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ABSTRACT

Assessment of counselor trainee applicants with respect to level of cognitive complexity might prove a useful additional criterion in selection of students for training programs. To determine the correspondence between a measure of counselor effectiveness and five cognitive complexity measures, 38 subjects, master's degree students in counseling, completed each of five cognitive measures and were rated by their practicum supervisor on their effectiveness in actual counseling interviews. No significant correlations were found between the measures, nor did any combination of instruments permit prediction of counselor effectiveness with any statistical significance. Other interpretations are possible, including that the sample may have been sufficiently homogeneous with respect to cognitive complexity that subject differences in this domain could not produce statistical significance. Future investigations should focus on the utility of the construct of cognitive complexity as it relates to counselor selection, counseling, and counseling effectiveness. (Author/CKJ)

PREDICTION OF COUNSELOR EFFECTIVENESS FROM STUDENTS' COGNITIVE COMPLEXITY SCORES

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Prediction of Counselor Effectiveness from Students' Cognitive Complexity Scores

The term cognitive complexity is defined as the number of dimensions or the degree of structural differentiation in some content domain (Vannoy, 1965). Bieri (1961) suggests that the more cognitively complex person is able to interpret incoming data (i.e., behaviors of others) in a greater number of ways, and thus, is better equipped to provide a versatile system for understanding those behaviors, than is a less cognitively complex person.

It has recently been demonstrated that more cognitively complex counselors demonstrate significantly higher levels of empathy (Heck & Davis, 1973). Additionally, Lichtenberg and Heck (1979) have found interaction process differences generated by counselors of differing levels of cognitive complexity. Hence, as Blaas and Heck (1978) suggest, it is reasonable to assume that differences in a counselor's cognitive complexity level might be related to variation in their ability to process the behavior of another and thereby may have differential impact upon the process and outcome of counseling.

In light of the above, it is reasoned that assessment of counselor education applicants with respect to level of cognitive complexity would be a useful <u>additional</u> criterion in the selection of students for training programs. Such an assumption for counselor selection, however, clearly rests on the ability of these complexity measures, not just to discriminate among trainees on process measures, but rather to discriminate on outcome/effectiveness measures. It was this assumption, specifically, that counselor level of cognitive complexity can be employed as a predictor of counselor effectiveness, that was tested in this study.

Method

Subjects

A sample of 12 males and 26 female master's level counseling students at the University of Kansas was involved in the study. The sample included all students who had entered the master's counseling program since the Summer of 1975, who had completed each of the five cognitive measures, and who had completed their counseling practicum experience (a one-semester supervised counseling experience normally completed at the end of his/her 36 credit hour counseling program).

Instruments

Cognitive complexity measures. In the past, the construct of cognitive complexity has been shown to be complex and multidimensional (Allard & Carlson, 1963; Bieri & Blacker, 1956; Hess, 1966; Vannoy, 1965). Specifically, Vannoy (1965), in his factor analytic study of 20 cognitive complexity measures, found the measures to load on eight separate factors, suggesting eight distinct dimensions to the cognitive complexity construct. More recently, Heck, Lichtenberg, and Blaas (Note 1) have replicated the essential findings of Vannoy (1965) with respect to the multidimensional character of cognitive complexity among counselor trainees.

In their respective studies of counseling process differences between counselors of differing levels of cognitive complexity, Blaas and Heck (1978) and Lichtenberg and Heck (1979) employed the same five cognitive complexity measures previously shown to load independently on five of the complexity measures extracted by Vannoy (1965). These five measures were (a) Category Width, (b) Intolerance of Trait Inconsistency, (c) Intolerance of Ambiguity, (d) Sentence Completion Test of Intergrative Complexity, and (e) Interconcept Distance Measure. In light of the above-cited evidence for the multifaceted

nature of the cognitive complexity construct, trainee complexity was assessed using multiple measures -- each tapping a different aspect of the complexity construct relevant to the processing of interpersonal stimuli. The measures selected were the same five complexity measures used in the Blaas and Heck (1978) and Lichtenberg and Heck (1979) studies in which counseling process differences were found.

Each of the five cognitive complexity measures is briefly described below:

1. Interconcept Distance Measure of Cognitive Complexity (IDM). This instrument was the Blaas and Heck (1975) modification of Vannoy's (1965) IDM instrument. Subjects rated 20 person concepts by means of 14 identical 7-point semantic differential scales. Mean distance scores between the 20 concepts were computed for each subject with the degree of complexity assumed to be related to the magnitude of the mean distance score.

2. Category Width (CW). Vannoy's (1965) modification of Pettigrew's (1958) scale consisted of 10 items of two parts each. Each subpart required the subject to provide a personal estimate of either the highest or lowest boundary value within which a known value could vary. The CW measures the tendency to use broad or narrow categories in classifying objects, with this tendency presumed to be a component of the complexity variable. High scores on this scale indicate a tendency to use broad categories in classifying objects and hence greater cognitive complexity.

3. Intolerance of Trait Inconsistency (ITI). The revised form of the ITI (Steiner & Johnson, 1963) consists of 15 items with each item containing two pairs of traits. One pair of traits has been judged to be equally good while the other pair has been judged to be unequally good. Subjects were asked to choose which pair of traits was more likely to occur in the same person. Scores were obtained by counting the number of times subjects choose

the equally good pair of traits. Higher scores reflected a greater intolerance of inconsistency, hence, a more cognitively simple view of people.

4. Intolerance of Ambiguity (IA). The IA was developed by Budner (1962) and consists of eight positively stated and eight negatively stated Likert-type items describing situations generally viewed as ambiguous as they are difficult to categorize because they lack sufficient response cues. High scores indicate the tendency to interpret ambiguous situations as threatening, hence reflecting a more simplistic processing system.

5. Sentence Completion Test of Integrative Complexity (SCT). The SCT is derived from the Conceptual Systems Theory of Harvey, Hunt, and Schroder (1961) and consists of a set of five incomplete sentences. Each subject was to complete the sentence stem and to add a minimum of two additional sentences within a two-minute time period. Responses are scored by independent raters according to a manual (Hunt, Kingsley, Marsari, Shore, & Sweet, Note 2). The mean of the five scores represents the level of integrative complexity (Schroder, Driver, & Streufert, 1967).

Counselor Effectiveness Scale (CES). Much previous evaluation of counselor effectiveness has been conducted using specific observed characteristics of counselor behavior. Empathy, warmth, and genuiness have been the most thoroughly examined, either jointly or individually (Androth, Horne, Ollendick, & Passmore, 1977; Carkhuff, 1969; Truax & Carkhuff, 1967; Truax & Mitchell, 1971). For this study, a measure of overall counselor effectiveness was chosen, specifically Ivey's (1971) Counselor Effectiveness Scale (CES) -- modified to be rated by each student's practicum supervisor. This scale, in addition to its global assessment of effectiveness, seemed particularly appropriate in light of the counseling skills training model of the counseling

curriculum undertaken by the trainees (see Procedure section). The CES is a 26-item semantic differential instrument with bipolar adjectives of various counselor traits and characteristics as they might exhibit themselves in counseling sessions (e.g., sensitive-insensitive, nervous-calm, sincere-insincere). Ivey (1971) reports statistically significant external validty determined by the scale's ability to discriminate between a rationally defined good model and rationally defined bad model of counselor behavior.

Procedure

At the time of their assessment on the five cognitive complexity measures, subjects were enrolled in the first semester of the counseling program's required two-semester microcounseling lab experience (Ivey, 1971).

Upon a student's completion of the required practicum experience, his/her practicum supervisor completed a CES rating form, rating the trainee's effectiveness as a counselor on the 20 semantic differential scale items of the CES.

Students' scores on the five cognitive complexity measures and their CES ratings were then subjected to multiple regression analysis (SPSS/Regression) using the cognitive measures as variables to predict counselor effectiveness as assessed by the CES.

Results

Table 1 presents the mean and standard deviation of each of the six measures and their respective correlations with the Counselor Effectiveness Scale (CES). None of the cognitive complexity instruments was significantly correlated with the CES. Similarly, their combination in a regression equation to predict CES yielded non-significant results (all p values $> .05$).

Insert Table 1 about here

None of the cognitive complexity variables, either alone or in combination with one another, contributed with any statistical significance to the prediction of counselor effectiveness among the counselor trainee sample. Clearly one interpretation of the results could be that cognitive complexity, while apparently contributing to counseling process differences, may not result in eventual outcome/effectiveness differences (Heck & Davis, 1973; Lichtenberg & Heck, 1979). In this regard, it has been shown both theoretically (Lichtenberg, 1977) and empirically (Luborski, Singer, & Luborski, 1976) that even diverse counseling processess may lead to similar outcomes.

But other interpretations may be possible. Indeed, it is possible that cognitive complexity may still be a useful construct for predicting counselor effectiveness, but in this study the sample was sufficiently homogeneous with respect to the several measures used as not to provide adequate subject variability to test the statistical hypothesis. In particular, this may be due to the fact that counseling students may have dropped or been dropped from the program, and this may have eliminated much of the counseling performance variation among students in the sample. Similarly, due to self-selection and admission criteria biases, the sample was sufficiently homogeneous with respect to cognitive complexity that differences/variability among subjects with respect to this domain could not produce statistical significance.

In sum, despite its potential for distinguishing among counseling process variables in similar samples, cognitive complexity may not contribute significantly to the prediction of counselor effectiveness once individuals have been admitted into a counselor education program. Whether such measures

would allow prediction of discrimination among individuals with respect to counselor effectiveness at earlier points in their professional preparation (e.g., prior to application or admission to a counselor education program) has yet to be determined.

Reference Notes

1. Heck, E.J., Lichtenberg, J.W., & Blaas, C.D. Cognitive complexity variables and counseling research. Unpublished manuscript, University of Kansas, 1978.

2. Hunt, D.E., Kingsley, R.C., Marsari, D.J., Shore, R.E., & Sweet, J.S. Conceptual level scoring from paragraph completions in adolescents. Unpublished manuscript, Syracuse University, 1967.

References

Androth, W.R., Horne, A.M., Ollendick, D.B., & Passmore, J.L. Validity of the Self-Disclosure Questionnaire as a measure of counselor effectiveness. Journal of Counseling Psychology, 1977, 24, 534-536.

Allard, M., & Carlson, E.R. The generality of cognitive complexity. Journal of Social Psychology, 1963, 59, 73-75.

Bieri, J. Complexity-simplicity and predictive behavior. In D.W. Fiske and S. Maddi (Eds.), Functions of varied experience. Homewood, IL: Dorsey, 1961.

Bieri, J., & Blacker, E. The generality of cognitive complexity in the perception of people and inkblots. Journal of Abnormal and Social Psychology, 1956, 53, 112-117.

Blaas, C.D., & Heck, E.J. Selected process variables as a function of client type and cognitive complexity in beginning counselors. Journal of Counseling Psychology, 1978, 25, 257-263.

Budner, S. Intolerance of ambiguity as a personality variable. Journal of Personality, 1962, 30, 29-50.

Carkhuff, R.R. Helping and human relations. New York: Holt, Rinehart & Winston, 1969.

Harvey, O.J., Hunt, D.E., & Schroder, H.M. Conceptual systems and personality organization. New York: Wiley, 1961.

Heck, E.J., & Davis, C.S. Differential expression of empathy in a counseling analogue. Journal of Counseling Psychology, 1973, 20, 101-104.

Hess, H.F. Additional evidence on the generality of cognitive complexity. Perceptual and Motor Skills, 1966, 23, 857-858.

Ivey, A.E., & Moreland, J.R. Microcounseling. Springfield, IL: Charles Thomas, 1971.

Lichtenberg, J.W. Therapy process as a dynamic probabilistic system. JSAS Catelog of Selected Documents in Psychology, 1977, 7, 33. (ms. No. 1459).

Lichtenberg, J.W., & Heck, E.J. The interactional structure of interviews conducted by counselors of differing levels of cognitive complexity. Journal of Counseling Psychology, 1979, 26, 15-22.

Luborski, L., Singer, B., & Luborski, L. Comparative studies of psychotherapies: Is it true that "Everybody has won and all must have prizes"? In R. L. Spitzer & D.F. Klein (Eds.), Evaluation of psychological therapies. Baltimore: Johns-Hopkins Press, 1976.

Pettigrew, T.F. The measurement and correlates of category width as a cognitive variable. Journal of Personality, 1958, 26, 532-544.

Schroder, H.M., Driver, M.J., & Streufert, S. Human information processing. New York: Holt, Rinehart & Winston, 1967.

Steiner, I.D. Ethnocentrism and tolerance of trait "inconsistency," Journal of Abnormal and Social Psychology, 1954, 49, 349-354.

Steiner, I.D., & Johnson, H.H. Authoritarianism and "tolerance of trait inconsistency." Journal of Abnormal and Social Psychology, 1963, 67, 388-391.

Truax, C., & Carkhuff, R. Toward effective counseling and psychotherapy. Chicago, Aldine, 1967.

Truax, C., & Mitchell, K.M. Research on certain therapist interpersonal skills in relation to process and outcome. In A. Bergin & S. Garfield (Eds.), Handbook of psychotherapy and behavior change. New York: Wiley, 1971.

Vannoy, J.S. Generality of cognitive complexity-simplicity as a personality construct. Journal of Personality and Social Psychology, 1965, 2, 385-397.

Ware, E.E. Relationship of intelligence and sex to diversity of individual semantic meaning spaces. Unpublished doctoral dissertation, University of Illinois, 1958.

Table 1

Mean and Standard Deviation of Complexity and Effectiveness Measures and Correlations of Complexity Measures with CES

Measure	Mean N = 38	Standard deviation	Correlation with CES
ICD	6.1789	1.7507	-0.04628
CW	39.7105	8.2459	0.13611
ITI	6.3421	2.1089	0.17572
IA	46.9211	9.9305	-0.03373
SCT	2.0211	0.5840	0.07824
CES	140.2632	20.7556	1.0000