal Originality</td>
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<td>Figural Fluency</td>
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<td>Figural Flexibility</td>
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<td>Figural Originality</td>
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<tr>
<td>Figural Elaboration</td>
<td>61.10</td>
<td>15.68</td>
</tr>
</tbody>
</table>

*N=73
Single variable correlations. — Relationships among variables are presented in Tables 9 through 18, respectively. As shown in Table 9, intercorrelations of EPPS variables among themselves are presented. Achievement correlates positively at the .01 level of confidence with exhibition, and at the .05 level with heterosexuality and aggression. However, achievement correlates negatively at the .01 level with the manifest need for affiliation and nurturance, and negatively at the .05 level with abasement. The second variable, deference, correlates positively at the .01 level with order, and negatively with autonomy and heterosexuality. Deference also correlates negatively with change at the .05 level of confidence. Order correlates positively at the .01 level with endurance and heterosexuality, and negatively at the same level with autonomy and change. Exhibition was found to correlate negatively with affiliation and nurturance at the .01 level of confidence.

Autonomy correlates positively with heterosexuality at the .05 level, and negatively with abasement at the .01 level. The manifest need for affiliation correlates positively with nurturance at the .01 level, and with abasement at the .05 level. Negative correlations with aggression were found at the .01 level, and with dominance at the .05 level of confidence. A positive correlation at the .05 level was found between intraception and nurturance, while negative correlations at the same level were found with
### TABLE 9
INTERCORRELATIONS OF EPPS VARIABLES

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<th>exh</th>
<th>aut</th>
<th>aff</th>
<th>int</th>
<th>suc</th>
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</thead>
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<td>.122</td>
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<td>.053</td>
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<td>.195</td>
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<td>1.000</td>
<td>1.000</td>
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</tbody>
</table>

* *r(p < .05) = .232
** *r(p < .01) = .302

df 71
<table>
<thead>
<tr>
<th></th>
<th>dom</th>
<th>aba</th>
<th>nur</th>
<th>chg</th>
<th>end</th>
<th>het</th>
<th>agg</th>
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<tr>
<td>ach</td>
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<td>-.406**</td>
<td>-.113</td>
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<td>.251*</td>
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<tr>
<td>def</td>
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<td>.100</td>
<td>.032</td>
<td>-.280*</td>
<td>.127</td>
<td>-.386**</td>
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<td>-.520**</td>
<td>.329**</td>
<td>.351**</td>
<td>.135</td>
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<td>.151</td>
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<td>-.202</td>
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<td>.206</td>
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<td>.243*</td>
<td>.477**</td>
<td>.018</td>
<td>.058</td>
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<td>-.589**</td>
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<td>.265*</td>
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<td>-.120</td>
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<td>.043</td>
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</tr>
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</table>

* $r(p < .05) = .232$

** $r(p < .01) = .302$

df 71
dominance and aggression. Succorance correlated negatively with endurance at the .01 level and dominance at the .05 level of confidence.

Dominance correlated positively with nurturance at the .01 level and positively with abasement and heterosexuality at the .05 level. The need for abasement correlated positively with nurturance, but negatively with heterosexuality and aggression at the .05 level of confidence. Nurturance correlated negatively at the .05 level with aggression to complete the statistically significant intercorrelations of the EPPS variables.

Table 10 reveals the intercorrelations of the EPPS and the MBTI variables. The EPPS manifest need for order correlates negatively at the .01 level of significance for both sensing-intuition and judging-perceiving. EPPS autonomy correlates positively with MBTI judging-perceiving at the .01 level. The EPPS intraception variable was found to correlate negatively at the .05 level with the thinking-feeling variable. Dominance correlated negatively with the MBTI variable extraversion-introversion at the .01 level. The EPPS change variable was found to correlate positively with sensing-intuition at the .05 level of confidence. EPPS endurance correlated negatively at the .01 level with judging-perceiving.

As shown in Table 11, the intercorrelations of the EPPS and TTCT variables are revealed. No correlations were
### Table 10

**Intercorrelations of EPPS and MBTI Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>MBTI Extraversion-Introversion</th>
<th>MBTI Sensing-Intuition</th>
<th>MBTI Thinking-Feeling</th>
<th>MBTI Judging-Perceiving</th>
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</thead>
<tbody>
<tr>
<td>EPPS Achievement</td>
<td>-.030</td>
<td>.109</td>
<td>-.114</td>
<td>.033</td>
</tr>
<tr>
<td>EPPS Deference</td>
<td>-.104</td>
<td>.007</td>
<td>.111</td>
<td>-.207</td>
</tr>
<tr>
<td>EPPS Order</td>
<td>.154</td>
<td>-.490**</td>
<td>-.003</td>
<td>-.412**</td>
</tr>
<tr>
<td>EPPS Exhibition</td>
<td>.029</td>
<td>-.118</td>
<td>.092</td>
<td>.088</td>
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<tr>
<td>EPPS Autonomy</td>
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<td>.210</td>
<td>-.114</td>
<td>.349**</td>
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<tr>
<td>EPPS Affiliation</td>
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<td>.019</td>
<td>.114</td>
<td>-.074</td>
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<tr>
<td>EPPS Intraception</td>
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<td>-.249*</td>
<td>.090</td>
</tr>
<tr>
<td>EPPS Succorance</td>
<td>.128</td>
<td>-.092</td>
<td>.121</td>
<td>.016</td>
</tr>
<tr>
<td>EPPS Dominance</td>
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<td>-.104</td>
<td>-.030</td>
<td>-.040</td>
</tr>
<tr>
<td>EPPS Abasement</td>
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<td>-.111</td>
<td>.026</td>
<td>-.103</td>
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<td>EPPS Nurturance</td>
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<td>.132</td>
<td>.056</td>
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<td>EPPS Change</td>
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<td>.237*</td>
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<td>.151</td>
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<td>EPPS Endurance</td>
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<td>-.054</td>
<td>-.320**</td>
</tr>
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<td>EPPS Heterosexuality</td>
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<td>-.077</td>
<td>.009</td>
<td>.078</td>
</tr>
<tr>
<td>EPPS Aggression</td>
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<td>-.015</td>
<td>-.087</td>
<td>.067</td>
</tr>
</tbody>
</table>

\*_{r(p < .05)} = .232  \quad **_{r(p \leq .01)} = .302  \quad df 71
<table>
<thead>
<tr>
<th>Variables</th>
<th>Torrance Verbal Fluency</th>
<th>Torrance Verbal Flexibility</th>
<th>Torrance Verbal Originality</th>
<th>Torrance Figural Fluency</th>
<th>Torrance Figural Flexibility</th>
<th>Torrance Figural Originality</th>
<th>Torrance Figural Elaboration</th>
</tr>
</thead>
<tbody>
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<td>.156</td>
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<td>.077</td>
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<tr>
<td>EPPS Deference</td>
<td>.007</td>
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<td>.046</td>
<td>.161</td>
<td>.145</td>
<td>.119</td>
<td>.017</td>
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<td>EPPS Order</td>
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<td>-.161</td>
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<td>.141</td>
<td>-.014</td>
<td>.103</td>
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<tr>
<td>EPPS Exhibition</td>
<td>-.179</td>
<td>-.117</td>
<td>-.057</td>
<td>-.165</td>
<td>-.171</td>
<td>-.068</td>
<td>-.196</td>
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<tr>
<td>EPPS Autonomy</td>
<td>.000</td>
<td>.033</td>
<td>.099</td>
<td>.029</td>
<td>-.069</td>
<td>.093</td>
<td>-.076</td>
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<td>-.090</td>
<td>-.162</td>
<td>.032</td>
<td>-.009</td>
<td>-.101</td>
<td>.044</td>
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<tr>
<td>EPPS Intraception</td>
<td>-.092</td>
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<td>-.109</td>
<td>-.084</td>
<td>-.144</td>
<td>-.172</td>
<td>-.074</td>
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<tr>
<td>EPPS Succorance</td>
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<td>-.111</td>
<td>.071</td>
<td>.039</td>
<td>.005</td>
<td>.154</td>
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<tr>
<td>EPPS Dominance</td>
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<td>.201</td>
<td>.071</td>
<td>.067</td>
<td>.179</td>
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<td>-.090</td>
<td>-.049</td>
<td>-.007</td>
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<td>-.004</td>
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<td>-.071</td>
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<td>.049</td>
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\*r(p<.05) = .232  
**r(p<.01) = .302

df 71
found at the .01 level of confidence. Two positive correlations were found between EPPS change and TTCT verbal fluency and figural elaboration. A negative correlation was revealed between EPPS nurturance and TTCT verbal originality.

Table 12 reveals the intercorrelations of the EPPS variables and the Rokeach Dogmatism Scale scores. EPPS order correlates positively at the .01 level while autonomy correlates negatively at the .05 level and change negatively at the .01 level of confidence. Only these three EPPS variables were found to be statistically significant intercorrelations.

The intercorrelations of the MBTI variables are presented in Table 13. One positive correlation is revealed at the .01 level, sensing-intuition and judging-perceiving. No other correlations exist in the matrix.

The intercorrelations of the MBTI and TTCT variables appear in Table 14. Four significant correlations occur. Extravert-introvert correlates positively with verbal fluency at the .01 level. Sensing-intuition also correlates positively at the .01 level, but with verbal originality. Negative correlations are revealed at the .05 level, judging-perceiving with verbal fluency and figural elaboration.

Table 15 discloses a single intercorrelation of MBTI variables with Rokeach Dogmatism Scale scores. A negative correlation appears at the .05 level with sensing-intuition.
<table>
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<td>EPPS Order</td>
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<tr>
<td>EPPS Exhibition</td>
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<tr>
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<tr>
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<td>EPPS Succorance</td>
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<td>EPPS Dominance</td>
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<tr>
<td>EPPS Abasement</td>
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<td>EPPS Nurturance</td>
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<tr>
<td>EPPS Change</td>
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<td>EPPS Endurance</td>
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<td>EPPS Heterosexuality</td>
<td>-.157</td>
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<tr>
<td>EPPS Aggression</td>
<td>-.023</td>
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</table>

*r(p<.05)=.232
**r(p<.01)=.302
df 71
<table>
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<tr>
<th>Variables</th>
<th>Extravert Introvert</th>
<th>Sensing Intuition</th>
<th>Thinking Feeling</th>
<th>Judging Perceiving</th>
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<td>-.013</td>
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<tr>
<td>Judging - Perceiving</td>
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<td></td>
<td></td>
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* \( r(p < .05) = .232 \)

** \( r(p < .01) = .302 \)

df 71
### TABLE 14
INTERCORRELATIONS OF MBTI AND TORRANCE VARIABLES

<table>
<thead>
<tr>
<th>Variables</th>
<th>Torrance Verbal Fluency</th>
<th>Torrance Verbal Flexibility</th>
<th>Torrance Verbal Originality</th>
<th>Torrance Figural Fluency</th>
<th>Torrance Figural Flexibility</th>
<th>Torrance Figural Originality</th>
<th>Torrance Figural Elaboration</th>
</tr>
</thead>
<tbody>
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<td>-0.009</td>
<td>0.025</td>
<td>0.142</td>
<td>-0.034</td>
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<tr>
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<td>-0.096</td>
<td>-0.209</td>
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<td>0.009</td>
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<tr>
<td>MBTI Judging-Perceiving</td>
<td>-0.253*</td>
<td>-0.113</td>
<td>0.093</td>
<td>-0.096</td>
<td>-0.098</td>
<td>0.053</td>
<td>-0.244*</td>
</tr>
</tbody>
</table>

* r(p < .05) = .232
** r(p < .01) = .302

df 71
<table>
<thead>
<tr>
<th>Variables</th>
<th>Dogmatism Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion-Introversion</td>
<td>-.131</td>
</tr>
<tr>
<td>Sensing-Intuition</td>
<td>-.269*</td>
</tr>
<tr>
<td>Thinking-Feeling</td>
<td>.064</td>
</tr>
<tr>
<td>Judging-Perceiving</td>
<td>-.115</td>
</tr>
</tbody>
</table>

* $r(p < .05) = .232$
** $r(p < .01) = .302$

$df = 71$
Intercorrelations of TTCT variables are furnished in Table 16. All statistically significant findings are positive correlations at both the .01 and .05 levels. Those variables that do not reach significance are also positive. Only verbal flexibility and figural fluency, plus verbal originality and figural elaboration do not correlate significantly. Table 17 reveals only one intercorrelation of TTCT variables and Rokeach Dogmatism Scale scores. A negative correlation at the .01 level of significance with verbal originality occurs.

The intercorrelation of the predictor variables with the criterion measure (Potential Effectiveness Rating Variable) is revealed in Table 18. Only the EPPS change variable appears to correlate significantly.

Multiple Correlation Findings.—Table 19 reveals the multiple correlations of the predictors with the criterion measure. The amount of controlled variance enters into the interpretation; that is, the amount of variance of the criterion that the multiple predictors actually control. In the application of stepwise regression, all predictors contribute something to the criterion. All twenty-seven predictors are involved in the sequence of multiple linear regression equations in a stepwise manner. One variable is added to the equation for each step. The variable added is the one that makes the greatest reduction in the error sum
### TABLE 16
INTERCORRELATIONS OF TORRANCE VARIABLES

<table>
<thead>
<tr>
<th>Variables</th>
<th>Verbal Fluency</th>
<th>Verbal Flexibility</th>
<th>Verbal Originality</th>
<th>Figural Fluency</th>
<th>Figural Flexibility</th>
<th>Figural Originality</th>
<th>Figural Elaboration</th>
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</thead>
<tbody>
<tr>
<td>Verbal Fluency</td>
<td>1.000</td>
<td>.836**</td>
<td>.494*</td>
<td>.262*</td>
<td>.274*</td>
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<td>.331**</td>
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<tr>
<td>Verbal Flexibility</td>
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<td>.566*</td>
<td>.201</td>
<td>.241*</td>
<td>.416**</td>
<td>.294*</td>
<td></td>
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<tr>
<td>Verbal Originality</td>
<td>1.000</td>
<td>.242*</td>
<td>.282*</td>
<td>.540**</td>
<td>.158</td>
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<td></td>
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<tr>
<td>Figural Fluency</td>
<td>1.000</td>
<td>.242*</td>
<td>.915**</td>
<td>.502**</td>
<td>.328**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Figural Flexibility</td>
<td>1.000</td>
<td>.915**</td>
<td>.471**</td>
<td>.325**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Figural Originality</td>
<td>1.000</td>
<td>.174</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Figural Elaboration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*r(p< .05)= .232  
**r(p< .01)= .302  
*df 71*
**TABLE 17**

INTERCORRELATIONS OF TORRANCE VARIABLES AND DOGMATISM SCALE SCORES

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dogmatism</th>
</tr>
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<tbody>
<tr>
<td>Verbal Fluency</td>
<td>-.114</td>
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<tr>
<td>Verbal Flexibility</td>
<td>-.120</td>
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<tr>
<td>Verbal Originality</td>
<td>-.303**</td>
</tr>
<tr>
<td>Figural Fluency</td>
<td>.166</td>
</tr>
<tr>
<td>Figural Flexibility</td>
<td>.159</td>
</tr>
<tr>
<td>Figural Originality</td>
<td>-.010</td>
</tr>
<tr>
<td>Figural Elaboration</td>
<td>-.013</td>
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</tbody>
</table>

*\( r(p < .05) = .232\)

**\( r(p < .01) = .302\)**

\( df 71 \)
<table>
<thead>
<tr>
<th>Variables</th>
<th>Effectiveness Rating</th>
</tr>
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<tbody>
<tr>
<td>MBTI Extraversion - Introversion</td>
<td>-.167</td>
</tr>
<tr>
<td>MBTI Sensing - Intuition</td>
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<td>MBTI Thinking - Feeling</td>
<td>-.123</td>
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<tr>
<td>MBTI Judging - Perceiving</td>
<td>.026</td>
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<tr>
<td>TTCT Verbal Fluency</td>
<td>-.191</td>
</tr>
<tr>
<td>TTCT Verbal Flexibility</td>
<td>-.132</td>
</tr>
<tr>
<td>TTCT Verbal Originality</td>
<td>-.146</td>
</tr>
<tr>
<td>TTCT Figural Fluency</td>
<td>-.040</td>
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<tr>
<td>TTCT Figural Flexibility</td>
<td>-.050</td>
</tr>
<tr>
<td>TTCT Figural Originality</td>
<td>-.156</td>
</tr>
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<td>TTCT Figural Elaboration</td>
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<tr>
<td>EPPS Achievement</td>
<td>-.084</td>
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<tr>
<td>EPPS Deference</td>
<td>-.185</td>
</tr>
<tr>
<td>EPPS Order</td>
<td>-.192</td>
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<tr>
<td>EPPS Exhibition</td>
<td>-.126</td>
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<tr>
<td>EPPS Autonomy</td>
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<tr>
<td>EPPS Affiliation</td>
<td>-.078</td>
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<tr>
<td>EPPS Intraception</td>
<td>-.032</td>
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<tr>
<td>EPPS Succorance</td>
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<td>EPPS Dominance</td>
<td>.081</td>
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<tr>
<td>EPPS Abasement</td>
<td>.089</td>
</tr>
<tr>
<td>EPPS Nurturance</td>
<td>.042</td>
</tr>
<tr>
<td>EPPS Change</td>
<td>.243*</td>
</tr>
<tr>
<td>EPPS Endurance</td>
<td>-.137</td>
</tr>
<tr>
<td>EPPS Heterosexuality</td>
<td>.212</td>
</tr>
<tr>
<td>EPPS Aggression</td>
<td>.029</td>
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<tr>
<td>RDS Scale Score</td>
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*Significant at the .05 level
<table>
<thead>
<tr>
<th>Predictors</th>
<th>R</th>
<th>Percent of Variance Accounted For</th>
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<tbody>
<tr>
<td>EPPS Change</td>
<td>.243**</td>
<td>5.92</td>
</tr>
<tr>
<td>EPPS Change</td>
<td>.354**</td>
<td>12.54</td>
</tr>
<tr>
<td>TTCT Verbal Fluency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPPS Change</td>
<td>.389**</td>
<td>15.20</td>
</tr>
<tr>
<td>TTCT Verbal Fluency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPPS Heterosexuality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPPS Change</td>
<td>.418**</td>
<td>17.53</td>
</tr>
<tr>
<td>TTCT Verbal Fluency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPPS Heterosexuality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPPS Abasement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at .05 level
**Significant at .01 level
of squares. Those variables that were not forced into the equation are automatically removed when their F values are too low.

The maximum variance controlled by the predictors on the criterion was 33.43 percent. The remaining 66.57 percent could not be accounted for by any combination of the twenty-seven predictors. It was revealed that the first four predictors accounted for slightly over half of the amount of accountable variance. It was therefore decided to list the first four variables indicated by the stepwise regression. Obviously, the remaining twenty-three variables account for the remainder of the variances.

Table 19 also discloses the multiple correlations of the four predictors which control over half of the variance of the criterion measure, namely the Potential Effectiveness Rating Variable. Noticeably EPPS change TTCT verbal fluency, EPPS heterosexuality, and EPPS abasement accounted for 17.53 percent of the 33.43 percent of controlled variances. The remaining 15.90 percent of the controlled variance was accounted for by the remaining twenty-three variables.

The EPPS change variable accounted for 5.92 percent of the controlled variance, while this variable, when combined with TTCT verbal fluency, controlled 12.54 percent. Adding EPPS heterosexuality accounts for 15.20 percent of the controlled variance. EPPS abasement raised the percentage to 17.53.
If the reader uses Table 9 as a reference, he will note that EPPS abasement correlates negatively with EPPS change and EPPS heterosexuality. Likewise, Table 11 reveals a negative correlation between EPPS abasement and TTCT verbal fluency. Table 18 shows a positive correlation between EPPS abasement and the criterion measure. A negative beta coefficient disclosed that EPPS abasement is functioning as a suppression variable. According to Guilford (1965), a suppression variable in a regression equation "suppresses in other independent variables whatever variance is not represented in the criterion but which may be in some variable that does not otherwise correlate with the criterion." EPPS abasement has raised the correlations between EPPS change, EPPS heterosexuality, TTCT verbal fluency, and the criterion measure.

Edwards (1959) describes EPPS change as the need to do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, and to participate in new fads and fashions. EPPS heterosexuality refers to a need to go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite
of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, and to have things arranged so that they run smoothly without change. EPPS endurance is described as the manifest need to keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up later working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, and to avoid being interrupted while at work. (See Appendix H)

Torrance (1966) defines the TTCT verbal originality score as representing "the subject's ability to produce ideas that are away from the obvious, commonplace, banal, or established. The person who achieves a high score on verbal originality usually has available a great deal of intellectual energy and may be perceived as rather nonconforming." TTCT verbal flexibility score "represents a person's ability to produce a variety of kinds of ideas, to shift from one approach to another, or to use a variety of strategies." The author cautions that "extremely high flexibility scores in relation to fluency may characterize the person who jumps from one approach to another and is unable to stick to any one line of thinking long enough to really develop it." (See Appendix J)
sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, and to become sexually excited. (See Appendix H)

Torrance (1966) describes the TTCT verbal fluency score in terms of the subject's ability to produce a large number of ideas with words. Seven different verbal tasks or activities test the individual's ability or mental process. (See Appendix J) The findings indicate that those subjects who achieved the higher scores on TTCT verbal fluency tended to have the lowest scores on the Potential Effectiveness Rating. In reiteration, the lower scores on the rating of perceptual organizations, theoretically indicated the "good" helpers. (As indicated above, EPFS abasement did not contribute directly, but acted merely as a suppression variable.) In the application of an F test, all correlations were significant at the .01 level of confidence.

The analysis also revealed what the potentially effective or "good" helper may not incorporate into his perceptual organizations. Briefly considering the last four variables entered in the stepwise regression may be of interest. EPFS order was last, preceded by EPFS endurance, TTCT verbal originality, and TTCT verbal flexibility. Edwards (1959) describes EPFS order as a need to have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details
Summary of Findings.--This section of Chapter IV presents the findings regarding the relationship of the criterion variables to the predictor variables. Means and standard deviations for all variables were also presented prior to the more important findings in the investigation. The findings were based upon the compiled data of seventy-three subjects.

Significant relationships were found between predictor variables. However, extremely low positive and negative correlations were revealed between the predictors and the criterion measure. Walton (1970) in an earlier study including the same subjects, found only one statistically significant relationship between a predictor and the criterion measure when the criterion measure was a self-rating score.

The multiple correlations between the predictors and the criterion measures were provided. All twenty-seven predictors made some contribution to the criterion, and the first four variables accounted for more than half of the controlled variance. EPPS change, EPPS abasement, EPPS heterosexuality, and TTCT verbal fluency, contributed most to the Potential Effectiveness criterion variable. EPPS abasement functioned as a suppression variable in the multiple linear regression equation. The four variables controlling the least percentage of the variance were EPPS
order, EPPS endurance, TTCT verbal originality, and TTCT verbal flexibility.
CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Summary

Chapter I of this study provided the concepts involved in the investigation, a statement of the problem which included a presentation of three pertinent questions, the importance of such a study, and the limitations and organization of the study. Chapter II presented a review of those studies which drew upon phenomenological and psychological characteristics surrounding the effectiveness of helping practitioners. Studies relevant to similar investigations were also included. Chapter III enters into the methodology and includes a description of the population, simulation of classroom incidents, a description of an Urban Teacher Education program, a guidance approach to teacher education, and the instrumentation and description of the treatment of the data. Chapter IV provides the findings from the statistical analysis of the data. The purpose of this chapter is to summarize the investigation, respond to question three, and present the implications and recommendations.

This study presented the notion that traditional methods of selecting potential teachers might be implemented
with other selection methods, namely, the identification of predictors which indicate effectiveness in potential teachers. Perceptual organizations were presented as a means of capturing the difference between "good" and "poor" helping relationships. Certain perceptual orientations seem to be more effective in the adequate response to fairly specific and practical human needs, as reported in previous studies (Combs, 1969). Rating the written protocols of teacher assistants as they responded to "action" questions provided effectiveness scores to act as a criterion measure. Psychological characteristics were then introduced into the investigation as a possible predictor measure of the evasive effectiveness criteria of the "good" helper.

The study presented three inquiries, two of which are presented as follows:

1. What is the nature of phenomenological criterion scores obtained over four conditions through a simulation experience conducted during a teacher education program?

2. How are these data related to personality variables obtained from the following instruments?

- Edwards Personal Preference Schedule
- Myers-Briggs Type Indicator
- Rokeach Dogmatism Scale
- Torrance Tests of Creative Thinking

The criterion scores were originally planned to include four subscales. Subscale A was a general perceptual orientation with reference to internal and external frames of reference. Also included was a people-thing orientation.
Subscale B involved the perception of other people. Subscale C incorporated perceptions of self, while Subscale D made reference to a perception of purpose. An analysis of the correlations between the four subscales revealed that each variable correlated highly to the other, with .91 being the lowest correlation. Thus, the subscales or categories were not discreet, and any single subscale could be used as well as another. It was therefore decided to use a composite total score as the effectiveness criterion measure.

Effectiveness in potential teachers was then identified by the lowest rating scores. Ratings were scored by four graduate students at Central Michigan University. After attending a workshop on the identification and rating of perceptual categories, the raters actually scored twelve perceptual variables for each subject over four incidents. The subjects were Sophomores at The Ohio State University who had previously taken part in an Inner-City Simulation experience. The perceptual organization ratings were based on the written protocols which were in response to four separate incidents from the simulation. The subjects considered most effective were those with lowest effectiveness scores.

The Ohio State Sophomores were actively involved in an Urban Teacher Education Project. Counselor-educators and counselors provided a Guidance Component in which several personality instruments were administered to the subjects.
Those particular instruments referred to in research question two, were chosen to be incorporated into the study. The psychological characteristics revealed by the instruments were to be the variables used as possible predictors. This was done by attempting to establish a relationship between the criterion scores of the subjects and their various scores on the personality instruments. Inter-rater reliability was established by computing an analysis of variance.

The data analysis employed was a stepwise regression. This multiple analysis technique computes a sequence of multiple linear regression equations in a stepwise manner. Intercorrelations and multiple correlations were carried out in the data analysis. The findings and response to questions one and two were reported previously in Chapter IV, and will be elaborated upon in this chapter.

Question three refers to Teacher Education in terms of the preparation of prospective teachers. The notion that more active participation and more satisfying experiences increase the development of effectiveness is of primary importance.

Question #3: What implications can be drawn for Teacher Education programs?

The selection of teachers as well as their preparation will continue to differ from institution to institution. The unique manner in which the Urban Teacher Education Project entered into the lives of the participants was not
centered strictly around formal education. In brief, being affiliated with an institution outside of the university as part of the learning process put a greater emphasis upon performance. The environment symbolized adulthood and independence when institutional boundaries became more flexible. The curricular pattern broadened through the use of seminars, in-service provisions, team-teaching, and simulation. Modification of the grading system allowed for evaluation of course-work and performance. Substantive feedback from daily encounters with students, peers, teachers, and administrators could in no way be on a par with traditional abstract normative judgments. It was not a competitive battle of one student against another. Rather, it was an opportunity for evaluation under the scrutiny of faculty, students, peers, and self.

The Guidance Component employed in the UTEP program, from which the greater part of the data for this study was taken, emphasized the cognitive, affective and psychomotor domains. Human learning, motivation, perception, personality, thinking, and creativity were major concerns in the selection and retention of potential teachers. However, these potential teachers were often placed in a position where they had to define their own purposes, as well as the ways in which successful performance would be assessed. If gaining sophistication concerning personal human development has any meaning at all, young adults who will be taking over
the classrooms of tomorrow need to increase their knowledge of the process.

Simulation, by its very nature, provided a setting in which students actively pursued learning. Group discussion is an integral function of the Inner-City Simulation. The problems presented reflected various levels of complexity. Divergent thinking was the process sought by the instructors. The dynamics of a model generated from an investigation of reality was extremely effective in allowing individuals to openly react in a problem-solving or decision-making manner. Integrating simulation with the other components of the program was accomplished by employing the teacher educators and counselors in the instructor role as team-teachers.

**Implications**

This investigation has continually attempted to forward the idea that teacher education programs should embrace many approaches to the preparation of teachers. The ideas behind the design were to facilitate positive approaches to the investigation of personal style. The study implies that a greater concern for the personal perceptions of potential teachers might be in line.

Effectiveness in the helping relationship was found to be dependent upon verbal fluency (and low relationship with change, and heterosexuality). Although verbal fluency is a prime variable found in the study to be related statistically
to effectiveness as a helper, verbal flexibility and verbal originality were completely opposite statistically. The manifest need for change and the manifest need for order were directly opposite in a statistical sense.

**General Implications for the Selection of Teachers.**--
The study provides at least four related general implications for the selection of prospective teachers. Any implications presented for the selection of potential teachers are also presented for the selection of teacher educators or simulation directors.

1. If it is true that verbal fluency is a predictor of effectiveness, it might be noted that the ability to communicate is not related to a single process of presenting knowledge. Teacher education programs might provide experiences in which the development of personal meanings involve multiple processes of communication. Verbal flexibility and verbal originality had no relationship to effectiveness in this investigation.

2. If it is true that effectiveness is closely related to a low manifest need for change, certain implications are apparent. The need to experience novelty and change in daily routine, to participate in new fads and fashions, are not considerations for an emerging model of teacher preparation.
programs. The manifest need which had the highest relationship to effectiveness was order, or the need to have written work neat and organized, or to have things arranged so that they run smoothly without change.

3. If it is true that effectiveness in terms of the "good" helper is displayed by the low manifest need for heterosexuality, then teacher education might lead the way with a philosophy of education that identifies the responsibilities thrust upon a changing adolescent coping with sexual identity.

4. Effectiveness is determined by the composite total score across all subscores. Because these four subscales correlated so highly, it was decided that all subscales were measuring the same thing. If this is true, the implications for teacher education are immediately evident. The original premise was that individual components such as concern with perceptions of others, concern with people and their reactions, concern with perceptions of self, and concern with purpose, could be independently measured. Contrary to the original notion of several perceptual variables, it seems as though one global factor exists. Teacher Education programs might implement appropriate experiences which do not individualize
certain methods or techniques, but rather approach the facilitation of a fully functioning human being by enhancing personal growth.

The implications offered are an attempt to point out that there may be some distinguishing characteristics of effectiveness in potential teachers. There is some evidence to suggest that the characteristics of "good" or effective helpers are not multiple, but a single global factor. Likewise, there is some evidence to suggest that the global factor encompassing effectiveness might be identifiable by certain predictors. Further implications allude to the fact that there are many ways of introducing the findings into Teacher Education programs.

Specific Implications for the Selection of Teachers.—The preparation of teachers is an enormous responsibility for society. Both the needs of society and those of the potential teacher must be fulfilled. Specific implications derived from this study and focused on the preparation of teachers are offered as follows:

1. Effective helpers do exist and can be identified.
2. Discovery of the personal style which allows one to be an effective helper can be facilitated.
3. The emphasis upon personal and professional development can start almost immediately in the potential teacher's education at the Freshman or
Sophomore levels, or developmentally at any age.

4. Effectiveness as a helper can be seen as some positive view of self and others.

5. Teacher education can create a better balance between understanding the human processes of interpersonal relations and the dissemination of knowledge.

6. Low change, low heterosexuality, and verbal fluency were the predictors identified in the study as related to effectiveness. The adolescent learns to live in the most mobile and changing society the world has ever known. He lives in a culture which is experiencing somewhat of a sexual revolution. Survival in the educational setting is dependent upon verbal fluency. It is possible that effectiveness is dependent upon a coping response to the forces of the environment. The reality of the individual may make the difference. It is feasible that personal authenticity is revealed in the effective helping relationship. The basis of an adequate frame of reference is the individual's view of how things really are—including self-identity.
Implications for Teacher Education and Public Education.—The study identified the original subscales of the criterion measure as one global factor. This may imply that effectiveness is a process. Self-knowledge was found to also have a place in the process. In essence, when the attempt was made to isolate the basic factors, the results revealed the possibility of a basic process. The investigation revealed that this effectiveness process was related to change, heterosexuality, and verbal fluency.

The personal consciousness of "what is" may be central to the learning process. The implications might be drawn that teacher education and public education need to view the individual student, or students as a whole, as the most important content in their curriculums. With the accumulation of knowledge reaching proportions never encountered before, education needs to ferret out the basic processes involved in learning rather than basic facts. This might only be done by facilitating students to tune into their own natural mental and psychological processes.

One process of incorporating such an effort into teacher education is the involvement of teachers as teacher educators. One process which might be used in the concept of teachers as teacher educators is the creation of Teacher Education Centers. The colleges or universities conduct inservice programs to provide for the personal and professional development of supervising teachers. Consultation
then occurs from the university to the classroom and from the classroom to the university. Centers are then nothing more than schools where staff teachers provide the expertise by including the reality of the classroom. A cooperative effort in the learning process will improve the quality of education. Innovative practices such as simulation can be shared in such a cooperative effort. The university becomes more aware of the needs of the teachers.

The provision for continuing graduate coursework for teachers is a built-in by-product. Evaluation now may become a cooperative effort between the schools, the students, and the university. This unique process involving inservice assistance to teachers can only enhance the preparation of teachers and public education as we know it today.

Recommendations

The following section provides a list of recommendations in the event that future study is prompted by this endeavor.

1. Replication of this study might be attempted by involving elementary teachers as participants.
2. Future studies might incorporate additional personality instruments in a similar procedure.
3. Replication of this study ought to include a minimum of three raters in order to adequately assess inter-rater reliability.
4. The attempt to include subjects from a more heterogeneous grouping is highly recommended. Finally, the availability of subjects would create some difficulty in the replication of such a study. It is recommended that a similar investigation might involve student teachers, especially those working in Teacher Education Centers. Also, a recommendation is offered that a follow-up study be done on the same subjects found in this study. Additional criterion measures might be included in such a study.
# APPENDIX A

<table>
<thead>
<tr>
<th>Code</th>
<th>PERCEPTUAL REFERENCE</th>
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</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>External frame of reference</td>
</tr>
<tr>
<td>1 2 3 4 5 6 7</td>
<td>Things orientation</td>
</tr>
</tbody>
</table>

## A. Internal
1. Internal
2. People

## B. Sees people as able
1. Sees people as able
2. Sees people as dependable
3. Sees people as friendly
4. Sees people as worthy

## C. Sees self as identified
1. Sees self as identified
2. Sees self as enough
3. Sees self as revealing

## D. Sees purpose as freeing
1. Sees purpose as freeing
2. Sees purpose altruistically
3. Sees purpose in larger meanings

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APPENDIX B

AUDIO SCRIPT FOR INCIDENT 1

Sharon: All right, now that we've finished our political map, I think that we should go on. Now—Robert, I want you to make a climate map. And Barbara, make an agricultural map. Kim, I want you to make a-- um-- land formation map, and Joe—I want you to make a vegetation map. Is that all right?

PT: FINE, GO AHEAD.

Sharon: All right, Kim, since you're making the population map, I want the colors to get deeper as the population gets...

PT: BOYS, TIME FOR GYM. GIRLS, LINE UP FOR LIBRARY.

Marlene: Phyllis--Phyllis, wake up. Phyllis, wake up. It's time to go to the library.

PT: MARLENE, GO AHEAD. I'LL BRING PHYLLIS.

PT: PHYLLIS.

PT: PHYLLIS, ARE YOU SICK?

Phyllis: No.

PT: JUST SLEEPY?

Phyllis: Yeah, I guess so.

PT: DIDN'T YOU GET ENOUGH SLEEP LAST NIGHT?

Phyllis: I don't know.

PT: CAN YOU TELL ME WHY?

Phyllis: No.

PT: ARE YOU SURE?
Phyllis: I don't know.

PT: MAYBE IF YOU TOLD ME...

Phyllis: We were watching a late movie.

PT: WHERE WERE YOUR PARENTS?

Phyllis: Out.

PT: WHEN DID THEY COME HOME?

Phyllis: Oh--kinda late.

PT: WHY DID YOU STAY UP SO LATE?

Phyllis: I just did.

PT: WHAT DID YOUR PARENTS SAY?

Phyllis: Nothing much--they don't care.

PT: IS THAT WHY YOU WERE LATE THIS MORNING?

Phyllis: No. Well, see when I went to bed I forgot to set the alarm, so us kids woke up late. And then I had to go to the store. My little brother lost the money, and then when we came back it was so late we couldn't eat and so I just had to go on to school and I was late anyway--I'm hungry.
APPENDIX C

AUDIO SCRIPT FOR INCIDENT 3

Narrator: It's Thursday. Book reports assigned several weeks ago are due today.

Jan: Marsha didn't hand in her paper.

PT: THANK YOU.

PT: O.K. START ON THE QUESTIONS ON THE BOARD.

Malcolm: You didn't even give us a chance to study.

PT: MARSHA, LET'S GO TO THE BACK OF THE ROOM?

PT: MARSHA, WHERE'S YOUR REPORT?

Marsha: Well, I started it, but I couldn't finish it. Well, see, my aunt, she's been real sick and all, and so my mom, she had to go and--well, she just got out of the hospital. So she's been real sick and--ah...

PT: AND?

Marsha: Well, see, my mom, she has to stay with my--um--aunt, and make her get better and stuff, and--um--see, I have to watch, take care of the cooking and my brother and stuff and--um--well, so--well, it's just hard to get time to do it, and I have to watch him all the time.

PT: HOW MUCH TIME WILL YOU NEED?

Marsha: I'm not sure. I don't know.

PT: COULD YOU DO IT OVER THE WEEKEND?


(STOP PROJECTOR)
Narrator: On Wednesday of the following week Marsha has yet to produce her book report. Two short homework assignments were missed, and her effort on a class arithmetic assignment consisted of a piece of paper virtually blank. You have asked her to wait in your classroom while you and Mr. Sharp dismiss your classes.

Sharp: Well, that's it...

PT: MARSHA! WAIT! WHERE ARE YOU GOING?

Sharp: Oh, hi, Marsha.

Marsha: Hi.

Sharp: How's it going this year?

Marsha: O.K.

Sharp: Did you catch up on your math in summer school?

Marsha: I didn't go.

PT: MARSHA, LET'S GO BACK--

Sharp: You didn't? Well, I'll see you later. I've got a film to rewind.

Marsha: I can't stay. I gotta get home and take care of my little brother. I just gotta go.
The following report was left for you by Nancy Barnes, Edison's Attendance Teacher, after you had called her attention to a three-day absence of Hayward Clark.

Child's names: HAYWARD CLARK  Address: 5034 Spruce
Reason for referral: 3 day absence, routine check

Comments:

Visited Clark home on Thursday at 4 p.m. Clarks live in apartment on fourth floor. Building is crawling with roaches and plaster is falling down everywhere. Apartment was cluttered with rags and broken furniture. (They use the rags to put around the windows and doors to keep out cold draughts, but the dog pulls the rags around as playthings.)

When I arrived children had just come home from school and were eating sweet potato pies. One of the children was eating a raw potato. All the children at home were huddled by the stove which appeared to be the only source of heat.

Mrs. Clark had been asleep. She greeted me courteously and offered me some lukewarm coffee. Upon closer observation it was obvious that she had been beaten—her face and neck were scratched and red.

Since I had been in the Clark home many times before, Mrs. Clark related freely to me that her husband had been given his "walking papers" Friday and he and a friend drank a bottle and then came home and beat up on the family. When he calmed down and lay down on his bed, Hayward heated a concoction of honey and water and poured the boiling liquid on his father, yelling he was going to kill him. A neighbor called an ambulance and Mr. Clark was taken to St. Mary's where he is still
recovering. Mrs. Clark told the police that she did the pouring.

Hayward just sat all the time I visited and listened without speaking. Mrs. Clark said he is extremely upset by what he did to his father, and he just sits. She hasn't been able to get him to leave the house since this happened. She said she is afraid that someday Hayward will kill his father!

I tried to talk with Hayward but with little success. Mrs. Clark felt it best to leave him alone. We can discuss this later this week if Hayward does not return to school voluntarily.

Mrs. Clark asked if I could help about the rats and roaches, garbage and broken windows, and lack of heat. I told her that school would see what it could do. She also asked if I could get Norman Jr. into some kind of job training. (Norman is a dropout.) The oldest boy still is in the State Hospital, where he was placed as an addict.

There seems to be little doubt that all the children are upset by the home conditions, but Hayward appears seriously disturbed. The school should be prepared for his re-entry under less than favorable conditions.

Hayward returned to school today, Friday, after a four-day absence. All day long he was oblivious to the class and the work. He sat. After you dismissed your class for the day you noticed Hayward lingering on the playground. You asked him to come back to your room to talk. After a few minutes of unresponsive dialogue Hayward erupted with...

"I'm not going home. My father's coming home from the hospital tonight, and he says he's going to kill me for what I did!"
APPENDIX E

AUDIO SCRIPT FOR INCIDENT 5

Narrator: You are returning from your preparation period, stopping at the library to pick up your boys before your girls are returned from their gym class.

Miss Love: ...down on the desk, very quietly, and you--Oh, thank goodness you're here. This has been a terrible day. These children are absolutely incorrigible. They have absolutely no respect for the books--or the--or the people who want to study, or anything. It's incredible!

PT: I'M VERY SORRY. I'LL SPEAK TO THEM IMMEDIATELY.

Miss Love: You're excused.

PT: O.K., BOYS, LET'S LINE UP AND GO BACK TO THE ROOM.

PT: BEFORE THE GIRLS RETURN, LET'S TALK ABOUT YOUR BEHAVIOR IN THE LIBRARY.

(SSTOP PROJECTOR.)

PT: DOES ANYONE ELSE WANT TO SAY MORE?

Wesley: Yeah, shup up!

PT: WHAT DID YOU SAY?

Wesley: Shut up.

PT: WHO ARE YOU TALKING TO?

Wesley: You.
APPENDIX F

Teacher Assistants (Inner-City Simulation participants) responded to "action" questions from the four incidents used for this study.* The questions are as follows:

Research Incident 1 (ICS Incident 1) Question: What alternative(s) do you propose to follow? What will be your first action?

Research Incident 2 (ICS Incident 3) Question: What will you do?

Research Incident 3 (ICS Incident 4) Question: Are there personal options open to you that will be in conflict with your professional position? What are they? What will you do?

Research Incident 4 (ICS Incident 5) Question: What are you going to do now?

*Raters actually had more written material than just the "action" question. Any of the written answers prior to and immediately following could be examined if the rater so desired.
APPENDIX G

A. With respect to their general perceptual orientation, this person will be more likely to perceive:

1. From an internal rather than from an external frame of reference. The protocol writer's general frame of reference can be described as internal rather than external; that is to say, he seems sensitive to and concerned with how things look to others with whom he interacts and he uses this as basis for his own behavior. He is concerned with perceptions of others as well as their overt behavior.

2. In terms of people rather than things. Central to the thinking of the subject is a concern with people and their reactions rather than with things and events.

B. With respect to their perceptions of other people, this person perceives others as:

1. Able, rather than unable. The subject perceives others as having the capacities to deal with their problems. He has faith that they can find adequate solutions as opposed to doubting the capacity of people to handle themselves and their lives.

2. Dependable rather than undependable. The subject regards others as being essentially dependable rather than undependable. He shows confidence in the stability and reliability of others and does not need to be suspicious of them.

3. Friendly rather than unfriendly. The subject sees others as being friendly and enhancing. He does not regard them as threatening to himself but, instead, sees them as essentially well-intentioned rather than evil-intentioned.

4. Worthy rather than unworthy. The subject tends to see other people as being of worth rather than unworthy. He sees them as possessing dignity and integrity which must be respected and maintained rather than as unimportant people, whose integrity may be violated.
C. With respect to their perceptions of self, this person perceives himself as:

1. Identified with people rather than apart from people. The subject tends to see himself as a part of all mankind; he sees himself as identified with people rather than as withdrawn, removed, apart or alienated from others.

2. Enough rather than wanting. The subject generally sees himself as enough; as having what is needed to deal with his problems. He does not see himself as lacking or unable to cope with his problems.

3. Self-revealing rather than self-concealing. The subject is self-revealing rather than self-concealing; that is, he appears to be willing to disclose himself. He can treat his feelings and shortcomings as important and significant rather than hiding them or covering them up. He seems willing to be himself.

D. With respect to purposes, this person perceives his purpose as:

1. Freeing rather than controlling. The subject's purpose is essentially freeing and facilitating rather than controlling, dominating, coercing, or manipulating.

2. Altruistically rather than narcissistically. The subject appears to be motivated by feelings of altruism rather than narcissism. He is concerned about others, not merely about self.

3. Concerned with larger rather than smaller meanings. The subject tends to view events in a broad rather than narrow perspective. He is concerned with larger connotations of events, with larger, more extensive implications than the immediate and specific. He is not exclusively concerned with details but can perceive beyond the immediate to future and larger meanings.
APPENDIX H


(Excerpt from EPPS Manual)

1. ach Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

2. def Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one
wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. int Intracpection: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze behavior of others, to analyze the motives of others, to predict how others will act.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. aba Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does one more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize
with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

12. chg Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. end Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. het Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen or to tell jokes involving sex, to become sexually excited.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.
APPENDIX I

The Four Preferences from the Myers-Briggs Type Indicator (MBTI).

(Excerpt from the Manual)

The Indicator contains separate indices for determining each of the four basic preferences which, under this theory, structure the individual's personality.

<table>
<thead>
<tr>
<th>Index</th>
<th>Preference as between</th>
<th>Affects individual's choice as to</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI</td>
<td>Extraversion or Introversion</td>
<td>Whether to direct perception and judgment upon environment or world of ideas</td>
</tr>
<tr>
<td>SN</td>
<td>Sensing or Intuition</td>
<td>Which of these two kinds of perception to rely on</td>
</tr>
<tr>
<td>TF</td>
<td>Thinking or Feeling</td>
<td>Which of these two kinds of judgment to rely on</td>
</tr>
<tr>
<td>JP</td>
<td>Judgment or Perception</td>
<td>Whether to use judging or perceptive attitude for dealing with environment</td>
</tr>
</tbody>
</table>

The EI index is designed to reflect whether the person is an extravert or an introvert in the sense intended by Jung, who coined the terms. The extravert is oriented primarily to the outer world, and thus tends to focus his perception and judgment upon people and things. The introvert is oriented primarily to the inner world postulated in Jungian theory, and thus tends to focus his perception and judgment upon concepts and ideas.

The SN index is designed to reflect the person's preference as between two opposite ways of perceiving, i.e., whether he relies primarily on the familiar process of sensing, by which he is made aware of things directly through one or another of his five senses, or primarily on the less
obvious process of intuition, which is understood as indirect perception by way of the unconscious, with the emphasis on ideas or associations which the unconscious tacks on to the outside things perceived.

The TF index is designed to reflect the person's preference as between two opposite ways of judging, i.e., whether he relies primarily upon thinking, which discriminates impersonally between true and false, or primarily upon feeling, which discriminates between valued and not-valued.

The JP index is designed to reflect whether the person relies primarily upon a judging process (T or F) or upon a perceptive process (S or N) in his dealings with the outer world.
APPENDIX J

Summary Guide for Interpreting on the Torrance Tests of Creative Thinking.

(Excerpt from the Manual)

Verbal Fluency. This score reflects the test taker's ability to produce a large number of ideas with words. Since there are seven of the verbal tasks or activities and each attempts to tap a somewhat different kind of ability or mental process, further clues concerning a person's mental functioning may be obtained by looking at the subject's productions for each of the separate tasks. For example, limited counseling use seems to indicate that youngsters who are continually getting into trouble in school may perform quite well on such activities as Product Improvement and Unusual Uses, but quite poorly on Guess Causes and Guess Consequences. Such a performance immediately gives clues concerning the nature of such a person's difficulties and suggests alternative ways by which teachers, counselors, and parents may respond most helpfully in improving functioning. Teachers, counselors, and parents would then be alerted to using opportunities to facilitate the casual and predictive kinds of thinking called for in the Guess Causes and Guess Consequences activities.

Verbal Flexibility. This score represents a person's ability to produce a variety of kinds of ideas, to shift from one approach to another, or to use a variety of strategies. It is sometimes useful to view this score in relation to the Verbal Fluency score, or even to obtain an index by dividing it by the Verbal Fluency score and multiplying it by 100. For example, students A, B, and C may all have Verbal Fluency T-scores of 50. A may have a Verbal Flexibility score of 60; B one of 50; and C, one of 40. If we divide the Flexibility scores and multiply by 100, we obtain indexes of 120, 100, and 80 for A, B, and C respectively. Students X, Y, and Z may all have Flexibility scores of 50 and Fluency scores of 60, 50, and 40 respectively. X would thus have an index of 83, Y one of 100, and Z one of 125. Thus, a Flexibility score of 50 means
something different in the cases of these three students.
One would expect a person low on Flexibility to have a
tendency to stick to a narrow range of responses. Such a
performance might be a result of a rigid pattern or habit of
thinking, a narrow range of information and/or experiences,
limited intellectual energy, and/or low motivation. In
general, one would hypothesize an opposite interpretation of
high scores. In some cases, however, extremely high flexi-
bility scores in relation to fluency may characterize the
person who jumps from one approach to another and is unable
to stick to any one line of thinking long enough to really
develop it.

Verbal Originality. This score represents the sub-
ject's ability to produce ideas that are away from the
obvious, commonplace, banal, or established. The person
who achieves a high score on Verbal Originality usually has
available a great deal of intellectual energy and may be
perceived as rather nonconforming. He is able to make big
mental leaps or "cut corners" in obtaining solutions, but
this does not mean that he is erratic or impulsive in his
behavior. In fact, the making of original responses requires
the ability to delay immediate gratification or reduction of
tension in order to get away from the obvious, easy, but low
quality response.

As in the case of Verbal Flexibility, users will want
to analyze the meaning of Verbal Originality scores in re-
lation to Verbal Fluency. An index, obtained in the way
described for Flexibility, should provide a measure of degree
of divergency in thinking. More experience, however, is
needed in the individual or clinical use of indexes. It is
also valuable in some cases to look at the originality of
scores for the specific tasks.

Verbal Elaboration. Although comparison group norms
have not been given for Verbal Elaboration and the inter-
scorer reliability of untrained scorers is low, some users
will find this score quite useful. High scores seem to be
related to school achievement, especially teacher grades.
High scores also seem to characterize persons who are inven-
tive and take constructive action rather than complaining
about problems or defects. Low scores seem to characterize
school dropouts, delinquents, and "underachievers." Since
the test tasks or activities are timed, it is quite useful
to have an elaboration score to interpret the meaning of
the Fluency score. The person who elaborates each response
will obviously have to sacrifice his Fluency score. Some
of his verbal fluency will be reflected indirectly in his
Elaboration score. This is a somewhat different type of
fluency than that represented by the Fluency score and may
be an asset or limitation depending upon how it is used.

Figural Fluency. This score is useful primarily in helping the user understand the other figural scores. The impulsive thinker, the banal thinker, and even the "non-thinker" can achieve rather easily high scores, even maximum scores within the time limits. Such persons, however, almost always have low Flexibility, Originality, and Elaboration scores. More meaning may perhaps be attached to low than to high scores. Usually a low score results when the test taker does a great deal of elaborating. A low score may also occur when the subject blocks, or is not well motivated. The other scores will give clues concerning which of these alternative explanations is most likely.

Figural Flexibility. The interpretation of the Figural Flexibility score is basically the same as for Verbal Flexibility, except that we are concerned with figural rather than verbal modes of thinking. A person might be quite flexible in viewing, manipulating, and otherwise using figural elements and at the same time be quite restricted in shifting his approaches in dealing with words. Figural flexibility is most clearly manifested in the third test activity of the battery (Parallel Lines in Figural Form A and Circles in Figural Form B). It is in this activity that the subject must return to the same stimulus and each time perceive it in a different way. Greatest difficulty in interpreting this score is experienced when the subject uses several sets of parallel lines or circles to make a single object or system. Such responses are usually highly original and even making this type of response requires a willingness to break away from the set produced by the test instructions. Usually, such responses involve a considerable amount of elaboration. It is often difficult to know what this type of response tells us about the person's flexibility of thinking.

Figural Originality. The interpretation of the Figural Originality score is similar to that for Verbal Originality, except that the content is figural rather than verbal. Perhaps even more than in the case of Verbal Originality, a high score requires an ability to delay gratification or reduction of tension. Anchors to interpretation can be derived by looking at the Originality score in relation to the Fluency and Elaboration scores. A person may produce a small number of responses, none or few of which may be original. Another person may produce a large number of responses all of which are high in originality. A third person may produce responses of high originality but be unable to or choose not to elaborate any of them, while still another may produce no original responses but may elaborate
the unoriginal responses to a high degree. These different kinds of performances represent obviously different kinds of mental functioning.

**Title Originality.** Initially it was intended that the Title Originality score to be integrated with the scores on the seven tasks or activities of the verbal batteries. This proved to be inconvenient, especially when only the verbal or only the figural battery was used. The score, however, is a potentially useful one. It gives the test taker an opportunity to show how well he can permit one thing to lead to another and to be "warmed up" by his own productive thinking. Low scores seem to be characteristic of underachievers, school dropouts, delinquents, and extreme conformists. No comparison group norms have been supplied in this manual for this activity and it has not been included in the composite verbal battery scores.

**Figural Elaboration.** This score reflects the subject's ability to develop, embroider, embellish, carry out, or otherwise elaborate ideas. Some minimum ability to do the kind of thinking represented by this score seems to be necessary for satisfactory adjustment. Delinquents and school dropouts seem to be characterized by low Figural Elaboration scores, although they may have high Figural Flexibility and Originality scores. Girls generally have higher Figural Elaboration scores than boys. Individuals in certain occupations also seem to have higher scores than those in other occupations. Beyond some point near the top of the T-score scale, exceptional ability as reflected in the Figural Elaboration score may actually be handicapping in certain kinds of situations. Such individuals tend to make things "too fancy" or become so overwhelmed by the elaborateness of their ideas that they are unable to complete work on time. The compulsive elaborator may also compile a high score. High scores seem, among other things, to be associated with keenness or sensitivity in observation.

**Verbal-Figural Discrepancies.** Large differences (approximately ten or more T-score points) may also be useful in understanding a person's mental functioning, assessing his potentialities, or guiding him in achieving a more healthy kind of development. Some early clinical uses of the tests brought to the author's attention a large proportion of cases with quite low verbal and quite high figural scores. In almost all cases, the individuals were having difficulties of some kind in achieving in school, frequently in reading. In almost all cases, there was an intuitive feeling on the part of the teacher and/or counselor that the child was "gifted." Yet the child did not perform very well on intelligence tests and was unable to do well on
most school tasks. This outstanding performance in certain school tasks left teachers puzzled. Since most school situations reward primarily verbal kinds of achievement, this pattern is likely to characterize many children of low socio-economic status. Smith (1965), for example, found positive relationships between scores on the verbal creative thinking tests and socio-economic status and negative relationships between scores on the figural tasks and socio-economic status.

The discrepancies between the verbal and figural performances are doubtless the result of complex interactions of environmental and hereditary factors. Apparently, social and cultural factors are quite powerful. For example, children in Western Samoa performed much better on figural than on verbal tasks while children in India performed better on verbal than on figural tasks. Although boys in the United States quite consistently perform at a lower level on verbal tasks than girls, the reverse is true in India (Prakash, 1966 Raina, 1966). All of these discrepancies can be explained logically on the basis of differences in values and ways of rearing children. In Western Samoa, there has been an alphabet for only a brief period of time and little emphasis has been given to the cultivation of verbal skills. In India, however, one must learn several languages to get along in cities such as New Delhi, so there is heavy emphasis on words and the development of verbal skills. There are also many indicators that child rearing practices rather generally prevalent in India place relatively greater emphasis on conformity and reproductive thinking among girls than among boys. In the United States, it is generally recognized that middle and upper class families place relatively greater emphasis upon verbal skills than do lower class families. It is also generally recognized that in the United States more attention is given to the verbal development of girls than to that of boys.
BIBLIOGRAPHY


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