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ABSTRACT

The Career Maturity Inventory (CMI) has been used by some school districts to study the career development of high school students, as well as to evaluate the effectiveness of the career education project. Two questions which were raised about the selection of the CMI evolved into the objectives of this research. Those questions were: (1) Do counselor ratings of students' career knowledge, career planning, and attitude toward work correlate with those concepts as measured by the CMI?; and (2) Are the students of the CMI measuring independent factors of career maturity or are they so highly intercorrelated that they measure only one or two factors? One hundred eleven tenth-grade students were given the CMI, and four counselors were asked to rate each student on three factors--concepts of knowing about jobs, looking ahead and attitudes toward work. Results of the study showed that the CMI subtests were highly interrelated, and that, while the counselor's ratings of students' career maturity correlated significantly, the relationship between what the counselors measured and what the CMI measured were not highly related at all. (Author/PC)

COUNSELOR JUDGEMENT VS. TEST RESULTS:

MEASURING CAREER MATURITY

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INTRODUCTION

Interest in the concept of vocational or career development is a relatively new wrinkle in our emerging concern for the processes and results of the phenomenon of human development. Prior to the 1960's, there appeared to be little in the literature to suggest that vocational or career choice was a development or dynamic process. Young people assessed their interests and the jobs available at the end of their formal educational experience and made a choice about what job to take.

More recently, such authors as Ginsburg, Holland, Super, Crites, Roe, Hollender, and Herr, have provided a theoretical framework for the complex and on-going process of man's relationship to himself, others, and his world of work.

The realization, in part, that career development was a complex process requiring years to evolve lead Dr. Sidney Marland in 1971 to suggest that career education be a major priority of the U.S. Office of Education. Career Education, a concept which says that there should be a closer relationship between a student's in-school and world of work experience, was launched by USOE with the funding of major projects in all of the 50 states. These projects, generally covering grades K-14, were to set objectives and measure the results in terms of increased career awareness, decision-making skills, and self-awareness of students.

The need to formally evaluate these programs has lead to the development of a number of measurement tools to assist in assessing the impact of career education programs. The Career Maturity Inventory by John O. Crites (1973) is one of the instruments currently in use, although its development dates back to the early 1960's.

The Career Maturity Inventory (CMI), published by CTB/McGraw Hill, has a five (5) part competency test and an attitude scale. Each competency area (listed below) has 20 items, while the attitude scale has 50 items.

Competency Test

1) Knowing Yourself (Self-appraisal)
2) Knowing About Jobs (Occupational Information)
3) Choosing a Job (Goal Selection)
4) Looking Ahead (Planning)
5) What Should They Do? (Problem Solving)

Each of the parts is operationally defined in the CTB Theory and Research Handbook.

Extensive research of the instrument has been conducted through item analysis, reliability, and validity studies.

Yet, in reviewing the performance of students on the CMI, the counselors who were part of this research noted large discrepancies between individual student scores and their (the counselor's) knowledge and/or impression of student's behavior. Thus, a question was raised as to the criterion-related validity of the CMI.

OBJECTIVES OF THE RESEARCH

The CMI, consisting of five subtests, plus an attitude scale, was used in a northern Vermont career education program to study the career development of high school students, as well as to evaluate the effectiveness of the career education project.

In selecting the CMI, the guidance counselors raised two questions concerning its use with students in career education programs. These questions evolved into the objectives of this research.

1) Do counselor ratings of students' career knowledge, career planning, and attitude toward work correlate with those concepts as measured by the CMI?

2) Are the subtests of the CMI measuring independent factors of career maturity or are they so highly intercorrelated that they measure only one or two factors?

Thus, this research sought answers to these two questions using the following methodology.

METHODOLOGY

One hundred eleven (111) tenth grade students were tested in the fall of 1973 using all five subtests and the attitude scale of the Career Maturity Inventory. Using the operational definitions developed by Crites for the concepts of knowing about jobs, looking ahead (planning) and attitudes toward work, four high school counselors were asked to rate each student on these three factors, using a five point ordinal scale.

The CMI operationally defined these three concepts as follows:

* Knowledge About Jobs

  Measures the cognitive variable of knowledge about the world of work. Descriptions are given about job environments, tools, education level, and personal characteristics. The student is then asked to identify (multiple choice) the occupation described.

* Goal Selection and Occupational Planning

  Goal selection presents a number of student profiles and asks students to evaluate this information and select the occupation which this student should most likely choose. Occupational planning presents students with a long range occupational goal and asks the sequence of steps necessary to realize that plan.

  Students are required to process information and suggest the probable occupational choice and then identify the sequence of steps necessary to reach a given occupational goal. In short, can students draw conclusions from information and can he/she develop planned steps to reach an occupational goal?

* Attutude Toward the World of Work

The attitude scale elicits the feelings, the subjective reactions, and dispositions that the individual has toward making a career choice and entering the world of work. Is work seen as a meaningful focus of life or is it viewed as drudgery? How involved and independent is the individual in the decision-making process. Does he/she have a positive attitude toward the world of work and have confidence in his ability to deal with work situations.

To answer the first research question, "Do counselor ratings of students' career knowledge, career planning, and attitudes toward work correlate with those concepts as measured by the CMI," the following statistical procedures were used. Intercorrelations, using both Pearson product moment and Spearman [illegible] were [illegible] to determine the degree of [illegible] between counselors' ratings of student career maturity and student performance on the CMI.

Factor analysis, using the SPSS factor analytic routine (VARIMAX Rotation) controlling the principal factoring process with 25 iterations and a minimum eigenvalue of 1.0, was used to determine the independence of the CMI subtests.

RESULTS - CONCLUSIONS

Table 1 indicates that the counselors' rating of student performance on the CMI did not correlate highly with actual student scores. Counselor ratings did correlate (.28) significantly (.01) with student responses in the area of career knowledge.

Table 2 shows that the counselors agreed with each other in their judgements of students' career knowledge (.27) and attitude toward work (.23). This was not the case in goal selection and planning (.14).

It is clear that counselors were generally not in agreement with the CMI in goal selection/planning and attitude toward work, while they were in career knowledge. Counselors did agree among themselves in career knowledge and attitude toward work.

TABLE 1

Correlations of Counselor Judgement and Students' Scores for Career Knowledge, Goal Selection and Planning, and Attitudes Toward Work.

(Level of Significance in Parenthesis, N=111)

	Career Knowledge	Goal Selection/ Planning	Attitude Toward Work
Spearman	.28 (.01)	.06 (.26)	.09 (.16)
Pearson	.32 (.001)	.13 (.08)	.11 (.12)

TABLE 2

Correlations of Counselor Judgements With Each Other on the Three Characteristics Of Career Knowledge, Goal Selection and Planning, and Attitudes Toward Work

(N=111)

	Spearman	Pearson
Career Knowledge	.27 (.009)	.27 (.009)
Goal Setting/Planning	.14 (.35)	.02 (.41)
Attitude Toward Work	.23 (.03)	.21 (.04)

When the scores from the five competence test subtests were factor analyzed, it was clear that from the high intercorrelations among the variables that they were not independent factors.

Table 3 is the intercorrelation matrix. Intercorrelations were most high, ranging from .61 to .68 for the first four subtests. The correlation between the fifth subtest (Problem Solving) and the other four competence tests ranged from .45 to .56. Also, the correlation of the attitude scale with the five competence subtests was lower (.30 - .47).

TABLE 3

Intercorrelation of Competence Test Parts and the Attitude Scale

	1	2	3	4	5	6
1	1.0	.66	.65	.63	.53	.47
2		1.0	.63	.68	.56	.41
3			1.0	.61	.50	.30
4				1.0	.45	.35
5					1.0	.34
6						1.0

1 - Self-Appraisal (Knowing yourself)
2 - Occupational Information (Knowing about jobs)
3 - Goal Selection (Choosing a job)
4 - Planning (Looking ahead)
5 - Problem Solving (What should they do?)
6 - Attitude Scale

It is interesting to note that student scores on subtest four (Problem Solving) averaged much lower than the other four competence subtests. Table 4 summarized these data.

TABLE 4

Means and Standard Deviations of Scores on the CMI

(N=111)

Subtest	Average	S.D.	Perfect Score
1. Self-appraisal	11.72	4.04	20
2. Occupational Information	13.83	3.74	20
3. Goal Selection	11.41	3.15	20
4. Planning	12.58	4.11	20
5. Problem Solving	9.55	3.55	20
6. Attitude Scale	33.74	4.72	50

The factor analysis indicated the following results. Extraction of a single factor, called career knowledge, accounted for 67.6% of the variance. Extraction of a second factor, called self-appraisal, accounted for an additional 11.5% of the variance. These two factors alone accounted for 79.1% of the variance.

CONCLUSION

The study seems to indicate that while there is agreement between counselors and the CMI in terms of its measurement of knowledge about jobs, this is not the case for career planning and attitudes toward work.

Additional analyses showed that counselors did agree among themselves on judgement about career knowledge and attitudes toward work, but not in goal setting and planning.

The CMI subtests are highly interrelated. Counselor's ratings of students' career maturity correlated significantly. Yet the relationships between what the counselor measures and what the CMI measures is not highly related at all.

Factor analysis showed that extraction of two factors accounts for nearly 80% of the variance in the CMI.

Additional study is now underway to determine actual career advancements of these students and to seek employer ratings of career maturity to further explore measuring the concept.

REFERENCES

Crites, J. O., Career Maturity Inventory, Monterey, California: CTB/McGraw Hill, 1973.