THE RELATIONSHIP OF COUNSELOR'S TOLERANCE OF AMBIGUITY TO COUNSELOR BEHAVIOR IN THE COUNSELING INTERVIEW. A PILOT STUDY

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ABSTRACT

THE RELATIONSHIP OF COUNSELOR'S TOLERANCE OF AMBIGUITY TO COUNSELOR BEHAVIOR IN THE COUNSELING INTERVIEW. A PILOT STUDY

by Arthur George Riewald

The purpose of the study was to determine whether counselors differentiated on a test continuum of tolerance-intolerance of ambiguity would demonstrate concomitant variation of behavior in the counseling interview. The hypotheses predicted that a positive relationship would be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his:

1. Movement toward premature closure or resolution of the client's problem;
2. Use of cognitive rather than affective elements in the interview;
3. Tendency toward value-laden statements and conclusions.

Two objective tests of intolerance of ambiguity, the Figure Recognition and Verbal Reasoning Tests, were used as the independent variable. Both tests used a tab-lifting technique, the number of tabs lifted serving as a potential index of intolerance of ambiguity.

The dependent variable involved four aspects of counselor verbal behavior. For Hypothesis 1 the criteria were:

(a) The number of responses in which the counselor initiated, interrupted, or changed the client's topic of conversation;

(b) The number of summary or closure statements.

The criterion for Hypothesis 2 was:

(c) The number of responses to cognitive rather than affective material.

The criterion for Hypothesis 3 was:

(d) The number of value judgments or classifications into categories.

The subjects were 23 beginning counselors enrolled in the counseling practicum at Wayne State University. The first counseling interview for each subject was transcribed into a typescript and read by two judges who counted counselor responses according to the four criteria. The judges' counts were transformed into proportions of total responses, and subjects were then ranked on each of the study variables. The hypotheses were tested using Kendall's tau coefficient.

The first hypothesis was partially supported. There was no relationship to the use of summary or closure statements, but counselors intolerant of ambiguity used significantly more responses which initiated, interrupted, or changed the client's topic of conversation. The second hypothesis was supported in that a significantly greater focus on cognitive material by intolerant counselors was found. The third hypothesis was also supported with intolerant counselors expressing significantly more value judgments.

With the exception of criterion (a), all of the other criteria were significantly related to each other, suggesting a partial behavioral description of the counselor intolerant of ambiguity similar to the original theoretical conception of Else Frenkle-Brunswik. Age was related to the use of summary or closure statements, while grade point average was related to none of the study variables. Neither

previous counseling experience nor the sex of the client was related to differences in judges' rankings on intolerance for the four criteria.

The Figure Recognition Test was significantly related to all of the criteria except (b), while the Verbal Reasoning Test was related to none of the criteria. There was no relationship between the two tab-lifting scores, suggesting that with this sample the perceptual and cognitive dimensions of ambiguity tolerance were relatively independent. It was suggested that counseling may be more similar to a perceptual task than a cognitive task, and that the Figure Recognition Test can reduce error in predicting counselor behavior.

The counseling supervisors ranked each trainee after the first interview, and their rankings had a positive correlation with the Figure Recognition Test and a negative correlation with the Verbal Reasoning Test.

It was concluded that counselor-trainees intolerant of ambiguity attempt in predictable ways to structure and control the ambiguity level of the counseling interview.

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CHAPTER I

THE PROBLEM

Introduction

The current literature in counseling psychology reveals a shift in emphasis from the earlier preoccupation with techniques and methods to a conception of counseling as a dynamic relationship between two interacting persons. Research and theory now are focused on the variables operating between counselor and client, with particular attention being given to the investigation of personality characteristics within the counselor that contribute to effective or ineffective counseling. Tyler finds that

> Again and again the results of research studies comparing methods, techniques, or theories runs up against the fact that differences between counselors are greater than any of these systematic differences in procedures. Successful outcomes seem to depend as much on what a counselor is as on what he says or does.[1]

Among others, Arbuckle has stressed the role that counselor personality traits play in counseling, indicating that the counselor who must play a role radically different in the counseling interview than when in other situations cannot be effective in helping the client.[2] One reason for this is that the relationship established

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[1]Leona Tyler, The Work of the Counselor (2d ed.; New York: Appleton, Century, Crofts, 1961), p. 239.

[2]Dugald Arbuckle, "The 'Self' shows in Counseling," Personnel Guidance Journal, 33 (1954), pp. 159-161.

between the counselor and the client cannot help but be affected by the personality of the counselor. But while there is general agreement that the personality characteristics of the counselor are related to counseling success, there is no general agreement on what these characteristics might be.

The personality characteristics of the counselor are not only related to effective counseling, but also to the problem of counselor selection and training. A survey of past research reveals an uncertainty as to how to characterize the effective counselor.[1] It would seem that both the selection of candidates for counselor education and the design of curriculum are dependent upon more specific information about the personal characteristics of successful counselors. Tyler raises the question of what kind of people should be encouraged to go into counseling, and suggests there is more agreement on what constitutes desirable counseling training than on what criteria should be used for selecting counselor trainees.[2] George Hill, writing a Position Paper on the selection of counselors, states that there is little experimental evidence upon which to base selection procedure.[3] He finds that selection for counseling programs is largely contingent upon admission to graduate schools. In discussing the present shortage of qualified counselors, Hill asks if the counseling profession should not institute active efforts in the recruitment of people for counselor training. The basic question, however, appears to be one

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[1]H. J. Peters and W. J. Mueller, "The Counseling Function," Rev. Educ. Res., 30 (1960), pp. 131-140.

[2]Tyler, op. cit., p. 240.

[3]G. Hill, "Position Paper: Student Selection and Placement," Counselor Education and a Progress Report on Standards (Washington: APGA, 1962), pp. 37-42.

of establishing a defensible criteria for selection, based in part on empirical research concerning the personal characteristics of effective counselors.

Statement of the Problem

There is a large volume of literature in which the writers insist on the importance of the counselor's personality as it is related to effective counseling, but a much smaller amount of research literature which explores these ideas empirically. Among the latter, Jerome Brams has attempted to find an answer to these questions in a study of 27 beginning counselors who were enrolled in counseling practicum courses.[1] Using the criterionof effective communication in the counseling interview, as rated by judges on a communication rating scale, Brams found no significant relationship between effective communication and scores on the Minnesota Multiphasic Personality Inventory, the Taylor Manifest Anxiety Scale, and the Bill's Index of Adjustment and Values. Only intolerance of ambiguity, as measured by the Berkeley Public Opinion Questionnaire, gave suggestion of a positive relationship. When high and low rated groups on the criterion were compared, the correlation with the Berkeley Questionnaire was significant at the .05 level of confidence. Using individual ratings the correlation was significant at the .06 level of confidence. Brams interpreted this as tentative support for his hypothesis that counselors who create successful counseling relationships are more tolerant of ambiguous material in the counseling interview. However, the results of Brams' study were inconclusive and the instrument used to

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[1]Jerome Brams, "Counselor Characteristics and Effective Communication in Counseling," J. Counseling Psych., 8 (1961), pp. 25-30.

measure intolerance of ambiguity (Berkeley Public Opinion Questionnaire) was much too obvious for test sophisticated graduate students. In commenting on Bram's study, Tyler has said that

> This trend is in line with what various thinkers and writers have said--that a good counselor needs to be able to tolerate ambiguity and uncertainity. More research is needed in this area, however, before we are in a position to apply the findings in the selection of counselors.[1]

The present study is an attempt to investigate further the question raised by Brams' study as to the relationship of counselor's tolerance of ambiguity and his counseling behavior. The general question under study is whether counselors differentiated with respect to tolerance-intolerance of ambiguity will also demonstrate differences in counseling behavior. More specifically, can the counselor's personality and behavior as they are measured outside of the counseling session predict his reaction in counseling to the stimulus presented by the client?

Definition of Intolerance of Ambiguity

The personality construct "intolerance of ambiguity" stems largely from the work of Else Frenkle-Brunswik,[2] and has received its major application to counseling by Bordin.[3] This concept will be considered from a historical and theoretical standpoint in the following chapter.

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[1]Tyler, op. cit., p. 257.

[2]Else Frenkle-Brunswik, "Intolerance of Ambiguity as a Personality Variable," J. of Personality, 8 (1949), pp. 108-143.

[3]E. S. Bordin, Psychological Counseling (New York: Appleton-Century, 1955).

For the purpose of this study an ambiguous situation can be defined as one in which adequate cues for structuring the situation are unavailable. Budner[1] has suggested three such situations that can be easily identified: (1) those characterized by novelty with completely unfamiliar clues; (2) those characterized by complexity with a large number of clues; and (3) those characterized by insolubility with contradictory clues.

In this context tolerance of ambiguity will be defined as the capacity, inferred from behavior, to endure and deal with situations and relationships the structure of which is not clear. The antithesis of this, intolerance of ambiguity, would then be defined as the tendency, inferred from behavior, to perceive (i.e. interpret) as a source of threat any situation or relationship which is unclear as to structure.

These definitions can be extended by drawing upon the work of Else Frenkle-Brunswik who was first to conceptualize this construct.[2] She defined intolerance of ambiguity as a preference for familiarity, symmetry, definiteness, and regularity; a tendency toward black-white solutions, oversimplified dichotomizing, and premature unqualified either-or solutions. Her highly intolerant group was also characterized by an inability to think in terms of probability, and by an avoidance of uncertainty as accomplished by the narrowing of meaning and the mechanical repetition of set.

Applying these definitions to the problem in this study, the concept of ambiguity will be used to refer to the stimulus characteristics of the counseling situation. As two people interact, each

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[1]S. Budner, "An Investigation of Intolerance of Ambiguity," Dissertation Abstracts, 21 (1960), p. 693.

[2]S. Frenkle-Brunswik, op. cit.

defines himself to the other as a stimulus object to a greater or lesser degree. As the counselor interacts with the client, he defines himself and the situation either by direct statement or indirectly. The counselor also responds either advertently or inadvertently to the ambiguity experienced from the client as a stimulus, as well as to the counseling situation as a basically unstructured situation. It is assumed here that the counselor who is less threatened by the lack of structure inherent in the counseling relationship is also more tolerant of ambiguity, and that the counselor who is more threatened by the lack of structure is more intolerant of ambiguity. In this study reference will be made to the ambiguity dimension as the amount of ambiguity the counselor allows to exist in the counseling interview.

Purpose of the Study

The purpose of the study is to contribute to the empirical investigation of the relationship between tolerance of ambiguity, as measured by two objective tests of this personality construct, and performance in the counseling interview when applied to a sample of counseling trainees.

The aims of this particular research may be formulated in the following questions:

(1) Are there individual differences in intolerance of ambiguity among counselor trainees when measured by two objective tests of this personality construct?

(2) Are counselor trainees consistent in their responses to ambiguous stimuli in the two objective tests?

(3) Are differences in intolerance of ambiguity among counselor trainees related to differences in age?

(4) Do counselor trainees judged to be intolerant of ambiguity on the two objective tests perform differently in the counseling relationship?

(5) Is it possible to predict specific behavior in the counseling relationship on the basis of the counselor's tolerance for ambiguity?

The Hypotheses of the Study

The following research hypothesis is proposed for investigation in the study:

H_R: Counselor-trainees differentiated on a test continuum of tolerance-intolerance of ambiguity will demonstrate concomitant variation of behavior in the counseling interview.

The three specific hypotheses regarding variation in counselor behavior which follow are based on the theorizing of Frenkle-Brunswik and the subsequent research generated from that work.

H_1: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his movement toward premature closure or resolution of the client's problem.

H_2: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his use of cognitive rather than affective material in the interview.

H_3: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on

objective tests and his tendency toward value-laden statements and conclusions.

In addition to these hypotheses, an investigation will also be made to determine if there is any relationship between the age of the counselor-trainees and their intolerance of ambiguity as measured on two objective tests, as well as their behavior in the counseling interview. This study will also consider the evaluations of the counseling supervisors who have ranked each of the two training groups on tolerance of ambiguity as observed in their counseling performance both after the first interview and at the end of the practicum. A more comprehensive discussion of the theoretical and empirical work which serve as a foundation for these hypotheses will be presented in the following chapter.

The Importance of the Study

The study by Brams has raised an interesting and important question concerning the counselor's ambiguity tolerance, and has in tentative form suggested an answer. In addition, many counselor educators have assumed that intolerance of ambiguity and uncertainty constituted a handicap to effective counseling, albeit without adequate empirical validation for this hunch.[1] Both of these factors have suggested the importance of this study. There is also a need to determine if tolerance-intolerance of ambiguity is a personality trait which is generalized so as to influence counseling behavior.

It is anticipated that this study will provide an important addition to the growing body of research related to personality differences in counselors. It is also anticipated that the results of this study will

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[1]Tyler, op. cit., p. 247.

contribute toward a solution of the problem inherent in the selection and training of counselors. The results of this research can serve an important function in suggesting criteria that can be useful in selecting counselor trainees, as well as suggesting how a training curriculum can be shaped to move counselor trainees toward desired counseling behavior.

The theoretical basis for the personality construct of intolerance of ambiguity as well as the research foundation upon which the study is built will be presented in Chapter II. In Chapter III the methodology of the study will be discussed with reference to the subjects, independent and dependent variables, and procedures in collecting and treating the data. The accumulated data will be presented and analyzed in Chapter IV.

CHAPTER II

REVIEW OF THEORY AND RESEARCH

The first part of this chapter contains a brief review of some of the research concerned with the role of the counselor's personality in the counseling process. In the second part of the chapter consideration is given to the theoretical discussions which focus on intolerance of ambiguity as a personality variable. In the third section reference is made to the varied attempts and instruments used to measure intolerance of ambiguity. The last section contains a discussion of the research concerned with intolerance of ambiguity.

The Counselor's Personality in Research

There has been in the last fifteen years a proliferation of literature which has emphasized the importance of the counselor's personality. In reviewing the research the terms "counselor" and "therapist" will be used interchangeably as is often done in the literature, recognizing that there is an operational distinction between these two terms.

Of the earlier studies concerned with personality, that of Kelly and Fiske[1] was probably the most comprehensive. Attempting to discover a valid way to predict the success of clinical psychology trainees in the Veterans Administration program, their study covered a period of five years and involved many research personnel.

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[1]E. L. Kelly and D. W. Fiske, The Prediction of Performance in Clinical Psychology (Ann Arbor: Univ. of Mich., 1951).

Personality was evaluated by both personal interviews and the following tests: The Allport-Vernon Scale of Values, the Minnesota Multiphasic Personality Inventory, the Guilford-Martin Personality Inventory, the Strong Vocational Interest Battery, the Kuder Preference Record-Vocational, the Roschach, and the TAT. The authors concluded that the Strong Vocational Interest Battery was a better predictor of success in the Veterans Administration program than clinical judgments based on personal interviews. In the light of this finding, it is not surprising that much subsequent research concerned with the assessing of counselor personality and attitudes has used measures that may be scored objectively, rather than techniques requiring subjective evaluations.

Wrenn[1] presented normative data for 30 graduate students in counseling who were his advisees, based on four personality tests. Cottle[2] and Cottle, Lewis, and Penny[3] studied counselor personality, and developed an experimental scale to measure counselor attitudes based on items drawn from the Minnesota Multiphasic Personality Inventory, the Strong Vocational Interest Battery, and the Guilford-Zimmerman Temperment Survey.

Abeles'[4] study of the characteristics of counselor trainees, using a variety of instruments, resulted in the finding of profile patterns differentiating the more or less promising groups of

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[1]C. G. Wrenn, "The Selection and Education of Student Personnel Workers," Personnel Guidance J., 31 (1952), pp. 9-14.

[2]W. C. Cottle, "Personal Characteristics of the Counselor," Personnel Guidance J., 31 (1953), pp. 445-450.

[3]W. C. Cottle, W. W. Lewis, and M. M. Penny, "Personal Characteristics of Counselors: An Experimental Attitude Scale," J. Counsel. Psychol., 1 (1954), pp. 74-77.

[4]N. Abeles, "A Study of the Characteristics of Counselor Trainees," (unpublished doctoral dissertation, The University of Texas, 1958).

counselor trainees, particularly with respect to values, interests, and characterological aspects of personality.

Mott[1] compared the personality of graduate students in counseling with other graduate students in education. Arbuckle[2] related his measures of counselor personality to sociometric judgments by clients of the most chosen and most rejected counselor. In a similar study by Stefflre, King, and Leafgren[3] peer judgments by counselor trainees were used as a criterion for the identification of differences between those chosen as effective counselors and those rejected as not being effective.

Early research on the counseling process was concerned primarily with client variables and changes over time, but subsequent work has shown a recognition of the importance of the counselor as a person apart from his techniques per se. It has become increasingly apparent that many studies are based on the premise that the counselor's personality consciously and/or unconsciously determines the counseling interaction.

Strupp[4] concluded from his study that the counselor's own personality, feelings, past interpersonal experiences, and emotional blind spots are among the basic determiners of counseling activity.

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[1]C. Mott, "A Study of Personality Variables Among Counselor Education Workers," Dissertation Abstracts, 23 (1961), pp. 3779-3780.

[2]D. Arbuckle, "Client Perception of Counselor Personality," J. Counsel. Psychol., 3 (1956), pp. 93-96.

[3]B. Stefflre, P. King, and F. Leafgren, "Characteristics of Counselors Judged Effective by Their Peers," J. Counsel. Psychol., 9 (1962), pp. 335-340.

[4]H. Strupp, "The Psychotherapist's Contribution to the Treatment Process," Arch. Gen. Psychiatry, 3 (1960), pp. 219-231.

Furthermore, the counselor's perception of his client and his feelings about the client reflect the counselor's personality. This conclusion was similar to that of Fiedler[1] who in an earlier study found that it was the counselor's total personality rather than his professional or theoretical allegiance that determined counseling behavior. Fay[2] concurred in Fiedler's conclusion, as did Wrenn[3] who more recently found that differences between counselors appeared to be more personal than theoretical.

In an earlier investigation Strupp[4] showed that there was a significant difference in the counseling behavior of the therapist who had undergone personal psychoanalysis and the therapist who had not. In a similar vein, Cutler[5] found that therapists could not approach subjects which impinged on their own conflicts as well as they could subjects which did not. He also showed that therapists were inaccurate in their reports of what occurred in the counseling session, and that these distortions were related to conflict areas in the counselor's personality. Johnson[6] concluded from his work that the counselor who behaves differently in the counseling interview from

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[1]F. E. Fiedler, "The Concept of an Ideal Therapeutic Relationship," J. Consult. Psychol., 14 (1950), pp. 239-245.

[2]W. Fay, "Doctrine and Experience: Their Influence Upon the Psychotherapist," J. Consult. Psychol., 22 (1958), pp. 403-409.

[3]R. Wrenn, "Counselor Orientation: Theoretical of Situational," J. Counsel. Psychol., 7 (1960), pp. 40-45.

[4]H. Strupp, "The Effect of the Psychotherapist's Personal Analysis Upon His Technique," J. Consult. Psychol., 19(1955), pp. 197-205.

[5]R. L. Cutler, "Countertransference Effects in Psychotherapy," J. Consult. Psychol., 22 (1958), pp. 349-356.

[6]D. Johnson, "The Understanding and Use of the Self in Counseling," Bull. Menninger Clinic, 17 (1953), pp. 29-35.

the way he usually does will soon tire of his work, and this attitude will be perceived by his client.

A number of other studies have also suggested the importance of the counselor's personality in the counseling process. Among these are Gustad and Tuma[1] who investigated the relationship between counselor and client personality and learning achieved in counseling. The study by Brams already mentioned in Chapter I was an attempt to measure the relationship between communication in the counseling process and a variety of personality variables.

Other investigators have approached the problem by studying the relationship between personality and the techniques used by the counselor. Patterson[2] states that the counselor's techniques must be consistent with his own personality, which is in turn consistent with his feelings and attitudes. Campbell[3] related the subrole behavior of the counselor to his personality and background. Others have used the content-analysis system in studying the techniques used in the counseling process. These have included investigations of approach-avoidance to hostility[4] and to dependency.[5]

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[1]J. Gustad and A. Tuma, "The Effects of Client and Counselor Personality Characteristics on Learning in Counseling," J. Counsel. Psychol., 4 (1957), pp. 136-143.

[2]C. H. Patterson, Counseling and Psychotherapy: Theory and Practice (New York: Harpers, 1959).

[3]R. Campbell, "Counselor Personality and Background and His Interview Subrole Behavior," J. Counsel. Psychol., 9 (1962), pp. 329-334.

[4]A. Bandura et al., "Psychotherapists Approach-Avoidance Reactions to Patients Expression of Hostility," J. Consult. Psychol., 24 (1960), pp. 1-8.

[5]C. Winder et al., "Dependency of Patients, Psychotherapists' Responses, and Aspects of Psychotherapy," J. Consult. Psychol., 26 (1962), pp. 129-134.

The varied research outlined above clearly indicates that the personality of the counselor is one of the important factors in the counseling process, having an effect on both the character of the interaction and the outcome of the counseling process.

Background of Theory on Intolerance of Ambiguity

Several approaches to counseling and psychotherapy appear to converge on the subject of ambiguity. All counseling theories emphasize in varying degrees that a major purpose of counseling is to understand the personal dynamics of the client. Osburn[1] has suggested that such understanding makes the interview situation analogous to projective tests; i.e. some degree of ambiguity is necessary in order to learn about the personality structure of the client. It is apparent that most counseling situations contain some degree of ambiguity. However, there are variations in the degree to which the ambiguity of the situation is stressed. The so-called structured interview where a specific series of questions is asked is the closest approximation to a totally unambiguous situation.

Of all the theories of counseling, it is Freudian theory that makes the most complete and explicit use of ambiguity. Here, the emphasis on the therapist as a "blank screen" implies that the therapist presents himself and the situation as an ambiguous stimulus object. Freud also stressed that the therapeutic situation should be free of the structure ordinarily imposed on most relationships, and he therefore emphasized the use of free associations where the client is urged to report every idea that comes to mind without the

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[1]H. Osburn, "An Investigation of the Ambiguity Dimension of Counselor Behavior," (unpublished doctoral dissertation, the University of Michigan, 1952).

normal censorship of conversation. Fenichel[1] has dealt at length with the relationship between the ambiguity of the therapist and his effectiveness in transference interpretations.

The relationship of ambiguity to nondirective theory is not as clear. Ambiguity in the sense that it is used here appears to be a necessary but not a sufficient ingredient in the basic philosophy of nondirective theory. The very term "nondirective" implies that the counselor remains to some extent ambiguous in the situation, neither imposing his own values on the client nor leading him in a specific direction. The emphasis by Rogers on the use of nondirective leads appears to be an attempt to create an ambiguous situation in which the client is invited to speak about what is of concern to him without the counselor imposing unnecessary structure. While nondirective theory places emphasis on broader aspects of the counseling relationship, it does appear to imply the existence and operation of the ambiguity dimension in counseling.

It was Else Frenkle-Brunswik[2] who first conceptualized tolerance vs. intolerance of ambiguity as one of the basic variables in both the emotional and cognitive orientation of a person towards life.

> Starting from the observation that some of her subjects were able to tolerate emotional ambiguities better than others, the writer became involved in the question of whether this attitude of intolerance of more complex, conflicting, or otherwise open structures extends beyond the emotional and social areas to further include perceptual and cognitive aspects proper.[3]

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[1]O. Fenickel, Problems of Psychoanalytic Technique, trans. by D. Brunswik (New York: Psychoanalytic Quarterly, 1941).

[2]E. Frenkle-Brunswik, op. cit.

[3]Ibid., p. 114.

In her study of ethnocentric subjects she was able to relate ambiguity to the psychoanalytic concept of the development of "ambivalence," which is defined as the coexistence in the same individual of love- and of hate-cathexis toward the same object. Frenkle-Brunswik found that some individuals were unable to accept or tolerate ambivalent feelings toward their parents. From her experiments she concludes that

> Denial of emotional ambivalence and intolerance of cognitive ambiguity are but different aspects of what may be a fairly coherent characteristic. An underlying emotional conflict between glorification and hostility in the attitude toward parents, sex, and one's own social identity . . . is related to a prevalence of premature reduction of ambiguous cognitive patterns to certainty in these subjects.[1]

Frenkle-Brunswik's analysis has been supported by the results of studies carried on by her and her collaborators in the areas of ethnic prejudice, perceptual ambiguity, and rigidity in problem solving. From this she has gone on to describe the person intolerant of ambiguity as one who tends to resort to black-white solutions and to arrive at premature closure of valuative aspects, often at the neglect of reality.

> He is disposed to think in rigid categories and to use dichotomies rather than continua in his evaluation. The multiple complexities of strange situations are approached and comprehended with concepts of unqualified and unrealistic simplicity. Preferably, the ambiguous or unstructured situation is avoided since it usually precipitates unpleasant emotional reactions ranging from uneasiness to anxiety.[2]

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[1] Ibid., p. 140.

[2] J. Block and J. Block, "An Investigation of the Relationship Between Intolerance of Ambiguity and Ethnocentrism," J. of Personality, 19 (1951), p. 303.

Working with perception, Muuss[1] has amplified the theory stating that the tendency to precipitate early judgment in perception is due to the individual's feeling of insecurity when confronted with an ambiguous situation, and therefore attempts are made to gain security by structuring the situation or stimulus prematurely. Furthermore, this need for structure is so great that the person intolerant of ambiguity will cling to his perception with a greater degree of certainty, and will also shut out other aspects of reality which represent a threat to his conclusion.

It is apparent that intolerance of ambiguity as conceived by Frenkle-Brunswik is not only related to psychoanalytic thought, but also to the concept of "tendency toward closure" in Gestalt Theory. Where there are "closed" Gestalten, there is also the tendency toward dichotomizing in interpersonal relations, the carrying over of old sets, the tendency toward premature closure, and the jumping to generalizations on the basis of external aspects. There also appears to be a relationship to Thurstone's[2] factorial analysis of perception and his finding that speed and strength of closure was a major factor in perception that appeared to transcend in significance the immediate perceptual content.

The extensive work of Frenkle-Brunswik and others in verifying this theory may be summarized by the following characteristics of the person found to be intolerant of ambiguity. This person has a greater: (1) need to structure; (2) compulsion to premature closure; (3) inability to face ambivalence and ambiguity; (4) tendency to type and classify

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[1]R. Muuss, "A Comparison of "High Causally" and "Low Causally" Oriented Sixth Graders in Respect to a Perceptual Intolerance of Ambiguity Test," Child Development, 31 (1960), pp. 521-536.

[2]L. Thurstone, A Factorial Study of Perception (Chicago: Univ. of Chicago Press, 1944).

into categories; (5) tendency to jump to unqualified and unsupported generalizations and conclusions; (6) tendency to circumscribed and closed Gestalten.

It was Bordin[1] who took the Frenkle-Brunswik contribution to personality theory and made the initial application of the ambiguity dimension to counseling theory. Bordin believes that the ambiguous character of the counseling relationship may be threatening to a counselor since it can act as an anxiety-producing stimulus on him. For this reason he suggests that the counselor controls the degree of ambiguity that he can tolerate in the interview so as not to arouse his own anxiety.

> In many cases the structuring of the relationship comes from the therapist's anxiety and discomfort in too free a relationship, one in which he is not able to control and foresee the exact direction of the patient's reactions.[2]

This control over the ambiguity dimension is generally achieved by the counselor's attempts to structure the situation. The counselor can structure the situation by specifying the attributes of the interview. This may be explicit where the counselor limits the client to certain specific questions or explains what the major emphasis of the counseling relationship will be. But implicitly the counselor may also define the limits of the situation, wither verbally or with nonverbal cues. More specifically, we may say that the counselor controls the ambiguity of the counseling relationship through the content of the discussion, the degree of closeness he allows, and his values in terms of the therapeutic goals he has for the client.

It would seem that the concept of intolerance of ambiguity is intrinsically equivalent to an oversimplified and thus reality-inadequate

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[1]E. S. Bordin, "Ambiguity as a Therapeutic Variable," J. Consult. Psychol., 19 (1955), pp. 9-15.

[2]Ibid., p. 14.

approach to situations, often combined with glaring omissions of fact. The work of Frenkle-Brunswik and others has suggested individual differences both in emotional ambivalence and readiness to face ambiguity. There appears to be value in further research concerning intolerance of ambiguity, particularly in regard to those individuals who have a rather profound influence and responsibility in helping others understand themselves, i.e., counselors and therapists. There may be a specific application to counselor education programs in Muuss' conclusion that:

> Tolerance toward an ambiguous stimulus might be considered as an indicator of mental health since the individual appears to be more realistic in his evaluation of the world around him, more aware of his own limitations, and more willing to admit that he does not know the answer to a problem.[1]

Attempts to Measure Intolerance of Ambiguity

The concept of intolerance of ambiguity was introduced in an attempt to unify a broad range of response tendencies of ethnocentric subjects, as described in The Authoritarian Personality.[2] The concept has been fruitful in producing research hypotheses, as well as a plethora of techniques and methods purporting to measure intolerance of ambiguity. In part this is due to Frenkle-Brunswik's expressed caution about assuming the generality of the construct when she initially introduced it. Noting that the evidence for its generality was only suggestive, she stated ". . . a much wider array of both techniques and population samples would be necessary to establish this generality with an adequate degree of definiteness."[3]

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[1]R. Muuss, op. cit., p. 534.

[2]T. Adorno et al., The Authoritarian Personality (New York: Harper, 1950).

[3]E. Frenkle-Brunswik, op. cit., p. 131.

The results of the varied investigations will be discussed in the following section of this chapter, but it would seem advisable first to outline the variety of attempts at measurement of intolerance of ambiguity.

The roots of later attempts to measure and relate ambiguity to personality can be found in early work with perception and projective techniques. There were some early studies[1] concerned with the emotional factors in perception, and ambiguity was achieved by tachistoscopic exposure to stimuli at speeds which provide decreased visual clarity. The variations in perception that were obtained under these conditions were assumed to reflect on individual emotions, defenses, and motivations.

It is assumed that the ambiguity factor is basic to the use of projective techniques. Here, the subject reacts to stimuli which do not have demanding structural determinants of perception. These stimuli may be said to be more or less ambiguous, and consequently different individuals react with a range of responses. This makes it possible to identify the dimension of the stimulus to which the subject has responded as well as the content of his response, and from this to make inferences about the motivational and emotional structure of the individual personality.

The earliest specific attempt to measure tolerance of ambiguity occurred in the California Public Opinion Study, the results of which are published in The Authoritarian Personality.[2] The instrument produced in this study was the Berkeley Public Opinion Questionnaire.

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[1]J. Bruner and D. Krech (eds.), Perception and Personality (Durham: Duke University Press, 1949).

[2]T. Adorno et al., op. cit.

It is a collection of 78 statements regarding government, business affairs, religion, and social relations about which the subject gives his opinion whether he supports or opposes the statement. Rushlau[1] used the Berkeley Questionnaire in investigating the hypothesis that intolerance of ambiguity was a generalized personality trait. We have already referred to Brams'[2] use of this instrument in his study of counselors. One of the most obvious problems in the use of the Berkeley Questionnaire, particularly with graduate students, is the obvious conflict between the statements on the test and social desireability patterns, thus making a valid measurement extremely difficult.

Following the Berkeley Questionnaire, it is possible to divide the subsequent instruments developed to measure intolerance of ambiguity into perceptual tasks, auditory tasks, and verbal-perceptual tasks. Of these, by far the largest number of studies have used perceptual tasks. Using the autokinetic effect, the Blocks[3] placed their subjects in a dark room with a stationary point source of light which appeared to move. Martin[4] used a Letter Recall Test, presenting letters tachistoscopically in various patterns on a screen, and then finding patterns of recall.

At least three investigations have used ambiguous pictures or drawings presented at various levels of clarity or ambiguity. Smock[5]

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[1]P. Rushlau, "An Experimental Study of Ambiguity Tolerance as a Trait," Dissertation Abstracts, 22 (1961), p. 2067.

[2]J. Brams, op. cit.

[3]J. Block and J. Block, op. cit.

[4]B. Martin, "Intolerance of Ambiguity in Interpersonal and Perceptual Behavior," J. of Personality, 22 (1954), pp. 494-503.

[5]C. Smock, "The Influence of Psychological Stress on the Intolerance of Ambiguity," J. Abnorm. and Soc. Psychol., 50 (1954), pp. 177-182.

used five series of 15 cards each in which the drawings became increasingly more structured to form a complete picture or design by the last card. Blood[1] used an opaque projector to present 16 figures at various levels of focus. The initial view of each picture was made highly ambiguous by presentation far out of focus, and subsequent pictures were made less ambiguous with each new focus. Subjects were instructed to respond with an answer as soon as they felt they could identify the figure. The focus setting at which the subject made his first response to a picture determined his ambiguity-tolerance score. Laskowitz[2] photographed ten standard TAT cards and presented them progressively out of focus.

One of the most popular perceptual tasks for research use is the Decision Location Test developed by Etzel, Rosenblum, and Levitt. This test, as described by Levitt, [3] is an adaptation of the Incomplete Picture Subtest of the Minnesota Preschool Scale, and consists of several series of 20 straightline drawings which become clearer as they are projected on a screen. Subjects indicate not only what they think the object might be, but also state how sure they are of their conclusion.

A final perceptual task is described by Eysenck[4] as part of a study by Coulter, and is called the Dog-Cat Test. Here eight drawings of a dog turning slowly and by degree into a cat are shown, the

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[1]K. Blood, "A Study of the Relationship Between Anxiety and Ambiguity Tolerance," Dissertation Abstracts, 21 (1961), p. 3521.

[2]D. Laskowitz, "The Effect of Varied Degrees of Pictorial Ambiguity on Fantasy Evocation," Dissertation Abstracts, 20 (1960), p. 3379.

[3]E. Levitt, "The Decision Location Test With Grade School Children," Child Development, 24 (1953), pp. 263-268.

[4]H. Eysenck, The Psychology of Politics (London: Routledge and Kegan Paul, 1954).

assumption being that those intolerant of ambiguity would cling to the original dog-concept long after the drawing looked like a dog.

In contrast to the many perceptual tasks, only one ambiguous auditory task is reported in the literature. This test, called the Azzageddi Test, is desctibed by Davids and Murray.[1] The device consists of eight one-minute recorded passages with a three minute interval between passages. Ambiguity is provided by the nature of the content which contains conflicting and contradictory statements which by themselves are unambiguous but when intermingled appear confused and contradictory. Subjects were instructed to write down their reaction during the silent intervals, the authors attempting to find the subject's ability to cope with ambiguous material and their willingness to report ideas that were confused and unclear.

Some of the most interesting and promising attempts to measure intolerance of ambiguity have incorporated both verbal and perceptual tasks. One of the first researchers to work in this area was Sidney Siegel[2] who developed several instruments in his work on authoritarianism. Out of this work came the TICA test ("tolerance-intolerance of cognitive ambiguity"). This test consisted of 16 pictures selected at random from several popular magazines, and 16 statements selected at random from different magazines. Since the statements were not taken from the same magazines as the pictures, there was no direct relationship between the two. The pictures were of adult men and women, showing only the face, and subjects were instructed to match the pictures with a statement if they felt the person

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[1]A. Davids and H. Murray, "Preliminary Appraisal of an Auditory Projective Technique for Studying Personality and Cognition," Amer. J. Orthopsychiatry, 25 (1955), pp. 543-554.

[2]S. Siegel, "Certain Determinants and Correlates of Authoritarianism," Genetic Psychol. Mono., 49 (1954), pp. 187-229.

had made the statement. The assumption was made that even though no hint was given that any of the persons pictured made any of the statements, subjects "high" in intolerance of ambiguity would match more statements to persons pictured than those "low" in intolerance of ambiguity.

Draguns[1] used the TICA test, as well as another test developed by Seigel which involved matching 20 pictures with 20 nationality names. Loomis and Moskowitz[2] report in their work the development of an ambiguous character sketch, containing an equal number of positive and negative character traits, to which subjects responded by attempting to reconcile the ambiguity.

Dittes[3] describes an instrument that he constructed to measure impulsive closure in theological students which he called a Parable Test. It contained a one-paragraph story written in Biblical idiom to which subjects gave opinions about its meaning. The account was essentially incoherent and unstructured, but contained religious symbols that could with distortion be forced to yield a coherent meaning. Brim and Hoff[4] describe a Desire for Certainty Test containing 32 statements about everyday life, such as "The chances that an

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[1]J. Draguns, "Response to Cognitive and Perceptual Ambiguity in Chronic and Acute Schizophrenics," J. Abnorm. and Soc. Psychol., 66 (1963), pp. 24-30.

[2]H. Loomis and S. Moskowitz, "Cognitive Style and Stimulus Ambiguity," J. of Personality, 26 (1958), pp. 349-364.

[3]J. Dittes, "Impulsive Closure as Reaction to Failure," J. Abnorm. and Soc. Psychol., 63 (1961), pp. 562-569.

[4]C. Brim and D. Hoff, "Individual and Situational Differences in Desire for Certainty," J. Abnorm. and Soc. Psychol., 54 (1957), pp. 225-229.

American citizen will believe in God are about ____ in 100." The assumption here is that subjects intolerant of ambiguity will set probability levels near the two extremes of 0 and 100, and will also claim a high degree of certainty that those values are correct.

One of the most recent attempts to measure intolerance of ambiguity is found in the work of Samuel Messick and John R. Hills.[1] Their article describes the development and preliminary evaluation of two group-administered paper-and-pencil tests for intolerance of ambiguity. Their purpose was to develop two objective tests of this personality variable, noting that an objective personality test is one in which the subject is unable to misrepresent himself, either deliberately or unintentionally, on the trait being measured. The two tests were rationally constructed to represent two different aspects of intolerance of ambiguity, one perceptual and one cognitive. The first test, called the Figure Recognition Test, was designed to measure the tendency toward early perceptual closure; while the second test, the Verbal Reasoning Test, was designed to measure the tendency to generalize quickly from specific cues. These two tests have served as the independent variable to measure intolerance of ambiguity in the sample of this study, and each test will be discussed in greater detail in Chapter III.

In the above survey of available techniques to assess intolerance of ambiguity, an attempt was made to find suitable instruments for this study. The choice of the Figure Recognition Test and the Verbal Reasoning Test seemed to be warranted by the care with which these tests were constructed and evaluated, as well as their practical application to testing groups of graduate students.

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[1]S. Messick and J. R. Hills, "Objective Measurement of Personality: Cautiousness and Intolerance of Ambiguity," Educ. and Psychol. Measure., 20 (1960), pp. 685-698.

Review of Research on Intolerance of Ambiguity

The initial work of Frenkle-Brunswik in formulating the concept of intolerance of ambiguity and suggesting some evidence for its being considered a major personality variable has in turn produced a range of research studies that have amplified the concept and seen it applied to varied conditions and populations. A review of the research reveals that investigations have been carried on with a variety of subjects, including normal children, mentally retarded children, junior high school students, university undergraduate and graduate students, and schizophrenic adults.

One of the early questions raised and investigated had to do with the relationship between intolerance of ambiguity and authoritarianism. Following Frenkle-Brunswik's provocative but tentative and exploratory findings,[1] a number of investigators have obtained evidence for a positive relationship.[2] However, considerable contradictory evidence has also been reported.[3] In attempting to explain the descrepant results of the studies in this area, Kenny and Ginsberg[4] infer from their data that this can be understood by considering the variety of tasks used to measure intolerance of ambiguity. It is their contention, having used 12 different measures in their own study, that unless a common factor of intolerance of ambiguity runs through all of the tests employed in its name, the results cannot help but be

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[1]E. Frenkle-Brunswik, op. cit.

[2]For example: Block and Block, 1950; Budner, 1960; Eysenck, 1953; O'Conner, 1952; Siegel, 1954; Steiner, 1954; Taft, 1956.

[3]For example: Brim and Hoff, 1957; Davids, 1955; Davids and Murray, 1955; Kenny and Ginsberg, 1958.

[4]D. Kenny and R. Ginzberg, "The Specificity of Intolerance of Ambiguity Measures," J. Abnorm. and Soc. Psychol., 56 (1958), pp. 300-304.

discordant. Davids[1] has another explanation, attributing the discrepancy to the experimenter variable. He bases this on a number of studies which have provided objective evidence that personal attributes in the interviewer, such as attitude, interest, race, and religion, can have a significant influence on the data secured from respondents. This explanation may find support in Brown[2] who found the relationship between authoritarianism and problem-solving rigidity was dependent upon the experimenter establishing a threatening atmosphere, while in a friendly, relaxed atmosphere the relation did not obtain.

Other investigators have been concerned with the relationship of intolerance of ambiguity to ethnocentrism. It was intolerance of ambiguity that Frenkle-Brunswik regarded as the most important variable in understanding the ethnocentric personality, and further research has at least confirmed a positive relationship. Using the autokinetic effect, Block and Block[3] found that intolerance of ambiguity as manifested by the rapid establishment of a frame of reference was positively related to the degree of ethnocentrism. Rosenblum[4] found among high-grade mentally retarded white boys that ethnocentrism was associated with less ability to tolerate ambiguity in a perceptual task. Eysenck[5] reports Coulter's study in England in which he found

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[1]A. Davids, "Some Personality and Intellectual Correlates of Intolerance of Ambiguity," J. Abnorm. and Soc. Psychol., 51 (1955), pp. 415-420.

[2]R. Brown, "A Determinant of the Relationship Between Rigidity and Authoritarianism," J. Abnorm. and Soc. Psychol., 48 (1953), pp. 469-476.

[3]J. Block and J. Block, op. cit.

[4]S. Rosenblum, "Ethnocentrism and Intolerance of Ambiguity in Mentally Retarded Children," Amer. J. Mental Deficiency, 61 (1957), pp. 567-573.

[5]H. Eysenck, op. cit.

that Fascists and Communists were more intolerant of ambiguity than a politically neutral group in his sample.

Some of the research has approached intolerance of ambiguity from the perspective of cognitive style. Cohen,[1] for example, was able to show a stable and measureable need for cognition, and that an ambiguous situation brought more frustration than did the structured situation. He also found that the degree of ambiguity was more important for people with high need-cognition than for those with low need-cognition. Loomis and Moskowitz[2] compared one group characterized by a flexible cognitive style with another described as following a constricted cognitive style. They found that both groups could recognize stimulus ambiguity, but that differences between the groups emerged in reconciling the ambiguity. The "flexibles" were more likely than the "constricted" to integrate the competing, overlapping, and contradictory elements of a stimulus situation, whereas the "constricted" were more likely to keep apart the intrusive ambiguities if possible.

Muuss[3] was concerned with a child's causal orientation to his environment as it is related to intolerance of ambiguity. By causal orientation he was referring to an understanding and appreciation for the causal forces that operate in human behavior. He found among sixth grade children that the "high" causally oriented differed from "low" causally oriented in (1) making fewer guesses about the object in a sequence of incomplete pictures, (2) waiting longer until the picture is more complete, and (3) being more inclined to express a feeling of uncertainty as long as the stimulus is ambiguous.

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[1]A. Cohen, "An Experimental Study of Need for Cognition," J. Abnorm. and Soc. Psychol., 51 (1955), pp. 291-297.

[2]H. Loomis and S. Moskowitz, op. cit.

[3]R. Muuss, op. cit.

A number of studies have attempted to study the relationship of intolerance of ambiguity to anxiety. Blood[1] used the Taylor Manifest Anxiety Scale to compare high and low anxiety subjects, and his study indicated that high manifest anxiety subjects did not demonstrate less ambiguity tolerance. The evidence does seem to indicate, however, that when frustrated or under stress, an individual will show less tolerance for ambiguity and an increased desire for certainty. Smock[2] exposed his subjects to threats to their self image and found that under such stress ambiguity tolerance was reduced. He also found that with additional experience and learning, relevant cues were learned, some anxiety extinguished, and intolerance of ambiguity reduced. Smock concludes:

> It has been demonstrated that stress results in an inability for some individuals to withhold response to a partially structured perceptual field until adequate cues are present for the most appropriate response. In brief, the individual under psychological stress or anxiety is likely to be intolerant of ambiguity, and will fail to perceive variations within a class of stimuli, e.g., individuals.[3]

Several investigators have attempted to go beyond Frenkle-Brunswik's original description of the individual personality traits associated with intolerance of ambiguity. These studies have typically involved finding characteristics in common for those persons judged to be intolerant of ambiguity on some measure. Budner[4] found that intolerance of ambiguity was positively associated both with attendance at religious services and intensity of religious beliefs. It was also

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[1]K. Blood, op. cit.

[2]C. Smock, op. cit.

[3]Ibid., p. 182.

[4]S. Budner, op. cit.

positively related to conventionality and dogmatism about one's religious beliefs, as well as being related to favorable attitudes towards censorship. Budner also noted a curvilinear relationship to age, with those individuals in their teens and over thirty less tolerant of ambiguity than those in their twenties. Dittes[1] reports that tolerance for ambiguity and tendency toward impulsive closure were related to a persons need to maintain or enhance his self esteem, as well as low intellectual ability. He posits on the basis of his research a motivational basis for differences in tendency to impose closure, holding that closure, regardless of its contents, acquires a specific reward value as a means of enhancing self confidence and self esteem.

Of particular significance for this study is the research which has applied the concept of intolerance of ambiguity to counseling and psychotherapy. Osburn[2] explored certain methods of analyzing counseling interviews with respect to the ambiguity dimension of the counselor's behavior. Using 29 typescripts of interviews conducted by four counselors at three levels of relationship, he proceeded to analyze the counselor's behavior at four levels of influence: (1) the number of counselor responses; (2) classification of the single response unit; (3) ratings based on a fairly homogeneous topic unit; and (4) ratings based on the entire interview. Osburn's findings were:

(1) The ambiguity dimension of the counselor's behavior is a measurable aspect of the counseling process.

(2) No significant differences were found between the ambiguity of the counselor's behavior in the first and

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[1]J. Dittes, op. cit.

[2]H. Osburn, "An Investigation of the Ambiguity Dimension of Counselor Behavior," (unpublished doctoral dissertation, The University of Michigan, 1952).

second interviews as compared with interviews at the third or more level.

(3) The number of times the counselor initiated the topic of conversation was found to be related to the ambiguity of the interview.

(4) Specific counseling techniques were found to effect the ambiguity of the situation:

a. The non-directive aspect of the response, defined as the degree to which the counselor reflected the content of the client's response.

b. The number of responses by the counselor.

c. The degree of specificity of the counselor's response.

d. The information seeking versus the information giving aspects of the response.

(5) Counselors showed a characteristic pattern in specific techniques used in achieving a given level of ambiguity in the interview.

(6) The ambiguity of the interview was not related to the total number of words spoken by the client.

Osburn also found that varying the apparent level of inference in judgments made of the interviews did not produce a difference in the reliability of the classification. He concluded that global ratings of the entire interview were as reliable as classifications of single response units on the ambiguity dimension. Osburn's study served an important function in Bordin's early theorizing, and also gave a methodology to a later and similar study by Townsend.[1]

Dibner[2] used a sample of neuropsychiatric patients in a VA hospital who were given clinical interviews. He was interested in

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[1]A. Townsend, "An Empirical Measure of Ambiguity in the Context of Psychotherapy," Papers of the Michigan Academy of Science, Arts, and Letters, 41 (1956), pp. 349-355.

[2]A. Dibner, "The Relationship Between Ambiguity and Anxiety in a Clinical Interview," (unpublished doctoral dissertation, The University of Michigan, 1953).

measuring the differences in anxiety among the patients resulting from various levels of ambiguity in the form of structuring by the interviewers. Dibner found that the patient's anxiety was positively related to the degree to which he perceived the interview as ambiguous, as well as the ambiguity of the counselor's behavior. He also found a significant relation between the patient's perception of ambiguity and his perception of the interviewer as lacking in warmth.

Brams'[1] study has already been discussed in Chapter I. Brams attempted to find what personality characteristics in the counselor were associated with effective communication in the counseling interview. All of the relationships measured were inconclusive, except for tolerance of ambiguity, which was positively related to judges' evaluations of effective communication.

Summary

The importance of the counselor's personality as it effects the counseling process was discussed with reference made to the varied research which has supported this relationsip. It was seen that the counselor as a person, apart from his techniques and theoretical orientation, influences both the nature of the relationship and the outcome of counseling.

A number of theoretical approaches to counseling were seen to converge on the ambiguity dimension of counseling. Most important was the theoretical work of Frenkle-Brunswik who began with the psychoanalytic concept of "ambivalence" and went on to suggest that intolerance of ambiguity may possibly be a generalized orientation toward life to deal with situations lacking structure, definition, and

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[1] J. Brams, op. cit.

certainty. It was posited that the person intolerant of ambiguity would be conflicted over ambivalent feelings and would therefore typically avoid unstructured situations.

A variety of techniques for measuring intolerance of ambiguity were reviewed, the majority of these using perceptual tasks. More recently instruments have been developed which have combined perceptual and verbal tasks, this in an attempt to measure both the perceptual and cognitive aspects of ambiguity tolerance.

This chapter was concluded with a review of the major research on intolerance of ambiguity. From the review several conclusions are suggested: (1) that individuals vary in their tolerance for ambiguity, and that this is particularly true in a situation characterized by psychological stress or where the situation can enhance one's self esteem; (2) that some individuals under stress are unable to withhold a response to a partially structured situation until there are adequate cues; and (3) that counselors use a characteristic pattern of specific techniques to control the ambiguity level of an interview.

CHAPTER III

METHODOLOGY

The chapter begins with a description of the sample used in the study. The two objective tests which served as the independent variable are described. The dependent variable of specific counselor behavior is defined for each of the hypotheses. The procedures used in collecting and treating the data are discussed, concluding with a description of the statistical analysis.

The Subjects

The subjects used in this study are graduate students enrolled in the counseling practicum at Wayne State University. The entire practicum class from the winter and spring quarters of 1964 was used, consisting of 12 in the winter quarter and 11 in the spring quarter, making a total of 23 counselor trainees. The subjects had an age range of 23 to 49 years of age, with a mean age of 33. The sample included 18 males with a mean age of 33, and 5 females with a mean age of 34.

Information concerning the academic background of the subjects was secured from the office of the University Registrar, and this revealed that the group had a mean grade point average of 3.33, with a range of 2.96 to 3.72. Only two of the sample had a grade point average below 3.00, and all were in good standing academically with the university and with the department. No other academic aptitude

test scores were available for all of the sample so as to allow additional comparisons to be made. All of the subjects were enrolled in the Department of Guidance and Counseling of the College of Education at Wayne State University. Twelve subjects were candidates for the master's degree, while 11 were either working toward their doctor's degree or a specialist's certificate in counseling.

An information form completed by each of the subjects revealed that they had completed between 20 and 60 graduate hours in counseling, guidance, and psychology course, with a mean of 32 graduate course hours. No previous counseling experience was reported by 19 of the subjects. Of the remaining four subjects, one had been a high school counselor for six years, another for five years, and two had been high school counselors for one year. Two of the subjects listed their vocational goal as educational administration, while the remaining 21 subjects indicated their vocational goal as work in a high school or college counseling setting.

Each of the subjects in this study was required to take a course in "the counseling process" as a prerequisite for enrollment in the counseling practicum. The counseling process course was designed to give exposure to various theories underlying approaches to counseling, along with some limited experience in interviewing and analyzing interviews. While the attempt was made to expose students to a variety of theoretical approaches, it is assumed that the theoretical emphasis varied with the instructor. The subjects in this study took this course at different times, and were exposed to three different instructors. As reported by the instructors, two tended to prefer a non-directive approach to counseling, while the third emphasized a communication theory approach.

The counseling practicum consisted of: (1) one group seminar weekly (three hours in length) conducted by two supervisors who are

members of the faculty in the Department of Guidance and Counseling; (2) one hour of weekly supervision on specific cases with one of the two supervisors; and (3) actual counseling for several hours each week in the counseling laboratory. In this study one of the supervisors served for both the winter and spring quarters, while the second supervisor was a different person for each of the quarters. While the group was divided in half each quarter for individual supervision, both supervisors were aware of the progress of each counselor-trainee through consultation and weekly seminars.

The clients of these counselors were Junior and Senior high school students from Wayne and Oakland counties, All of these clients were referred to the Wayne University Counseling Laboratory by their school counselor or principal, and their problems most typically involve personal adjustment to social, school, or family life situations, as well as vocational and educational decisions. The two counselor supervisors attempted to screen out before assignments were made any referrals who were clearly in need of more intensive treatment. For the purpose of the study clients were randomly assigned to the counselor trainees for their first interview.

Independent Variable

In attempting to select suitable instruments to measure intolerance of ambiguity for the study, the following criteria of selection was established: the instruments must be appropriate to the intellectual level of graduate students, group-administered, and objective tests. By an objective test it was meant that the subject's behavior could be assessed without his being aware of the manner in which his behavior was scored and interpreted, and that the subject could

not misrepresent himself either deliberately or unintentionally on the trait being measured.

These criteria were met in two objective tests for intolerance of ambiguity developed by Samuel Messick and John R. Hills,[1] called the Figure Recognition Test and the Verbal Reasoning Test. These tests were rationally constructed to represent two different aspects of intolerance of ambiguity: (1) the Figure Recognition Test is designed to measure the tendency toward early perceptual closure, and (2) the Verbal Reasoning Test measures the tendency to generalize quickly from specific cues. The items in both tests are difficult and partially structured in order to maximize the reliability. This is because response sets appear to have the greatest influence when material is unstructured, ambiguous, and difficult.[2]

Both of these tests use a tab format which enables the subject either to respond immediately or to request more information by pulling additional tabs. A small number of additional requests for information are then used as an indication in one test of the tendency toward early closure, and in the other of the willingness to generalize from specific clues.

The Figure Recognition Test has 14 items, each of which consists of five incomplete drawings of the same figure. The drawings are covered by tabs, each revealing a more complete figure, although the final version is still only partially structured. Subjects were told in the instructions to write their answer when they thought they knew what the figure represented, and that fewer points would be given with each tab pulled.

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[1]S. Messick and J. Hills, "Objective Measurement of Personality: Cautiousness and Intolerance of Ambiguity," Educ. and Psychol. Measmt., 20 (1960), pp. 685-698.

[2]L. Cronbach, "Response Sets and Test Validity," Educ. and Psychol. Measmt., 11 (1951), pp. 16-22.

The Verbal Reasoning Test consists of 28 difficult words, five suggested answers lettered A through E, and five sentences covered by tabs in which the stimulus word is used. The meaning of the word becomes progressively clearer as each tab is lifted. Instructions given were similar to those of the Figure Recognition Test.

Two scores are obtained from each test: (1) a content or ability score representing the proportion of items attempted that are correct; and (2) a response set or tab-lifting score reflecting the tendency to lift tabs. It is the tab-lifting score which is here regarded as a potential measure of a stylistic consistency in personality. The content score is regarded as an incidental measure to control for ability. Accordingly, a person who is intolerant of ambiguity should quickly structure an incomplete picture, and he should tend to jump to a generalization about the meaning of a word from its restricted use. Thus, he should tend to lift few tabs in both test situations, but not necessarily get more items correct. The influence of speed was minimized by using proportion scores based on the items attempted.

Because a person with high ability should be able to answer items by lifting fewer tabs, a correlation is expected between content and tab-lifting scores in each test. In order to control the effects of content or ability, Messick and Hills have defined a new set score (T) as the deviation around the regression of the tab-lifting tendency on content ability.

$$T = t - \hat{t} = t - bz - (\bar{t} - b\bar{z})$$

Legend: t is the average number of tabs lifted per attempted item, z is the proportion of attempted items that are correct, $\bar{t}$ and $\bar{z}$ are the means of t and z, and $b = \frac{s_t}{s_z} r_{tz}$, the coefficients for the regression of t on z.

Messick and Hills report finding the split-half reliability of the tab-lifting score on the Figure Recognition Test to be .64, and the

Verbal Reasoning Test .91. In computing the residual scores T the authors report the reliability of the tab-lifting tendency dropped to .63 and .82 respectively. The authors also concluded that since the two tests were rationally constructed as direct attempts to assess two aspects of intolerance of ambiguity, the significant correlation (.34) between the two tab-lifting scores contributes to the construct validity of a generality of the concept.

In this study a determination of the reliability of scores on the two instruments was made using Hoyt's Analysis of Variance Technique, and reliability estimates are presented in Table 1. The reliability of the tab-lifting score on the Verbal Reasoning Test was .89; and on the Figure Recognition Test, with only half as many items, the reliability was .69. These substantial reliabilities were not matched by the content measures, although these content reliabilities were larger than those reported by the test authors. Because in both tests the tab-lifting score correlated significantly (as reported in Chapter IV) with the content score from the same test, the question arose as to how much of the reliability of the tab score was due to consistent content variance. For this reason the reliability of the residual score T was computed, and the effect of this procedure lowered the reliability from .89 to .76 and from .69 to .48.

Dependent Variable

It is the purpose of this study to predict counselor behavior in the interview on the basis of test behavior defined as tolerance-intolerance of ambiguity. The specific predictions are contained in the three hypotheses presented in Chapter II.

These three predictions were investigated using the technique of counting counselor words and responses according to the criteria

Table 1. Reliability Estimates for the Figure Recognition and Verbal Reasoning Tests. (n = 23)

	Reliability Coefficients
Figure Recognition Test*	
Tab-lifting score	.69
Content score	.50
Verbal Reasoning Test*	
Tab-lifting score	.89
Content score	.62
Residual Tab Score (T)**	
Figure Recognition Test	.48
Verbal Reasoning Test	.76

*Based on C. Hoyt, "Test Reliability Estimated by Analysis of Variance," Psychometrika, 6 (1941), pp. 153-160.

**Based on the following formula suggested by the test authors:

$$r_{TT} = \frac{r_{tt} - 2r_{zt}^2 + r_{zt}^2 r_{zz}}{1 - r_{zt}^2}$$

listed below for each of the hypotheses. The counting procedure was completed by two judges working independently, using a typescript of the entire first interview for each counselor-trainee.

A counselor response was defined as any statement surrounded by two client statements. The standard procedure of not including "Uh hmm" as a response for analysis was followed here.

The first specific hypothesis was as follows:

H_1: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his movement toward premature closure or resolution of the client's problem.

Two indices of counselor movement toward premature closure or resolution of the client's problem were used:

(1) The judges counted the number of responses in the entire interview in which the counselor initiated, interrupted, or changed the topic of the client's conversation.

(2) The judges counted the number of summary statements by the counselor in the entire interview. A summary statement was defined as a response in which the counselor summarized the content of a series of client responses; or a response in which the counselor attempted to bring about closure for himself and/or the client. As here defined, a summary statement does not include the counselor's reflection of a single client response.

The second hypothesis was:

H_2: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his use of cognitive rather than affective material in the interview.

As an index of the counselor's use of cognitive material rather than affective material in the interview, the two judges rated each counselor response as to whether it focused predominantly on cognitive and content material or on affective and feeling material. A count was made of the responses in the entire interview for each of these categories, and ratios of responses that respond to cognitive and affective materials were computed. Responses that were judged as being both cognitive and affective, or about which the judges were uncertain, were not included in the ratios used in this study.

The last specific hypothesis was:

H_3: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his tendency toward value-laden statements and conclusions.

As an index of value-laden statements and conclusions, the judges counted the number of counselor responses containing words or phrases judged to express value judgments, or to classify into categories. Examples might be words such as good, bad, right, wrong, ought, and should.

Procedures in Collecting Data

The entire counseling practicum for the winter and spring quarters at Wayne State University, consisting of 12 and 11 students respectively, was given the Figure Recognition Test and the Verbal Reasoning Test during the first class meeting. The subjects were told by the instructor that they were participating in a research project, and that their performance on the two tests would not be considered in the evaluation of their performance in the practicum. Each of the subjects completed a personal data sheet at the same time, describing previous counseling training and experience, present occupation, and occupational goal. Graduate grade point averages (G.P.A.) were also computed on the basis of information provided from the department files, this being considered as an additional control for possible ability correlates with the two test instruments.

Because all interviews were tape recorded in the counseling practicum, the recording of the first counseling interview for the purpose of this study was not considered as introducing an artificial element effecting counselor performance. Both counselor and client

understood a recording was being made, although they were not aware that the first interview would be used for research purposes. A total of 23 recordings were collected, and the entire interview transcribed into a typescript. The interviews were all of approximately the same length (40 minutes), except for one interview which was 25 minutes long.

At the beginning of both quarters the two counseling supervisors conducting the practicum were given a rating scale with the names of each class member listed alphabetically. The following instructions accompanied the rating scale:

> Assuming that the counselor who is less threatened by the lack of structure inherent in the counseling relationship is also more tolerant of ambiguity, rate these counselor trainees from high to low as to their tolerance of ambiguity. Rate from 1 - 12 (1 - most tolerant of ambiguity, 12 - most intolerant of ambiguity).

The two supervisors ranked each member of the practicum after the first interview and at the end of the quarter. Since they were in agreement as to their rankings, one joint ranking was used for each subject. The supervisors did indicate that they felt their rankings were most accurate at the two extremes. The supervisors made these evaluations independent of any knowledge regarding the test performance of the subjects.

Procedures in Testing Data

The recordings of the first counseling interview were made into typescripts by a secretary who also assigned a number to each typescript for purposes of identification. The typescripts were arranged in the order in which they were to be read by the judges, the order

being based on a table of random numbers. The two judges making the counts were not aware of the subject's name nor of his score on the predictor instruments. A sheet of instructions was prepared for the judges along with a tally sheet for use with each typescript. The instructions to the judges are contained in Appendix C.

The first judge was an intern in counseling and psychotherapy during the academic year in which this study was undertaken. He received his doctorate in counseling psychology from Columbia University Teachers College in 1960, and had previously taught at the University of Alabama. The second judge was the author of this study, and was completing an internship in counseling and psychotherapy as part of the requirements for the doctorate in counseling psychology from Michigan State University. Precautions were taken in the assignment of numbers to the typescripts so that the author of the study had no knowledge of the identity of the counselors in the typescripts until after the counting was completed and percentages computed by both judges.

Before beginning to judge the interviews, the two judges practiced together on a typescript not used in the sample. They worked together on the typescript until it was felt they were both interpreting the criteria from a common frame of reference.

The judges read through each interview in the order assigned and counted the counselor responses according to the criteria discussed earlier under the dependent variable. Following this counting procedure, each judges' count was transformed into a percentage score based on the proportion of the total number of counselor responses in the interview. Because the total counselor responses among the 23 trainees ranged from 29 to 200, it was felt that the proportion scores would give a more accurate measure. The judges were

then asked to rank the subjects from 1 to 23 according to the percentage of responses counted in each category.

In Table 2 below, the interjudge reliability of the proportion scores are shown for each of the four counting criteria. These were computed using the Pearson product-moment correlation. The question of the appropriate use of this statistic was considered, and it was concluded that although the data might not constitute a normal bivariate distribution, it did by inspection suggest a linear relationship between the variables. As a check on the product-moment correlation, tau correlations for the individual rankings were also computed for each of the criterion variables. As a further check on the interjudge reliability, a sample of four proportion scores showing the largest differences between judges were examined using the formula for differences between proportions as suggested by Walker and Lev,[1] and this revealed no significant differences other than what would occur by chance.

The interjudge reliabilities in making the counts in each category were judged to be adequate for purposes of the present study.

The final assignment of ranks on each of the four criteria was determined by averaging the percentage assigned by each judge for each counselor in the sample.

Statistical Analysis

The tab-lifting and content scores on the two tests of intolerance of ambiguity were compared using Pearson product-moment correlations. These correlations were used in ascertaining whether the tab-listing scores on both tests were a potential measure of a stylistic consistency in personality. The correlations were also used to give

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[1]H. Walker and J. Lev, Statistical Inference (New York: Holt, Rinehart and Winston, 1953), pp. 77-79.

Table 2. Interjudge Reliability Estimates in Counting Counselor Responses on the Criterion Variables (n = 23)

	Product-moment correlation for proportion scores	Tau correlation for individual rankings
1. Initiating or interrupting topic of conversation.	.93	.86
2. Summary or closure statements.	.85	.71
3. Focus on cognitive vs. affective material	.96	.83
4. Value judgments	.95	.84

information concerning the influence of an ability factor when considering the relationship to content scores and the graduate grade-point averages.

In testing the hypotheses, the relationship between performance on the two tests and performance in the counseling interviews was examined. As the independent variable the residual tab score (T) for each of the tests was used, and all subjects were ranked from 1 to 23 according to their T-scores. As the dependent variable the judges' counts of counselor responses in relation to the criterion variables were expressed as proportions of total counselor responses. Because the interjudge reliability revealed a high degree of consistency in individual counts, the percentages for each individual on the four variables were averaged. A rank was then assigned on all of the criterion measures based on this average percentage.

Because it cannot be assumed that the distribution of scores is normal or continuous, a measure of relationship was needed which did not depend for its validity upon the assumption of a normal bivariate universe. Walker and Lev[1] indicate in such situations where rankings are being compared and samples are between 8 and 25 that Kendall's[2] tau coefficient is an appropriate statistic.

The tau coefficient is unique among the rank order correlation methods in that the sampling distribution of tau under the null hypothesis is known, and tau is therefore subject to laws of significance. Kendall[3] describes how exact confidence limits can be determined for any specific ranking and the resulting tau coefficient.

The nature of the data in this study satisfy the assumptions underlying the use of the tau rank correlation technique. This includes having at least an ordinal measurement on both X and Y variables. All of the data used in this study have been converted to ranks for purpose of analysis. This includes the Figure Recognition T score, Verbal Reasoning T score, age, graduate grade-point average, judges' counts, and the evaluations of the counseling supervisors after the first interview and at the end of the practicum. In cases of tied observations these were given the average of the ranks they would have received if there were no ties.

Summary

The subjects in this study were 23 graduate students enrolled in the counseling practicum at Wayne State University. The clients

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[1] Ibid., p. 286.

[2] M. Kendall, Rank Correlation Method (2d ed.; New York: Hafner, 1955).

[3] Ibid., pp. 87-91.

counseled by these trainees were high school students referred for personal adjustment problems.

The independent variable of the study was performance on two objective tests of intolerance of ambiguity, the Figure Recognition Test and the Verbal Reasoning Test. The reliability estimates for the two tests ranges from .48 to .89 and were considered adequate for the purpose of the study. For both tests a new residual tab score (T) was defined as the regression of the tab-lifting tendency on content ability.

The dependent variable was performance in the counseling interview. Specifically, four aspects of counselor behavior were defined as criteria and counted in the interviews:

(1) the number of responses in which the counselor initiated, interrupted, or changed the client's topic of conversation;
(2) the number of summary statements by the counselor;
(3) the number of counselor responses to cognitive rather than affective material;
(4) the number of value judgments or classifications into categories by the counselor.

The procedures in collecting the study data were described, including the testing of the subjects, the gathering of information through a personal data sheet, and the transcribing of the first counseling interview into a typescript. The two counseling supervisors were also asked to evaluate the trainees on tolerance for ambiguity after the first interview and at the end of the practicum.

In the treatment of the data two judges read the 23 transcripts and counted the counselor responses according to the four criteria. The judges' counts for each subject were transformed into proportions of total counselor responses to equalize the results. Interjudge reliability estimates for both the proportion scores and the individual

judges' rankings ranged from .71 to .96 and were considered adequate for the study.

The statistical treatment of the data was discussed, and included the use of product-moment correlations to compare performance on the two tests. The hypotheses were to be tested with the use of Kendall's tau rank order coefficient.

CHAPTER IV

ANALYSIS OF EXPERIMENTAL RESULTS

The first section of this chapter contains an analysis of the relationship between the two objective tests of intolerance of ambiguity. In the second section the hypotheses of the study are restated in their null form and tested. In the third part the interrelationship of the study variables is examined. The last section includes a comparison of the supervisor's rankings on intolerance of ambiguity with the results of the study.

Analysis of the Two Objective Tests

Product-moment correlations were computed among the content and tab-lifting scores for the two objective personality measures, as well as the graduate grade point averages. These correlations are presented in Table 3. The content or ability score was used as a control for ability, and was computed as the proportion of items attempted that were correct. The tab-lifting score, or response set score, measured the tendency to lift tabs. It was this score that was regarded as a potential measure of a stylistic consistency in personality.

The question was raised whether there were individual differences in tolerance for ambiguity among counselor trainees when measured by the two objective tests of this personality construct. The record of individual performance on the two tests is given in Appendix D.

Table 3. Product-Moment Correlations Between the Figure Recognition Test, Verbal Reasoning Test, and G.P.A. (n = 23)

	1	2	3	4	5
1. Figure Recognition Tab-lifting score					
2. Figure Recognition Content score	-.454*				
3. Verbal Reasoning Tab-lifting score	-.002	-.003			
4. Verbal Reasoning Content Score	-.206	.116	.457*		
5. Graduate G.P.A.	-.051	.357	.077	.226	
Means	3.48	.817	3.03	.484	3.33
Standard Deviation	.533	.135	.677	.131	.214

*Significant at the .05 level

It was found that of a possible five tabs per item on both tests, there was a tab-lifting score range of 2.21 - 4.43 on the Figure Recognition Test and a range of 1.64 - 4.18 on the Verbal Reasoning Test. The findings are regarded as an adequate range of individual differences on measured tolerance for ambiguity for the purpose of the study.

The question of the reliability of the two tests was discussed in Chapter III. Using Hoyt's Analysis of Variance Technique, the reliability of the Figure Recognition Test was found to be .69 and that of the Verbal Reasoning Test .89. After partialling out the ability measures, the reliability of the residual T-score was reduced to .48 and .76 respectively.

The product-moment correlations between the two tests and graduate grand point average are presented in Table 3. The Figure Recognition tab-lifting score had a significant negative correlation ($p < .05$) with the Figure Recognition content score. The fewer the tabs lifted on this test, the more correct answers obtained. The Verbal Reasoning tab-lifting score had a significant postive correlation ($p < .05$) with the Verbal Reasoning content score. On this test jumping to conclusions or lifting few tabs tended to lead to incorrect responses. The opposite correlations can in part be explained by the construction of the tests. In the Figure Recognition Test each successive picture in a figure tab item represents a fairly consistent increase in information. However, in the Verbal Reasoning Test the verbal items are so difficult that several tabs have to be lifted before a successful generalization can be made, and successive clues sometimes suggest different although not conflicting clues.

It will be recalled that the tests of intolerance of ambiguity were rationally constructed to measure two different aspects of intolerance of ambiguity. The Figure Recognition Test was designed to measure the tendency toward early perceptual closure, while the Verbal Reasoning Test was designed to measure the tendency to generalize quickly from specific clues. It would therefore be expected that the two tab-lifting scores would show a positive relationship to each other. The data here indicates that with the 23 counselor trainees there was no correlation (-.003) between the two tab-lifting scores. This is in contrast to the results reported by the test authors[1] who found a significant correlation between the two tab-lifting scores. In the next chapter a possible explanation of these divergent results

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[1]Messick and Hills report a correlation of .34 ($p < .01$) with their sample of 272 female college-preparatory students in a large urban high school.

will be discussed. The lack of relationship between the two potential measures of intolerance of ambiguity should be considered in the following testing of hypotheses since it cannot be anticipated that they will predict the same counselor behavior.

Testing the Hypotheses

Ranks were assigned to all subjects for each of the variables in the study according to the method discussed in Chapter III. This included rankings on the basis of the Figure Recognition and Verbal Reasoning T-scores, graduate grade point averages, age, and counselor performance on the four counted criteria.

Tau rank correlation coefficients were computed among all of these variables, and the results are presented in Table 4.

The first hypothesis may be restated in its null form as follows:

H_o: No relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his movement toward premature closure or resolution of the client's problem.

Two criteria were established for testing this hypothesis. The first criterion involved the counting of responses in which the counselor initiated, interrupted, or changed the client's topic of conversation. The results in Table 4 indicate a significant positive correlation ($p < .01$) between intolerance of ambiguity as measured by the Figure Recognition Test and the counselor's initiating, interrupting, or changing the client's topic of conversation. The relationship between the criterion and performance on the Verbal Reasoning Test was not significant.

The second criterion involved the counting of counselor responses which were either summary statements or statements intended to bring

Table 4. Tau Correlations between FR-T, VR-T, G.P.A., Age, and Counselor Performance on the Criterion Variables. (n = 23)

	1	2	3	4	5	6	7
1. Figure Recognition T-Score							
2. Verbal Reasoning T-Score	.19						
3. Graduate G.P.A.	-.08	.06					
4. Age	.01	.22					
Criterion Variables							
5. Initiating or Interrupting Topic of Conversation	.38**	-.05	.23	-.03			
6. Summary of Closure Statements	.02	.18	-.14	.26*	-.13		
7. Focus on Cognitive vs. Affective Material	.25*	-.01	.05	.17	.28*	.37**	
8. Value Judgments	.30*	-.20	-.12	-.01	.07	.43**	.47**

** Significant at the .01 level
* Significant at the .05 level

about closure for the counselor and/or the client. The tau correlations on this criterion were not significant for both of the predictor instruments.

The null hypothesis that there is no relationship between measured intolerance of ambiguity and the counselors movement toward premature closure or resolution of the client's problem is therefore rejected at the .01 level of significance. Because this hypothesis was operationalized in two directions and only one of these proved to be significant, it can be stated that the original hypothesis is only partially supported. The data indicates that counselors intolerant of ambiguity do show greater movement toward premature closure or resolution of the client's problem when observed as initiating, interrupting, or changing the client's topic of conversation. However, this movement toward premature closure is not demonstrated in a greater use of summary or closure statements.

The second hypothesis may be restated in its null form as follows:

H_o: No relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his use of cognitive rather than affective material.

The criterion established for investigating this hypothesis involved the rating of each counselor response as to whether it focused primarily on cognitive and content material, or on affective material. Those responses that were judged as focusing on both cognitive and affective material, or responses about which the judges were uncertain were not included in the ratio of cognitive to affective responses. A percentage score was established for each counselor and was defined as the proportion of total responses in which the counselor responded to cognitive or content material in the interview.

The tau correlation between intolerance of ambiguity as measured by the Figure Recognition Test and the counselor's focusing on cognitive material was significant ($p < .05$). There was, however, no relationship between the Verbal Reasoning Test and the criterion. The results based on the Figure Recognition Test indicate that the null hypothesis of no relationship can be rejected at the .05 level of significance. The original hypothesis of a positive relationship between measured intolerance of ambiguity and the counselor's use of cognitive rather than affective material can be accepted. There is no evidence of a relationship between the tendency to generalize quickly from specific cues, as measured by the Verbal Reasoning Test, and the counselor's focus on cognitive and content material.

The third hypothesis is stated in its null form as follows:

H_o: No relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his tendency toward value-laden statements and conclusions.

As a criterion for investigating this hypothesis counselor statements which contained words judged to express value judgments or to classify into categories (black-white, good-bad) were counted. The analysis revealed a significant positive correlation ($p < .05$) between intolerance of ambiguity as measured by the Figure Recognition Test and the counselor's use of value judgments or statements classifying into categories. The Verbal Reasoning test showed no significant relationship to the criterion.

The results based on the Figure Recognition Test indicate that the null hypothesis of no relationship can be rejected at the .05 level of significance. The original hypothesis of a positive relationship between measured intolerance of ambiguity and the counselor's use of value judgments or classifications into categories can be accepted.

There is no evidence of a relationship between the counselor's use of value judgments or classifications and the tendency to generalize quickly from specific clues, as measure by the Verbal Reasoning Test.

Interrelationship of the Study Variables

In taking an overview of the analysis presented in Table 4, a number of relationships among the study variables are noted. When counselors were ranked according to their T-scores on both the Verbal Reasoning and Figure Recognition Tests, it was found that the tau correlations between the two rankings was not significant. In considering the absence of a significant correlation between the two tests of intolerance of ambiguity, it is not surprising to find them showing a different pattern of relationship to the criteria of the study. It has already been noted that the Figure Recognition Test was significantly related to three of the four criteria regarding specific counselor behavior, the only exception being the number of summary or closure statements. It might therefore be said that the measurement of intolerance of ambiguity on the Figure Recognition Test could be used to reduce error in predicting interview behavior for the sample of 23 counselor trainees. Rankings on the Verbal Reasoning Test were not significantly related to any of the criteria.

When comparisons are made among the four criteria involving specific counselor behavior, it is noted that with one exception the criteria show a significant relationship with each other. The one exception is the counselor's initiating, interrupting, or changing the client's topic of conversation. This particular criterion is significantly related ($p < .05$) only to the counselor's use of cognitive rather

than affective material. There is little apparent relationship to the use of value judgments or the use of summary and closure statements by the counselor.

The three remaining criteria (use of summary or closure statements, focus on cognitive material, and use of value judgments) are correlated with each other at the .01 level of significance. It is of interest to note that while the counselor's use of summary or closure statements is significantly related to two of the three remaining criteria, it is not related to performance on the Figure Recognition Test.

No hypotheses were stated about the relationship of age and the graduate grade point average to test performance or counselor performance. Age was found to be significantly related ($p < .05$) to the counselor's use of summary or closure statements. That is, there was a significantly greater likelihood for the older counselors to use summary or closure statements than for the younger counselors to do so. The graduate grade point average was not significantly correlated with any of the study variables.

The relationship of previous counseling experience to performance in the counseling interview was examined. One of the subjects had been a high school counselor for six years, another for five years, and two had been high school counselors for one year. When the mean rankings for these four counselors on the criterion variables were examined, they were found to be at or above the group mean rankings on intolerance of ambiguity. In no case were they below the group mean, thus indicating that previous counseling experience was not a factor distorting the results of the study.

The relationship of the sex of the client to the counselor's performance on the four criteria was also examined. There were 11 male

and 12 female clients interviewed by the counselor trainees in the study. On each of the four criterion variables the mean rankings of counselors with male clients were compared with the mean rankings of counselors with female clients. All of the mean rankings for the two groups were found to be at or within one rank of the mean ranking for the entire sample (11.5). This would indicate that the sex of the client was not a factor effecting the rankings of the subjects on the four counseling criteria.

Supervisor Rankings on Intolerance of Ambiguity

As an auxiliary aspect of the study, the two counseling supervisors ranked each of the trainees on their observed intolerance of ambiguity in the counseling situation. These rankings were made after the first interview and at the end of the practicum. The purpose here was to investigate whether there was any relationship between the supervisor's rankings and the variables in the study. It should be emphasized that although the data on the final evaluations is included here for purposes of information, it is not directly related to the four criterion variables; these were based solely upon counts from the first interview. It should also be noted that the supervisors indicated that their final rankings were effected by their estimation of growth and change in the individual trainee during the practicum experience.

Group I consisted of five women and seven men who took the counseling practicum during the winter quarter of 1964. Group II consisted of eleven men who took the practicum in the spring quarter of 1964. The results of the analysis are presented in Table 5 on the following page.

The Figure Recognition Test was positively correlated ($p < .05$) with the supervisor rankings of group I on the first interview.

Table 5. Tau Correlations between Supervisor's Rankings of Trainees on Tolerance for Ambiguity and the Variables of the Study.

	Group I n=12		Group II n=11	
	First Interview	End of Practicum	First Interview	End of Practicum
Figure Recognition T-Score	.44*	.07	.02	.13
Verbal Reasoning T-Score	-.52**	-.30	-.24	-.20
G.P.A.	.05	.17	.38*	.35
Age	-.18	-.06	-.09	.13
Initiating or Interrupting Topic of Conversation	.36*	.24	.31	.35
Summary or Closure Statements	-.17	-.41*	-.27	-.29
Focus on Cognitive vs. Affective Material	.40*	.23	-.04	-.07
Value Judgments	.23	.00	-.02	-.15

**Significant at the .01 level

*Significant at the .05 level

That is, the supervisors and the Figure Recognition Test were in high agreement in their appraisal of those trainees intolerant of ambiguity. The other correlations for the Figure Recognition Test were non-significant.

The Verbal Reasoning Test showed a significant negative correlation ($p < .01$) with the supervisor rankings of group I on the first interview. Counselors ranked by their supervisors as most tolerant

of ambiguity were most intolerent of ambiguity when judged by the Verbal Reasoning Test. These results are similar to those previously discussed concerning the predictive capacity of the Verbal Reasoning Test in regard to specific counselor activity.

Age was not significantly related to any of the supervisor rankings. The graduate grade point average was significantly correlated ($p < .05$) with the ranking of group II at the time of the first interview, suggesting that the supervisors of group II rated as most tolerant of ambiguity those who had also made the best grades in their previous graduate work. It should be noted, however, that the variance in grade point average was larger for group II than for group I.

On the criterion variables, there was a significant positive correlation between the supervisor rankings of group I after the first interview and the counselor's initiating, interrupting, or changing the client's topic of conversation ($p < .05$). Also in group I the counselor's focusing on cognitive material was significantly related ($p < .05$) to the evaluation of the supervisor. Of interest also is the significant negative correlation ($p < .05$) for group I at the end of the practicum between supervisor rankings and the counselor's use of summary or closure statements. While no generalizations can be made regarding this because the criterion rank is based on the first interview and the supervisor rankings on the entire quarter, there is some suggestion that those rated as most tolerant by their supervisor tended to use more summary or closure statements.

Summary

The results of the study were presented in Chapter IV. The two objective tests of intolerance of ambiguity were analyzed using product-moment correlations. An adequate range of individual differences in

performance on the two tests was observed. The ability and tab-lifting scores were negatively correlated on the Figure Recognition Test, and positively correlated on the Verbal Reasoning Test. There was no observed correlation between the two tab-lifting scores, thus raising the question of whether the tests measure the same personality construct.

The three hypotheses regarding specific counselor behavior were tested in their null form using tau rank correlation coefficients. The first hypothesis concerning the relationship of intolerance of ambiguity to the counselor's movement toward premature closure or resolution of the client's problem was partially supported. Of the two criteria established for this hypothesis there was no evidence that the use of summary or closure statements by the counselor was related to intolerance of ambiguity. There was evidence of a significant relationship between intolerance of ambiguity and the counselor's initiating, interrupting, or changing the client's topic of conversation ($p < .01$). The second hypothesis was supported with the finding of a significant relationship between intolerance of ambiguity and the counselor's use of cognitive rather than affective material in the interview ($p < .05$). The third hypothesis was also supported with the finding of a significant correlation between intolerance of ambiguity and the counselor's tendency to express value judgments or to classify into categories ($p < .05$).

The Figure Recognition Test was seen to be significantly related to three of the four criteria regarding specific counselor behavior. The rankings on the Verbal Reasoning Test were not related to any of the criteria. It was also observed that with the exception of initiating and interrupting responses, all of the criteria were significantly related to each other ($p < .01$). Age was correlated with the counselor's use of summary or closure statements ($p < .05$), while the graduate

grade point average was not significantly related to any of the study variables. Previous counseling experience among four of the subjects was seen not to have given them an advantage on the four criteria involving specific behavior.

Rankings on intolerance of ambiguity by the counseling supervisors were compared with the study variables. The Figure Recognition Test was positively correlated ($p < .05$), while the Verbal Reasoning Test was negatively correlated ($p < .01$) for the same group of students. The supervisor rankings were also related to the use of initiating and interrupting responses ($p < .05$) and with a focus on cognitive material in the interview ($p < .05$).

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

In the first section of the chapter the design and results of the research are summarized. The conclusions drawn from the study are then presented and discussed. The last section contains suggested implications for future research.

Summary

The attempt was made to study whether counselors differentiated on a tolerance-intolerance of ambiguity continuum would also demonstrate differences in counseling behavior. The problem was suggested in an earlier study by Brams[1] who found tentative support for his hypothesis that counselors more tolerant of ambiguity were able to maintain more effective communication in the counseling interview.

Intolerance of ambiguity was defined as the tendency, inferred from behavior, to perceive as a source of threat any situation which was unclear in its structure. The theoretical work of Frenkle-Brunswik[2] drew upon the psychoanalytic concept of "ambivalence" and went on to suggest that intolerance of ambiguity may be a generalized orientation toward life to deal with situations lacking structure, definition, and certainty. It was assumed here that the counselor

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[1]Jerome Brams, "Counselor Characteristics and Effective Communication in Counseling," J. Counseling Psych., 8 (1961), pp. 25-30.

[2]Else Frenkle-Brunswik, "Intolerance of Ambiguity as a Personality Variable," J. of Personality, 8 (1949), pp. 108-143.

more threatened by the lack of structure inherent in the counseling relationship was also more intolerant of ambiguity.

Specific predictions regarding variations in counselor behavior were contained in three hypotheses investigated in the study:

H_1: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his movement toward premature closure or resolution of the client's problem.

H_2: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his use of cognitive rather than affective material in the interview.

H_3: A positive relationship will be found between the degree of intolerance of ambiguity evidenced by a counselor on objective tests and his tendency toward value-laden statements and conclusions.

The major research on intolerance of ambiguity was reviewed, and this suggested that there were individual differences in tolerance for ambiguity and that under stress some individuals were unable to withold a response to a partially structured situation.

The subjects in the study were 23 graduate students enrolled in the counseling practicum at Wayne State University. Performance on two objective tests of intolerance of ambiguity, the Figure Recognition and Verbal Reasoning Tests, was used as the independent variable of the study. The reliability estimates for the tests were computed and considered adequate for the study. The dependent variable involved four aspects of counselor behavior defined as the criteria and counted in the interviews:

(1) the number of responses involving initiation, interruption, or changing of the client's topic of conversation;
(2) the number of summary statements;
(3) the number of responses to cognitive rather than affective material;
(4) the number of value judgments or classifications into categories.

The subjects' first interviews were transcribed into typescripts and read by two judges who counted counselor responses according to the four criteria listed above. The judges' counts were transformed into proportions of the total responses, and the subjects were then ranked on each of the study variables according to the proportion scores. Interjudge reliability estimates were found to range from .71 to .96. The three hypotheses were tested using Kendall's tau rank order coefficient.

The analysis of the two tests of intolerance of ambiguity revealed no observed correlation between the two tab-lifting scores, raising the question whether the tests measure the same personality construct. The ability and tab-lifting scores were negatively correlated ($p < .05$) on the Figure Recognition Test, and positively correlated ($p < .05$) on the Verbal Reasoning Test.

The first hypothesis concerning the relationship of intolerance of ambiguity to the counselor's movement toward premature closure or resolution of the client's problem was operationalized in two directions and only one of these proved significant. The hypothesis was therefore partially supported in that intolerance of ambiguity was significantly related to the counselor's initiating, interrupting, or changing the client's topic of conversation ($p < .01$). It was not supported in a greater use of summary or closure statements by the

counselor. The second hypothesis was confirmed by the correlation between intolerance of ambiguity and the counselor's use of cognitive rather than affective material in the interview ($p < .05$). The third hypothesis was also supported by the correlation between intolerance of ambiguity and the counselor's tendency to express value judgments or to classify into categories ($p < .05$).

The Figure Recognition Test was significantly related to three of the four criteria, while the Verbal Reasoning Test was related to none of the criteria. Also, with the exception of initiating and interrupting responses, all of the criteria were related to each other ($p < .01$). Age was related to the use of summary or closure statements ($p < .05$); while grade point average was not significantly related to any of the study variables. Neither previous counseling experience nor the sex of the client was related to differences in rankings among the subjects.

When the rankings by the counseling supervisors on intolerance of ambiguity were compared to the study variables, a positive correlation ($p < .05$) was found with the Figure Recognition Test and a negative correlation ($p < .01$) with the Verbal Reasoning Test. The supervisor rankings were also related to the use of initiating and interrupting responses ($p < .05$) and the focus on cognitive material in the interview ($p < .05$).

Conclusions

The general problem of the study was whether there was a consistent personality factor identified as intolerance of ambiguity that could be measured objectively and then be observed as part of the behavior pattern in the counseling situation. For the purposes of the research, the problem was restated as follows: will counselor-trainees

differentiated on a test continuum of tolerance-intolerance of ambiguity demonstrate concomitant variations of behavior in the counseling interview? Within the limitations of the study, the results would indicate an affirmative answer to the question.

The findings give some support to the suggestion that the counselor's personality effects the nature of the counseling interaction. The interrelationship of counselor personality and counseling process has been postulated by others, but this study has added some empirical validation to this notion.

The results of testing the hypotheses lead to several conclusions regarding the interview behavior of counselors in the sample:

(1) Counselors intolerant of ambiguity use more responses which initiate, interrupt, or change the client's topic of conversation.

(2) Counselors intolerant of ambiguity respond more to cognitive material in the interview than to affective material.

(3) Counselors intolerant of ambiguity use more responses involving value judgments and dichotomizing into categories.

(4) Counselors intolerant of ambiguity do not use more summary statements or responses intended to bring about closure for themselves and/or the client.

It may also be concluded that at least three of the criteria appear to be highly intercorrelated and therefore make up a fairly consistent description of the counselor who is intolerant of ambiguity. This counselor would tend to use more summary or closure statements, would express more value judgments, and would focus more on cognitive rather than the affective aspects of the interview. These intercorrelations help to define a personality that has many similarities to Frenkle-Brunswik's original description of the person intolerant of ambiguity.

Although peripheral to the hypotheses tested, there are other conclusions that can be made from the study variables. First, it may be concluded that the older counselors in this sample use more summary or closure statements than do the younger counselors. Second, that the graduate grade point average is not related to either measured intolerance of ambiguity or to counseling behavior operationally defined as intolerance of ambiguity. Third, that previous counseling experience among this sample does not effect the predicted response to the ambiguity of the counseling interview. Fourth, that the sex of the client does not effect the counselor's ranking or response to the ambiguity of the interview.

The analysis of the two objective tests lead to several conclusions regarding the use of these instruments. First, it may be concluded that among the 23 trainees in the sample the two tests were able to discriminate individual differences in tolerance for ambiguity for the purpose of making predictions about behavior. Second, that counselor-trainees were sufficiently consistent in their responses to ambiguous stimuli on each of the tests so as to suggest an adequate reliability for the instruments. Third, that with this sample of graduate students the two tests do not appear to be measuring the same personality variable; at least, there is no apparent relationship between the response to perceptual ambiguity and the response to cognitive ambiguity. Fourth, that the Figure Recognition Test can be used to reduce error in predicting the following specific behavior among counselor-trainees: (a) the initiating, interrupting, or changing of the client's topic of conversation; (b) the focus on cognitive rather than affective material in the interview; and (c) the use of value judgments. Fifth, that because the criteria involving specific counselor behavior were rationally defined as consistent with the definition of

intolerance of ambiguity, it may be concluded that the Verbal Reasoning Test is not a valid predictor of specific counselor behavior defined as intolerance of ambiguity.

It may be concluded that there is no consistent relationship between the supervisor evaluations of the two groups on intolerance of ambiguity and the paper and pencil tests of the study. There is a suggestion that the Figure Recognition Test can be used to predict approximately the same rankings as the supervisors predicted after the first interview. The Verbal Reasoning Test, however, appears to rank as most tolerant of ambiguity those subjects who were ranked as most intolerant by the supervisors. These conclusions can only be tentative because they are supported by the results of only one of the two groups. There is also the suggestion that the supervisors of one group ranked as most tolerant of ambiguity those trainees who were also the most able students in previous graduate work. The implication of this part of the study is that the construct of intolerance of ambiguity was not sufficiently defined for the use of the supervisors.

Discussion

It has been assumed and frequently demonstrated that individual personality characteristics are consistent in a variety of situations. Research was reviewed in Chapter II suggesting that the counselor consciously and/or unconsciously gives expression to his personal dynamics in the counseling relationship. This study has considered one aspect of personality, asking whether intolerance of ambiguity was a generalized pattern that effected the counselor's behavior in the interview situation. It may be inferred from this data that such a relationship exists. The objective nature of the tests as well as the difference between the testing and counseling situations would support

this conclusion. Also, in the review of literature it was seen that under conditions of stress the response to ambiguity for some individuals is more predictable. Because the beginning counselors in the study were being observed and evaluated for their counseling skills, it can be assumed that they were under some increased stress and would be more apt to reveal a behavior pattern.

The testing of the hypotheses of the study has helped to confirm several notions regarding the counselor and the ambiguity dimension of the counseling interview. A review of the typescripts used in the study suggests that most counseling situations contain some degree of ambiguity, and that counselors differ in their response to this ambiguity. The data here suggest that some counselors respond in a rather predictable manner which appears to allow opportunity to structure, control, and reduce ambiguities in the situation. Bordin[1] has stated that for some counselors the ambiguity is an anxiety-producing stimulus; that the counselor controls his own anxiety by controlling the ambiguity he can tolerate in the interview.

While this study has not included a measurement of counselor anxiety, it has suggested some characteristic response patterns by the counselor. The counselor intolerant of ambiguity was seen as responding by initiating, interrupting, or changing the client's topic of conversation. This behavior would presumably allow the counselor to structure and control the ambiguity level of the interview. It would also allow for the prediction of the exact pattern of the client's reaction.

The counselor intolerant of ambiguity was also seen as responding more to the cognitive than to the affective elements in the client's responses. It was found in Chapter II that persons intolerant of ambiguity have difficulty handling their ambivalent and conflicting

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[1]E. S. Bordin, "Ambiguity as a Therapeutic Variable," J. Consult. Psychol., 19 (1955), pp. 9-15.

emotions, and that unstructured situations are typically avoided because they may precipitate unpleasant emotional reactions. Presumably most counselors find it more difficult to structure and predict the client's response to affective material. It might be suggested that the individual intolerant of ambiguity prefers to escape into that which seems definite and emotionally safe.

The counselor intolerant of ambiguity was also seen as expressing more value judgments and classifying into categories. This result is similar to Frenkle-Brunswik's original finding of a tendency toward black-white conclusions, an oversimplified dichotomizing, and an adherence to clearly delineated norms that make it difficult to see things in two or more different ways.

That the criteria regarding the counselor's use of summary or closure statements was highly related to two of the other criteria while not related to the prediction of the Figure Recognition Test is difficult to explain. It may be due in part to the information-gathering nature of the initial interview with less opportunity for summary statements. The use of summary or closure statements is apparently related to the general behavior pattern associated with intolerance of ambiguity.

The finding of no relationship between the study variables and grade point average was similar to Frenkle-Brunswik's conclusion that intolerance of ambiguity was not associated with intelligence. The use of more summary statements by the older counselors is similar to Budner's finding that individuals over thirty were less tolerant than those in their twenties.

The significant correlation of the Figure Recognition Test with three of the four criteria, while no relationship was found to the Verbal Reasoning Test, needs some discussion. The Figure Test measures the tendency to early closure, and the Verbal Test the

tendency to jump to generalizations. One test involves perceptual processes and the other cognitive processes. Early research has stressed the perceptual aspects of ambiguity tolerance. Only recently has there been an attempt to follow Frenkle-Brunswik's original suggestion that there might be a generality evidenced in all behavior, including cognitive behavior. It may be that counseling behavior is more similar to a perceptual task than to a cognitive task. This would be particularly true when the emphasis in theory and training was on developing sensitivity for feelings rather than responding to cognitive content. However, the interdependence between perception and cognition is not clear, and it may be necessary to wait for further research on cognitive style to clarify the understanding of this relationship.

The lack of a significant correlation between the two tab-lifting scores on the tests may be related to the discrepancy between perceptual and cognitive response sets. It will be recalled that the test authors in their original work found a significant relationship between the two tab-lifting scores, and concluded that this finding contributed to the construct validity of intolerance of ambiguity. It may be that the use of a highly verbal test with graduate students introduces other more immediate response sets than that of ambiguity tolerance. For this reason the instrument might not be an appropriate measure for use with graduate students. It will be recalled that Messick and Hills obtained their high correlation on a sample of 272 high school girls.

The use of an independent measure of content ability, such as a vocabulary test, might increase the validity of the Verbal Reasoning Test with more able and experienced subjects. It may also be that intolerance of ambiguity is not as broad and general in scope as originally assumed, and future research may indicate that the cognitive and perceptual dimensions are relatively independent rather than a

generalized factor. A factor analysis of the two instruments to locate any common factors would be beneficial to their future use.

It should also be emphasized that there is another possible explanation for response patterns on the instruments. The test rationales are consistent not only with intolerance of ambiguity, but also with the variable of cautiousness. As with tolerance for ambiguity, a cautious person would also be unwilling to come to a conclusion quickly without adequate information. The opposite is the impulsive person who would respond quickly without reflection. It should be clear that while the concept of cautiousness might explain the same performance pattern on the test, the underlying dynamics of the subject might differ greatly. More research is needed to clarify the differences between these two possible explanations of test performance.

As with any testing situation, it is possible that some subjects devalued the testing experience and therefore malingered in taking the tests. The objective nature of the tests and the fact that subjects were not aware of the meaning and interpretation of test scores was a partial attempt to control for this problem. The testing situation was also structured to increase motivation by emphasizing the importance of the instruments for research purposes.

In evaluating the conclusions drawn from this research, attention must be given to those limitations of the study which allow for alternative interpretations of the data as well as possible sources of variance not considered. The first of these limitations involves the sample used in the study. There was a relatively small number of subjects, and most of these lacked prior counseling experience. There was also a lack of numerical balance between male and female counselors, thus preventing an investigation of possible differences associated with the sex of the counselor. The results of the study cannot be generalized to more experienced counselors without further investigation, although it

was found that with this sample experience did not lower the intolerance of ambiguity on the performance variables. The two subjects with the most experience in counseling had high rankings for intolerance on all of the criteria. There is reason to assume that the stress of the counseling situation when being observed and evaluated was more important than experience, and the stress or anxiety of the situation was believed to be equally a problem for all of the subjects.

The second limitation in applying these conclusions involves the clients counseled by the trainees. The clients came from many public schools in the Detroit area and were in grades 9 through 12. Although no differences in performance were associated with the sex of the client, there might have been response patterns between the clients and the counselors (all of whom had teaching experience) that are not found in other counseling relationships. In particular, the age of the clients and the teacher-orientation of the counselors must be considered as possible sources of variance.

There are also some alternative explanations and limitations to the four criteria used in the study. Because these criteria included only verbal behavior, it might be possible to explain the behavior as the counselor's attempt to role play according to the techniques valued by the supervisor.

There is another possible interpretation of the criteria used in the study. It is conceivable that counting the class of responses operationally defined as examples of intolerance of ambiguity might not detect those subjects who have compensated for their intolerance by often exaggerated tolerance and flexibility. An attempt was made to control for this possibility by using the first interview where there was assumed to be both increased stress and less pressure from supervisors for a particular counseling role. This does raise the question of whether counselors can and do learn to control their intolerance of

ambiguity, and whether this can be achieved without some understanding of the causes of their anxiety in the unstructured situation. The question is also suggested whether counselor trainees change in their tolerance for ambiguity in the process of a practicum training experience. It had been hoped that the supervisor ratings at the end of the practicum would give some answer to this question, but the data proved to be inconclusive, due in part to the tendency of the supervisors to evaluate on the basis of growth in counseling skills along with tolerance for ambiguity.

There might also be a question regarding the application of results from a study based on the first interview of beginning counselors. The first interview was chosen because it was assumed that the initial interview would reveal more of the counselor's personality than later interviews after the supervisor had taught and reinforced behavior consistent with a particular counseling theory. Also considered was the study by Osburn in which he found no significant difference in the ambiguity of the counselor's behavior in the first and second interviews when compared to the third and later interviews.

A final consideration in the evaluation of the results of the study involves the statistics used. There would presumably be some loss of power when discrete test scores are transformed into rankings for purposes of analysis. Likewise, there is some loss of efficiency in the use of the tau correlation. Siegel[1] states that when tau is used on data to which the Pearson product-moment correlation is properly applicable, the tau and the Spearman rank correlation have an efficiency of 91 per cent. That is, tau is approximately as sensitive a test of the relationship between two variables in a normal population with a sample of 100 cases as is the Pearson correlation with 91 cases.

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[1]S. Siegel, Nonparametric Statistics (New York: McGraw-Hill, 1956), p. 223.

Also, in spite of the statistically significant results with three of the four criteria, it must be emphasized that much of the variance is left unaccounted for.

A final statement should be made regarding the counseling behavior assumed to be associated with intolerance of ambiguity. Any value judgment about the appropriateness or inappropriateness of this behavior on the part of the counselor is outside the empirical findings of the study. On the basis of the research the statement can be made that intolerance of ambiguity as measured by the Figure Recognition Test is positively associated with a particular pattern of counselor behavior in the interview. The judgment as to whether these responses are to be considered as appropriate behavior for the counselor and under what circumstances will vary with the personal and theoretical bias of the individual. There is no evidence here that counselors showing a greater measured tolerance for ambiguity are better counselors. Such a conclusion would involve philosophical and technical considerations beyond the scope of the study.

Implications for Future Research

This study has contributed to an increasing body of research which seeks to understand the counseling process and the individual who counsels. It has added another dimension to our growing knowledge regarding personality differences among counselors as these effect the counseling interaction.

The results of the study leave many questions unanswered and suggest the importance of additional research regarding intolerance of ambiguity as it relates to counselors and psychotherapists. There are a number of specific questions that remain to be explored. There is need to replicate the study with more experienced counselors functioning

at a more intensive level of counseling. A more precise measurement of counselor anxiety in the ambiguous counseling situation needs to be undertaken if the theoretical explanations of Frenkle-Brunswik and Bordin are to be accepted. There is also need to explore the possibility of a curvilinear relationship of counselor behavior to intolerance of ambiguity, with the counselor at times and with certain subjects compensating for his intolerance by an overly tolerant and flexible attitude. It would also be of value to compare the client's perception and reaction to counselors who are tolerant and intolerant of ambiguity, and to determine the effect upon counseling progress. Related to this is an exploration of the positive values of a certain level of ambiguity in the interview in order to create the necessary anxiety in the client to bring about change.

A positive relationship has been found between measured intolerance of ambiguity and performance in the first interview. Yet to be explored is the question whether beginning counselors become more tolerant of ambiguity during the training period. Is a change to more tolerance a function of the experience, instruction, and supervision; or does it require, in addition, personal understanding and perhaps therapeutic help? How can a training program be shaped to move counselors toward greater tolerance for ambiguity?

The two instruments used in the study, and particularly the Figure Recognition Test, have promise of being useful instruments with test sophisticated graduate students. There is need to factor analyze the two instruments, as well as to explore the construct of cautiousness as a possible explanation of test performance. There is also need to apply the recent and extensive work on cognitive style to these instruments in an attempt to ferret out the relationship between perceptual and cognitive responses to ambiguity.

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APPENDIX A

SAMPLE PAGE FROM THE FIGURE RECOGNITION TEST

5. 

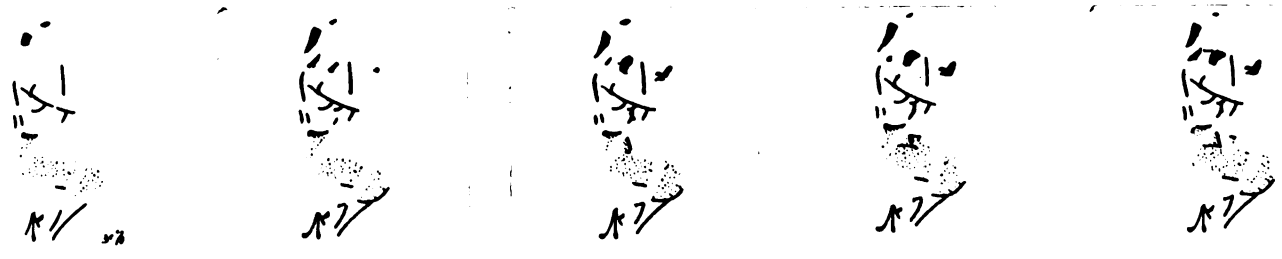
Answer _____

3. 

Answer _____

7. 

Answer _____

8. 

Answer _____

DO NOT STOP. GO ON TO THE NEXT PAGE.

APPENDIX B

SAMPLE PAGE FROM THE VERBAL REASONING TEST

10. Condign

1.	How condign can a punishment be!	(A) malicious
2.	Some good was gained from the condign punishment of the group.	(B) unjust
3.	There was a great deal of discussion about the condign punishment.	(C) ineffective
4.	The boys refused to realize that their punishment was condign.	(D) deserved
5.	Considering the severity of his crime, the convict's long sentence was condign.	(E) stringent

11. Crepuscular

1.	It was a semihistorical and crepulscular period.	(A) dim
2.	She stood at the entrance of the crepuscular hall.	(B) barbaric
3.	The crepuscular magnificence of poetry impressed him.	(C) artistic
4.	The birds were very active in the crepuscular sky.	(D) crowded
5.	No wonder I did not find the book in that crepuscular place.	(E) stately

12. Eldritch

1.	His eyes made him look eldritch.	(A) frightening
2.	He had an eldritch smile	(B) old
3.	There was an eldritch atmosphere about the place	(C) unearthly
4.	His eldritch squeal and gestures filled the hearts of the devout men with anxiety.	(D) sympathetic
5.	He rose at an eldritch hour.	(E) jovial

APPENDIX C

INSTRUCTIONS TO JUDGES

The following typescripts contain the interviews of counselor-trainees with individual high school students. You are asked to read each interview and to count the counselor responses in accordance with the following criteria.

(1) Count the number of counselor responses[1] in which the counselor initiates, interrupts, or changes the topic of the client's conversation.

(2) Count the number of summary statements by the counselor. A summary statement is defined as a response in which the counselor summarizes the content of a series of client responses; or a response in which the counselor attempts to bring about closure for himself and/or the client. As here defined, a summary statement does not include the counselor's reflection of a single client response.

(3) Count the number of counselor statements which contain words judged by you to express value judgments, or to classify into categories. This might include words such as good, bad, right, wrong, should, shouldn't, and ought.

(4) You are asked to rate each counselor response as to whether it focuses primarily on cognitive and content material, or on affective and feeling material. Those

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[1]For the purpose of this study, a counselor response is defined as any counselor statement surrounded by two client statements. "Uhhuh" or "Uh hmm" are not to be considered as responses.

responses that appear in your judgment to contain both cognitive and affective material, or about which you are not certain, are to be placed in a third category. Count up the number of responses you have recorded in each of the three categories: (1) cognitive-content; (2) affective-feeling; (3) combination or indefinite.

APPENDIX D

RAW DATA

Counselor Trainee	Sex	Age	Graduate G.P.A.	Supervisor's Rankings First inter.	End
(Group I)					
1	M	34	3.29	6	7
2	F	28	3.43	12	4
3	F	24	3,52	4	5
4	F	47	3.57	5	6
5	F	42	3.53	11	11
6	M	35	3.10	7	12
7	M	25	3.35	10	10
8	M	27	3.30	2	3
9	M	49	3.29	3	1
10	M	32	3.18	9	9
11	F	29	3.24	8	8
12	M	40	3.46	1	2
(Group II)					
13	M	31	3.32	5	4
14	M	27	3.10	6	5
15	M	45	3.07	9	9
16	M	23	2.98	4	3
17	M	26	3.67	8	7
18	M	32	3.59	3	2
19	M	43	2.96	10	11
20	M	23	3.12	11	8
21	M	38	3.72	1	1
22	M	32	3.43	2	6
23	M	33	3.37	7	10
Mean		33.26	3.33		
S.D.			.214		

Counselor Trainee	Figure Recognition Test				Verbal Reasoning Test			
	Tab-lift score	Content score	T score	Rank	Tab-lift score	Content score	T score	Rank
(Group I)								
1	3.50	1.000	.04	12.5	4.14	.821	.31	9
2	2.21	.929	-1.26	23	3.82	.607	.50	4
3	3.64	.857	.16	8	3.68	.679	.19	11
4	3.57	.785	.08	10	3.57	.571	.26	10
5	4.14	.571	.61	4	3.46	.429	.56	3
6	4.35	.785	.86	2	3.18	.357	.45	6
7	2.64	.928	-.83	22	2.93	.536	-.23	17
8	3.50	1.000	.04	12.5	2.75	.357	.02	13
9	3.57	.714	.07	11	2.75	.536	-.41	19
10	2.85	.857	-.63	21	2.68	.464	-.31	18
11	3.50	.857	.02	14	2.50	.286	-.06	16
12	4.43	.643	.91	1	2.18	.536	-.98	21
(Group II)								
13	3.00	.785	-.49	20	4.18	.636	.79	2
14	4.14	.714	.64	3	3.46	.500	.39	8
15	3.14	.714	-.37	17	1.64	.500	-1.43	23
16	3.79	.857	.31	5	2.85	.407	.00	15
17	3.58	1.000	.12	9	3.59	.364	.84	1
18	3.43	1.000	-.03	16	2.11	.464	-.88	20
19	3.07	.714	-.43	19	2.67	.286	.11	12
20	3.75	.583	.22	7	3.39	.435	.47	5
21	3.07	1.000	-.39	18	1.96	.464	-1.03	22
22	3.79	.785	.27	6	3.07	.321	.42	7
23	3.50	.714	.00	15	3.25	.571	.01	14
Mean	3.48	.817			3.03	.484		
S.D.	.538	.135			.677	.131		

Judges Countings on Criterion Variables

Counselor Trainee	1. Initiating or Interrupting Topic of Conversation						
	Counselor Responses	Judge A		Judge B		Average	
		%	Rank	%	Rank	%	Rank
(Group I)							
1	102	23	15	26	16	24.5	15.5
2	40	40	23	38	23	39	23
3	40	10	1	10	3	10	1
4	54	11	2.5	12	4.5	11.5	4
5	200	12	5	10	1.5	11	3
6	29	37	22	34	21	35.5	22
7	77	30	20.5	31	19	30.5	19
8	81	25	16.5	19	13	22	13.5
9	91	13	8	12	4.5	12.5	6
10	157	14	10	17	10.5	15.5	11
11	51	16	11	14	7.5	15	9.5
12	68	12	5	9	1.5	10.5	2
(Group II)							
13	53	19	13	25	15	22	13.5
14	50	25	16.5	24	14	24.5	15.5
15	60	30	20.5	32	20	31	20
16	78	12	5	14	7.5	13	7
17	66	17	12	18	12	17.5	12
18	113	29	19	36	22	32.5	21
19	155	26	18	29	17.5	27.5	18
20	175	13	8	17	10.5	15	9.5
21	45	11	2.5	13	6	12	5
22	61	13	8	16	9	14.5	8
23	135	21	14	29	17.5	25	17

Judges Countings on Criterion Variables (cont.)

Counselor Trainee	2. Summary of Closure Statements					
	Judge A		Judge B		Average	
	%	Rank	%	Rank	%	Rank
(Group I)						
1	11	10.5	13	16	12	13.5
2	13	14.5	17	21	15	19
3	13	14.5	15	18	14	7.5
4	6	3	2	3	4	3
5	19	21	15	18	17	21
6	10	9	10	11	10	9
7	4	2	1	2	2.5	2
8	14	17.5	9	8.5	11.5	12
9	21	22	21	22	21	22
10	9	7	4	4	6.5	4
11	12	12	10	11	11	11
12	16	20	12	14.5	14	17.5
(Group II)						
13	11	10.5	15	18	13	15.5
14	0	1	0	1	0	1
15	15	19	16	20	15.5	20
16	14	17.5	12	14.5	13	15.5
17	8	4.5	9	8.5	8.5	6.5
18	13	14.5	11	13	12	13.5
19	13	14.5	8	6.5	10.5	10
20	9	7	7	5	8	5
21	22	23	29	23	25.5	23
22	8	4.5	10	11	9	8
23	9	7	8	6.5	6.5	7

Judges Countings on Criterion Variables (cont.)

Counselor Trainee	3. Focus on Cognitive Rather Than Affective Material					
	Judge A		Judge B		Average	
	%	Rank	%	Rank	%	Rank
(Group I)						
1	88	7	91	11	89.5	9
2	100	22.5	100	23	100	23
3	93	12.5	94	14	93.5	13.5
4	84	5	80	4.5	82	5
5	96	16.5	97	18	96.5	17
6	97	19	97	18	97	19.5
7	75	2	71	2	73	2
8	85	6	89	8	87	6
9	89	8	87	7	88	7.5
10	94	14	92	12.5	93	12
11	90	9	86	6	88	7.5
12	81	3	76	3	78.5	3
(Group II)						
13	95	15	92	12.5	93.5	13.5
14	62	1	62	1	62	1
15	98	21	98	21	98	21
16	91	10.5	90	9.5	90.5	10.5
17	91	10.5	90	9.5	90.5	10.5
18	97	19	96	15.5	96.5	17
19	96	16.5	98	21	97	19.5
20	97	19	96	15.5	96.5	17
21	100	22.5	98	21	99	22
22	83	4	80	4.5	81.5	4
23	93	12.5	97	18	95	15

Judges Countings on Criterion Variables (cont.)

Counselor Trainee	4. Value Judgments or Classification Into Categories					
	Judge A		Judge B		Average	
	%	Rank	%	Rank	%	Rank
(Group I)						
1	21	19	19	14.5	20	15.5
2	27	21	23	20	25	21
3	20	17	20	16.5	20	15.5
4	7	3	7	3.5	7	3
5	29	22	27	22	28	22
6	10	7	7	3.5	8.5	5.5
7	7	3	9	7	8	4
8	19	14.5	22	19	20.5	17.5
9	9	5.5	10	8.5	9.5	7.5
10	12	9	18	13	15	12
11	19	14.5	14	12	16.5	13
12	7	3	4	2	5.5	2
(Group II)						
13	40	23	45	23	42.5	23
14	2	1	2	1	2	1
15	20	17	21	18	20.5	17.5
16	13	10	10	8.5	11.5	9
17	23	20	20	16.5	21.5	19
18	14	11	11	10	12.5	10
19	16	12.5	19	14.5	17.5	14
20	16	12.5	13	11	14.5	11
21	20	17	24	21	22	20
22	11	8	8	5.5	9.5	7.5
23	9	5.5	8	5.5	8.5	5.5