An Assessment of the Effect of Vocational Exploration on Career Decision Making

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The researchers assessed the effect of a vocational exploration assignment on the career decisiveness of college students who said that they were career decisive. The results of the study showed decision shifting in the treatment group but not in the control group. The researchers concluded that career indecisiveness relates to a lack of clarity regarding how personality needs can be satisfied in a career choice.

The fact that student career decision making is not well understood and the contention that contemporary theoretical models oversimplify the process concern many investigators (Hartman, Fuqua, & Blum, 1985). For example, early research concluded that career indecision represented only a routine developmental delay in vocational decision making (Grites, 1981; Titley & Titley, 1980).

To understand career indecision, Hartman et al. (1985) proposed a model. Their paradigm bases developmental career indecision on anxious reactions to life situations (e.g., uncertainty of job availability). In this model, developmental indecision represents a condition in which a person failed to learn appropriate career decision-making skills. In addition, these researchers differentiated developmental indecision from chronic career indecisiveness. Fuqua, Seaworth, and Newman (1988) found significant, weak correlations between chronic, personality-based anxiety and developmental indecision. Chronic indecision results from the interfering effects of a disordered personality, not from failure to develop decision-making skills.

Findings by Jones (1989) have suggested that chronically anxious students have discordant feelings about their career decisions. Slaney (1988) has stated that career indecision is a difficult research

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topic because of researchers' inability to define persons as developmentally or chronically career indecisive.

Indecisive participants who remained undecided across all times and measurements consistently scored highest on low self-esteem and poor identity formation. These personality destabilizing factors underlie the diffusion subscale of the Career Decision Scale (CDS; Osipow, 1980). Scores on the CDS diffusion subscale remained stable even when the test taker changed from undecided to decided during a longitudinal study (Vondracek, Hostetler, Schulenberg, & Shimizu, 1990).

Almost all published research on career indecision involves the evaluation of high school or college students as participants. Usually, the prescribed treatment for these students' career indecision includes the administration of personality and interest inventories and career exploration activities. This approach limits the scope of student undecidedness to a form of developmental delay that can be overcome. By assessing skills, abilities, and interests, the students match these attributes to the responsibilities of a given career. The process is designed to lead to the student committing to a course of study or a job placement.

In the exploration model, students are in a vocational dilemma that will be resolved when these students find a comfortable life role of economic-social participation. Synthesizing career information by writing about it seems to result in increased idea clarity and specificity. Brewer (1918) used writing assignments to ease career decision making.

HYPOTHESIS

Because career indecision is the inability to settle on a career path, we tested the following hypothesis: After receiving a traditional vocational exploration activity as a treatment, both treatment and the control group of decisive college students will remain congruent in pre- and posttest interest inventory test scores.

METHOD

Rationale

In an attempt to test the hypothesis, the researchers used a traditional career exploration activity as a treatment for career decision. We used a career exploration and an inference writing assignment with a sample of classes from a pool of freshmen college English

composition classes. The fundamental assumption of this method was that the writing assignment, a form of self-exploration, would cause students to evaluate the "goodness of fit" of their career choices. Because only those students in these classes who asserted that they were in school to reach a definite career goal were retained in the study, we expected to see little impact on their thinking from a traditional treatment for career indecision.

To plot pre- and postinterest test changes, we used a two-dimension plot of interest that is based on Holland's hexagon (Prediger & Vansickle, 1992). This model provides a geographic representation of the various directional changes that career decisions can take (e.g., realistic, investigative, enterprising, social, conventional, or artistic occupations).

Holland's work is one foundation of a new index of career decisions, the Hexagon Congruence Index (Prediger & Vansickle, 1992). *Index* is the absolute difference between the angles associated with any two locations on the hexagon (e.g., the locations of occupations, persons, theory-based Holland types, or any combination of these). The Hexagon Congruence Index ranges from 0 degrees (maximum congruence) to 180 degrees (minimum congruence). The Hexagon Congruence Index seems to exhibit procedural advantages that permit analyses that cannot be conducted with traditional interest test measures.

We used the American College Testing Interest Inventory (ACT–II; Lamb & Prediger, 1981) to develop a congruence index similar to the Hexagon Congruence Index. The ACT–II yields a general measure of career direction scored as a vector in a two-dimensional interest space. The space, which is depicted in Figures 1 and 2, is bounded on the right by jobs that require the individual to work with objects or things. On the left are occupations that involve the worker with people-related tasks. At the top are jobs primarily involving work with data, and at the bottom are jobs with ideas (American College Testing Program, 1974; Hanson, 1974; Prediger, 1976; Hanson, 1981).

With this mapping scheme, it is possible to measure some degree of decision. We measured decision as a movement on an outwardly moving vector originating at the center of the map and rotating through the possible career orientations. Scores that plot at the approximate center of the map show inconsistent interest statements. Scores plotted toward the outer edges of the map represent more consistent response patterns. One measure of interest is the angle that vectors form with data/ideas, people/things axes. A measure of interest change is the distance of pretest ACT-II coordinates from those of posttest coordinates.

Participants

English I composition courses at Central Florida Community College enroll students based on achievement scores on the American College Testing Service's ACT Assessment English Test (American College Testing, no date). Students achieving a score of 14 and above are admitted to English I composition classes. Students falling below that score must pass remedial writing courses before taking English I; therefore, this pool of English I students had consistent academic ability levels coming into this study. Using this approach, a group of 175 students qualified initially for the study. We retained only those students who said that they were career decided. The scores of these remaining students were grouped into two random class clusters (treatment, $N = 39$, control, $N = 40$).

Both groups were told that we were studying career decision-making behavior. We gave the testing and writing activities to those in the treatment group. We explained that participating in the study would pay off as a way to personalize and possibly to enhance their chosen career plans. Furthermore, this participation fulfilled each student's requirement for a grade in their English class. All selected participants agreed to take part in the study.

Design and Procedure

We initiated the study by giving the American College Testing Interest Inventory (ACT–II) to both groups. We used ACT–II for both pre- and posttesting of interest. The treatment group participated in a career exploration activity. In this treatment, treatment group members took two assessment batteries and reviewed computer-generated interpretations of their results. The first test was the Myers-Briggs Type Indicator (MBTI; Center for Applications of Psychological Type, Inc., no date) for personality, and the second was the Strong Interest Inventory (SII; Strong, 1993) for career interests. We purchased scoring and interpretive reports and presented these reports to the treatment group during the second week of the study.

Using Maney and Grasso's (1975) instructional method for teaching cause-and-effect writing, the two tests provided "data" for the participants to use in writing an inference paper. Their teachers graded them for how well they reasoned effects from causes. Working together, the teachers and the researchers told the treatment group participants to consider their test scores as "effects." Their assignment was to deduce in their writing what they believed were the "causes" in them that resulted in their personality and vocational interest profiles. The time elapsed between the pre- and posttest was 3 weeks for both groups.

The pre- and postdistance from the center, pre- and postvector angles and the distance between the pre- and postpoints in the interest space were subjected to multivariate analysis of variance (Bock, 1975). The multivariate *F* ratio was derived using Wilks's lambda. Univariate *F* ratios were derived for each measure separately. The distance between the pre- and posttest coordinates were plotted for the treatment and comparison groups.

RESULTS

The means on the dependent measures for the treatment and control groups and the results of the hypothesis tests are presented in Table 1.

The multivariate *F* ratio yielded a probability of .03. The univariate *F* ratios for the pretest distance from the center and the distance between coordinates yielded probabilities of .018 and .001. Examination of Figures 1 and 2 reveals the major finding of this study.

The pre-post incongruities in the treatment groups' scores were much greater than were those of the control group. These incongruities appeared in two ways.

1. The mean distance between the treatment group members' pre- and post-ACT–II coordinates are 5.63 (treatment) and 3.21 (control) at a .001 confidence.

2. The angle difference from pre- and post-ACT–II coordinates is 199.2 (treatment) and 194.3 (control) at a .04 confidence level. There was no significant change in response consistency (e.g., distance from center) between the control and treatment group.

The change in the vector length from center reflects consist interest statements, and change in the angle reflects congruence or incongruence in pre- and posttest interest designation. Table 1 data show that the initial pretest interest incongruence was insignificant; however, the posttest scores are significant for incongruence of distance between pre- and posttest scores.

DISCUSSION

It seems clear from a careful examination of Figure 1 that the treatment did have an impact on the decided students. Although both the control and treatment group students claimed to be decided about their career intentions, the treatment group changed their interest statement after the treatment. Treatment participants became less

TABLE 1

Means and Standard Deviation, Results of the Multivariate[a] and Univariate Hypothesis Test

Item	Treatment (N = 39)		Control (N = 40)		Univariate Tests[b]			
	M	*SD*	*M*	*SD*	Between *MS*	Within *MS*	*Fb*	*p*
Distance from Center:								
Pre	7.8	3.7	5.9	3.5	75.56	13.01	5.80	.018
Post	7.1	3.9	6.1	3.9	16.28	15.33	1.06	.306
Angle:								
Pre	188.1	90.7	182.8	75.9	559.16	6982.96	0.08	.778
Post	198.2	86.6	194.3	88.8	346.24	7706.14	0.04	.833
Pre/Post distance	6.3	5.6	3.2	1.9	197.51	17.52	11.27	.001

Note. Distances arbitrarily scaled.

[a]Multivariate F (7, 73) = 2.59, p = .032. [b]df = 1, 77.

certain when stimulated by issues raised during discussions of the relationships between their personalities and their interests.

This finding runs in the face of the traditional vocational exploration models of student development which hold that taking tests and reflecting on the tests will help students solidify their career thoughts. Like the pseudo-crystallization of interest common to preadolescent students discussed by Ginsberg, Axelrod, & Herma in 1951, the late adolescents in this study, although claiming decidedness, really turned out to be undecided. The treatment led to uncertainty. The lack of uncertainty (e.g., change in pre-post coordinates) in the similarly configured control group refutes our initial hypothesis. Tango and Dziuban (1984) indicated that chronically indecisive students seem to be trying to satisfy impossible demands in their career choices. The treatment in this study may have alerted formerly

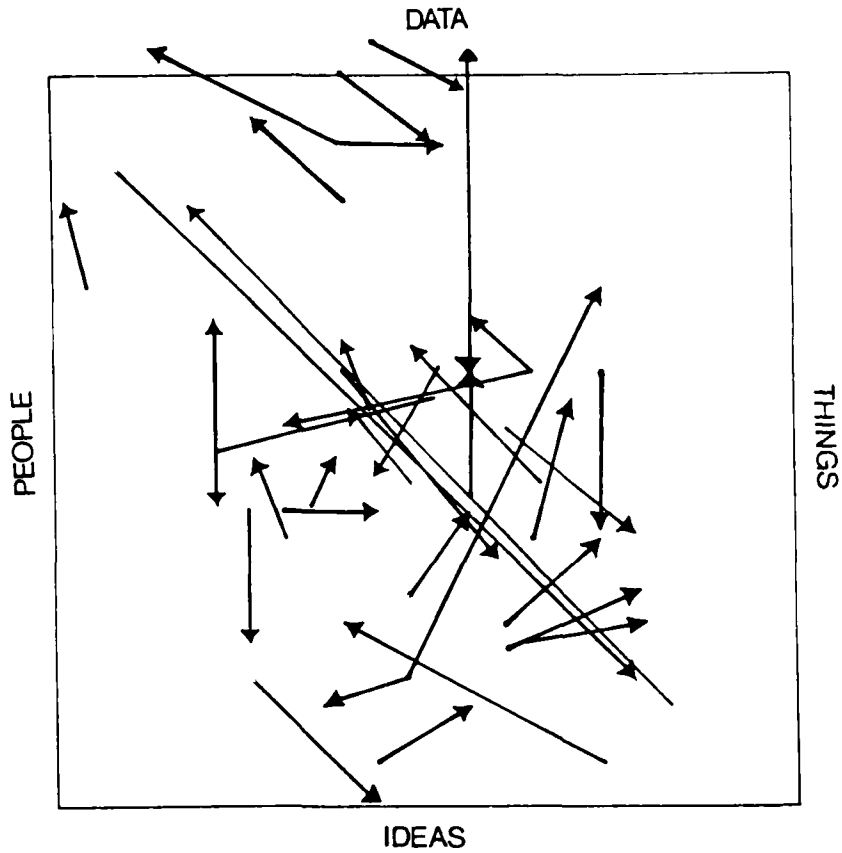

FIGURE 1

Change Vectors for the Treatment Group

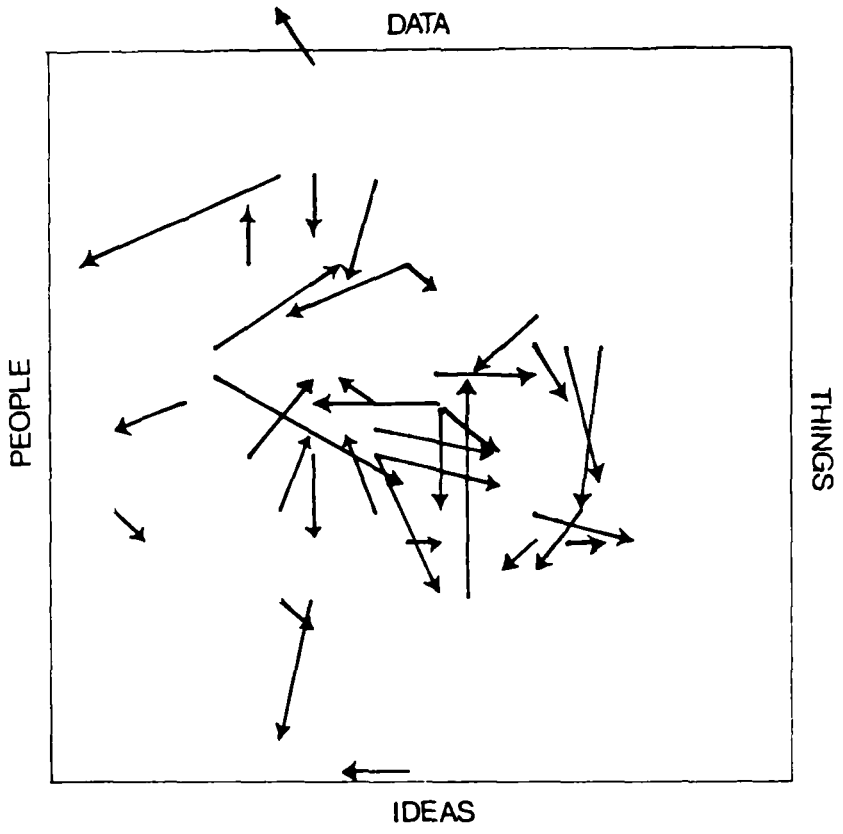

FIGURE 2

Change Vectors for the Comparison Group

decided students to uncomfortable connections between their personality and their interests. As documented earlier, interest expression in chronically indecisive students halts because of chronic anxiety grounded in unresolved personality issues. In the Tango and Dziuban study (1984), narcissistic personality styles drove anxious participants to interests in unattainably high-level leadership roles. To avoidant students, all jobs were equally unattractive and for obsessive-compulsive students all jobs were equally attractive.

This study supports previously reported findings on the role of trait anxiety in career indecision. This study supports the trend of defining chronic career indecision as related to unresolved personality issues. The change in career interest statements between pre- and postscores among students who had asserted that they were career decided is surprising. Based on these results, some important information

about the dynamics of career indecision has become apparent—confronting one's personality core is the fundamental work of career decision making. Mendonca and Seiss's (1976) clinical research found that anxiety reduction via psychotherapy effectively reduced career indecisiveness.

Short of psychotherapy on campus, an expensive and awkward proposition for many students, perhaps other intensive activities make sense. For example, cooperative education courses might allow students time and real structure within which to validate their ideas about their future. Stimulating students with more information without providing careful counseling intervention follow-up seems to be a destabilizing activity.

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