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ABSTRACT

Student and academic advisors' thinking toward career decisions was examined according to an analytic-intuitive criterion, emphasizing a distinction between logical-rational thought and a more intuitive, reflexive mode. Results showed that advisors' conception of an ideal career strategy and of sophomore students' actual career orientation was relatively analytic. Advisors tend to view career choice more analytically than students. This misperception of student thinking appears to be a source of conflict between students and advisor. Other data suggests that a high percentage of students believe advisor's analytic orientation interferes with helpful counseling and satisfactory career decision. Purely rational career strategies appear to be a source of alienation for students, especially during the middle college years. This suggests that career counselors should take care that they do not override students' feeling and personal commitments with analytic-rational career strategies and "objective" career information. (Author)

Conflicts in Career Thinking: Analytic Advisors and Intuitive Students*

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A good deal of frustration has resulted from attempts to determine the effects of career counseling: an important task which cannot be reliably demonstrated to have expected, beneficial effects (Osipow, 1968). Not only do students not seek counseling in great numbers, but both students and counselors often view one another through distorted images.

For counselors, it's the unrealistic, irrational student who wants to major in physics while at the same time flunking calculus. Or perhaps worse, students who are uncertain about careers and want to be handed a satisfactory decision, on the assumption that counselors know more about what's good for students than students themselves.

For students, it's counselors with magic wands (tests and advice) that don't work. Tests that show your best bet for a major is radio and T.V.--which is also true for all your friends. A belief in the overconcern for abilities and job availability and little attention to meanings and emotional satisfaction.

Overstatements to be sure. Career counselors have their cadre of humanists and we all recognize fulfillment, meaning and personal satisfaction as ideal career outcomes. And realities do impinge upon students. Jobs and abilities are important, especially given the current job market. However,

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the career-relevant data of students and counselors is quite different. Advisors typically have test scores, grades, course requirements, job market trends and some reading of student interest. Students in addition to this have first hand involvement with instructors and course materials, their own goals, their personal feelings and commitments as to what they want to make of their lives (admittedly often vaguely defined). Given these differences in career information, advisors may thus be more interested in a rational decision which will result in a job after graduation, whereas students may be more concerned with an emotionally satisfying and meaningful career. The two, while not necessarily mutually exclusive, do represent distinctly different decision criteria. The purpose of the present work was to assess such differences in how students and career advisors think about career decisions, in terms of an analytic-intuitive dimension investigated in prior research (Baumgardner & Rappoport, 1973).

The analytic-intuitive continuum of thinking processes emphasizes the distinction between logical-rational thought based on rather explicit rule-following processes in combining relatively objective (and often quantified) premises on the one hand, and more implicit organization of perceptual, global and often affect-laden information and experiences on the other. In the case of career choice in college, students can, for example, use feelings and emotional satisfaction as a basis for choice of majors or rely on more analytic factors such as grades and vocational-aptitude test scores. Decision processes according to this approach are described by the relative dominance of an intuitive or analytic orientation.

Significant in our prior work was a general shift from analytic thinking in the freshman year to more intuitive thinking in the sophomore year.

This finding was consistent with studies showing the sophomore year to be particularly disruptive in regard to career thinking (Taylor, 1962). "Sophomore slump" is characterized by uncertainty involving shifting feelings, goals and identificatio..s. This is in marked contrast to freshmen who seem to have both stable images of career options (Beardslee & O'Dowd, 1962) and an untroubled attitude toward career decisions (Sanford, 1962). More specifically, Madison (1969) found freshman career thinking to be relatively structured, certainty-geared and superficially planned. This latter author has suggested that the freshman-sophomore change is due to the strong effect of external influences (e.g., parents and counselors) on early career choice. Based on these pressures, students enter college with an "initial organization" which is eroded away through college experiences as students come to give greater weight to their own feelings and values.

The change from a relatively calculated and externally oriented career plan, to one more personally oriented and emotionally satisfying was consistent with the shift from an analytic to more intuitive career orientation. In addition, since the changes described by Madison and others often involved high levels of stress and uncertainty, past laboratory research showing shifts to more intuitive thinking under these conditions also supported this interpretation (e.g., Mintz, 1948; Krop, Alegree & Williams, 1969; Gilbert & Rappoport, 1972).

Given these findings, and consideration of the possible impacts of advisors on student career decisions, three aspects of the perceptions between students and advisors seemed important to evaluate. First, what is the relationship between advisor's criteria for a good decision and student's actual thinking about career choice? That is, are advisors generally more

analytical than students, as a reading of the latter's sentiments would suggest? Secondly, do advisors perceive accurately the more intuitive orientation in the sophomore year, which appears to be a significant transition point in student career thinking? And finally, do students perceive advisors in relation to their beneficial or negative influences on student career choices? The present work was directed at evaluating the nature of these relationships.

METHOD

Scale Development

Students were interviewed in depth concerning their reasons for their choice of majors. Protocol data suggested the reasons given could be coded on an analytic-intuitive dimension. For operational purposes analytic thinking was defined by publicly verifiable and well-defined (often quantified) premises leading to logical-rational conclusions (e.g., "My college aptitude scores showed this field to be a logical choice"). Intuitive thinking was defined by global feelings and jugements not proceeding from objectively specifiable premises (e.g., "I can identify personally with the people who work in this area"). Emotional involvement and global feelings are thus taken as definitive for this mode of thought. The analytic-intuitive dimension was originally tested by the use of 47 statements which were further refined through intercorrelation, factor analysis and Thurstone-type scaling, to produce a final 27-item questionnaire consisting of 15 analytic and 12 intuitive items (see Baumgardner and Rappoport, 1973).

Subjects and Analysis

Student responses. The 27-item questionnaire was administered to 586 Kansas State University undergraduates representing all educational levels and

various major areas of study. Subjects were drawn from upper level and introductory psychology classes on a volunteer basis. In each class tested approximately 90 to 95 percent of enrolled students filled out the questionnaire.

All students indicated the degree to which each item was characteristic of their thinking toward choice of their present major on a 1 (very important) to 5 (very unimportant) scale, with 3 representing the neutral point. A score was computed for each subject which reflected the relative importance of analytic and intuitive statements. The 1 to 5 scale was changed to a -2 to +2 scale for analytic items, and a +2 to -2 scale for intuitive statements. Responses to each item type were then added together, producing a single score for each subject. Scores could potentially range from -54 to +54. Higher scores (i.e., the more intuitive items are endorsed and/or analytic items are not endorsed) were interpreted as indicative of intuitive thinking and low scores as analytic thinking. The majority of actual index scores ranged from -20 to +20. A Chi-square test of the difference between the obtained distribution of 586 scores and a normal distribution, showed a significant difference at the .05, but not at the .01, level ($X^2 = 37.92$, df = 22).

The subject sample was broken down according to sex, area of study and year in school (i.e., freshman, sophomore, etc.). Students were classified into three areas of study: soft (humanities, social sciences, etc.), hard (natural sciences, engineering, etc.), and business-professional (business, accounting, pre-law, etc.). This sample stratification produced a 2 X 3 X 4 factorial design with approximately 25 subjects per cell, representing 219 freshmen, 169 sophomores, 93 juniors and 105 seniors.

In addition to the analysis of index scores a sample of sophomore and

freshman students (n = 50) was selected for more in-depth study. Students were asked to write an extended description of why they chose their present major. Included were descriptions of what constitutes a "good" choice of majors and the important factors or people which may mislead students or result in a poor choice of majors. Of particular interest was the percentage of students mentioning advisors as having important influences on career decisions.

Advisor responses. Nearly all freshman and a high percentage of sophomore students consult with a staff of academic advisors regarding their college programs. While more professional career counseling services are available, few students take advantage of them. Thus, for the majority of freshman and sophomore students, the career counseling they receive is most likely to come from academic advisors. These advisors are composed of faculty, graduate students and non-professional staff.

To make comparisons between student and advisor thinking toward career choice, 13 arts and sciences advisors were asked to fill out the intuitive-analytic questionnaire under two conditions. First, to indicate through item ratings how the questionnaire would be filled out if students made the "best" (defined by advisor's preferences) possible decision. That is, ideally how should students respond to the questionnaire. Second, to rate each item according to their perceptions of how sophomore students actually fill out the questionnaire. That is, how does the average sophomore rate each item.

RESULTS

Student Responses

Figure 1 shows the freshman-sophomore shift found in our previous study

(Baumgardner & Rappoport, 1973). Analysis of index scores assessed by a 2 X 3 X 4 harmonic mean analysis of variance (see Table 1) showed significant main effects for year in school, area of study and students' sex as well as the interactions of these variables.[1] In line with predictions from past research, personalized goals and feelings become more salient in student thinking in the sophomore year. All students showed a decrease in the importance of analytical-objective factors (e.g., test scores, expert opinion) in the sophomore as compared to the freshman year. Subsequent t-tests showed this freshman-sophomore change to be significant for each curricular group.[2]

The change to more intuitive scores in the sophomore year appears to represent a genuine change in thinking toward choice of careers. A comparison between 47 freshman students who dropped out of school during the freshman year and students who continued in school showed no significant differences in mean index scores for the two groups ($F = 1.0$, $df = 1/264$). Thus, the freshman-sophomore change does not seem to be due to differential subject selection (i.e., analytically oriented freshmen dropping out of school).

Advisor-Student Differences in Career Thinking

As part of the qualitative analysis, students were asked to describe the people and factors which they believed could mislead them or result in poor choice of majors. The following categories of responses were most frequently represented: 38 percent mentioned advisors as having misleading

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[1] A harmonic mean analysis was computed since an equal number of subjects was not obtained for all cells of the factorial design.

[2] Soft majors, $t = 3.67$, $df = 221$; hard majors, $t = 8.36$, $df = 82$; business-professional majors, $t = 19.77$, $df = 129$. $p < .05$ for all tests.

influences; 36 percent parents; 23 percent either the job market, job status or monetary gain; 10 percent mentioned other factors; and 10 percent mentioned no misleading influences. Thus, advisors represent negative influences for a substantial proportion of students. As one student put it:

> . . . Advisors push you into or out of curriculum for their own reasons. I've had one advisor push me into a curriculum and another out of it. My present psychology advisor has said that psychology is an unadvisable curriculum because of no jobs. I don't care. I do my own advising now . . . if I can only get into some classes.

Other students also indicate advisors as problem sources.

> Counselors in high school could tell you that you can never succeed in a certain major, when you probably can if you just try hard enough.
>
> Advisors! Often advisors lead you down the path that they have gloriously made. . . . Often you will take the courses that your advisor took as a student.

In fairness to advisors it should be noted that 52 percent of the students did not point to them as having misleading influences on their choice of majors and 10 percent gave no sources of negative influences. This latter group most frequently cited the individual student as responsible for poor major selection. However, the relationship with advisors does not appear beneficial for many students.

Overall comparisons of advisor-student responses to the questionnaire showed advisor's mean ideal score to be 1.84 (how should students respond) and the predicted sophomore score to be 3.77 (how do students actually respond). The actual average of sophomore scores was 7.17. Both in rating the items according to what would be an "ideal" decision and in predictiong sophomore's actual responses, advisors are relatively analytic. In fact, the difference between ideal and predicted scores was not significant ($F = .491$, $df = 1/12$, $p < .1$). In general advisors seem to believe an analytic orientation toward career choice is best for students and predict scores which are too analytic

as compared to actual student scores. It is interesting to note that advisor's predicted sophomore score (3.77) was closer to freshman's average score (2.77). Perhaps, advisors are in closer touch with freshman thinking and do not perceive the change in thinking between freshman and sophomore year. Or, freshmen believe advisors and answer accordingly in filling out the questionnaire.

A more detailed comparison of these relationships is presented in Figure 2. Advisor's and student's scores are shown by area of study of each. Thus, for example, advisors advising students in hard sciences are compared to sophomores in hard fields of study. As can be seen, the same rank ordering of areas of study according to index scores occurs for advisors and students, with advisors being more analytical in each case. Also shown are advisor's ideal versus predicted scores with ideal scores being generally more analytical. Advisors in business-professional fields were the most similar, both for the ideal versus predicted and for the predicted versus actual comparison. In line with student descriptions, there do appear to be important differences between advisor and student thinking toward career choice.

DISCUSSION

The foregoing results suggest that student career decisions can be fruitfully conceptualized and assessed according to an analytic-intuitive criterion. Students not only show different thinking orientations depending upon sex and area of study, but shifts in thinking appear mediated by generalized college experiences.

Specifically, the dramatic shift to more intuitive thinking in the sophomore year suggests how various situational pressures interact with

individual career thinking. Having little or no college experience, a strong analytic orientation seems to provide freshmen with the confidence and sense of purpose needed to face a new and challenging environment. A career decision based on test scores, parental and counselor advice provides both rational justification and social support for one's choice. According to Madison the freshman orientation results largely from family influences. As one student noted:

> My family's hopes for me were mostly negative: Have a goal, don't wander around aimlessly. Keep thinking about the future. . . . The outstanding essential feature [of his family's advice] is that my future is to be planned, is to be calculated (Madison, 1969, pp. 55-56).

However, through college experiences many students appear to recognize a discrepancy between what significant others and what they themselves believe is a correct decision. Students may thus find themselves in conflict between their personal feelings and the dictates of conventional wisdom. Labelled "sophomore slump" in past research (Taylor, 1962), the stress and uncertainty over changing career and life goals appear to result in shift to more intuitive career thinking. The tendency toward more intuitive thinking during the sophomore year seems to reflect a reaction against the pressures of conventional logic in favor of personal feelings and experiences.

Evaluation of advisor-student differences in thinking toward career choice showed advisors to be generally more analytical both in their conception of an ideal career choice and in predicting sophomore's actual career thinking. Advisors may not be aware of or sensitive to the shift in student career orientation between the freshman and sophomore years. As indicated by student responses, the midreading of student career goals and/or the imposition of advisor's more analytical thinking may be a source of alienation for more

intuitive oriented students. This alienation may be due in part to reactions against the conventional logic, discussed above, which is represented by advisors.

Past research also suggests that differences in thinking between advisors and students may be a source of conflict. A substantial body of research (cf. Rappoport & Summers, 1973) has shown that cognitive differences between individuals engaged in various group judgment and decision-making tasks produce conflicts. That is, the fact that persons think about problems differently using different cues in their judgment results in disagreements when these persons must work together. Specifically, cognitive differences have been shown to produce conflicts in cooperative situations where group members are working toward a common goal. This situation parallels student-advisor relationships. Hopefully, students and advisors are working toward a shared goal--namely a satisfactory choice of majors. Most importantly this research shows that conflicts may arise due to differences in the way students and advisors think about career choice. A determination of the extent of such conflict cannot be made since advisor-student interactions were not assessed. However, the present results strongly suggest that important differences do exist which represent potential sources of conflicts and unsatisfactory career decisions.

Furthermore, while many advisors bemoan the lack of rationality in career planning and suggest the need for more objective assessments and logical planning, it has been argued that analytic-rational thinking does not insure more appropriate or satisfying career choices anyway (Hackman, 1968). Given these findings and the irreducible uncertainties surrounding career information (e.g., rapid changes in the job market), we would suggest that fully rational career planning may not be possible, nor necessarily desirable.

This latter point raises a dilemma for the many career counselors whose work is guided by rational models; for example, views of career choice as the matching of objectively determined interests and abilities with an appropriate vocational path (cf. Osipow, 1968). We would suggest that the intuitive-analytical conception represents a more reali[illegible]ysis of the decision process and thus would be of greater practical use than purely rational models. In this regard, the authors' on-going research shows that students report increased understanding of important dimensions and conflicts in their own career thinking when vocational choice is described as involving intuitive and analytic processes.

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Table 1

Comparisons of Index Scores in 2 X 3 X 4 Analysis of Variance Representing Students' Sex, Area of Study and Year in School

Source	SS	df	MS	F
Year	1079.25	3	359.75	121.13*
Major	4694.22	2	2347.11	790.27*
Sex	163.52	1	163.52	55.06*
Maj. X Sex	590.52	2	295.26	99.41*
Maj. X Year	1491.18	6	248.53	83.68*
Sex X Year	426.29	3	142.1	47.45*
Sex X Maj. X Yr.	569.28	6	94.88	31.95*
Error	1736.66	562	2.97	---

$p < .05$

Figure 1

Index Scores of Students in Soft, Hard and Business-Professional Curriculum at each Educational Level

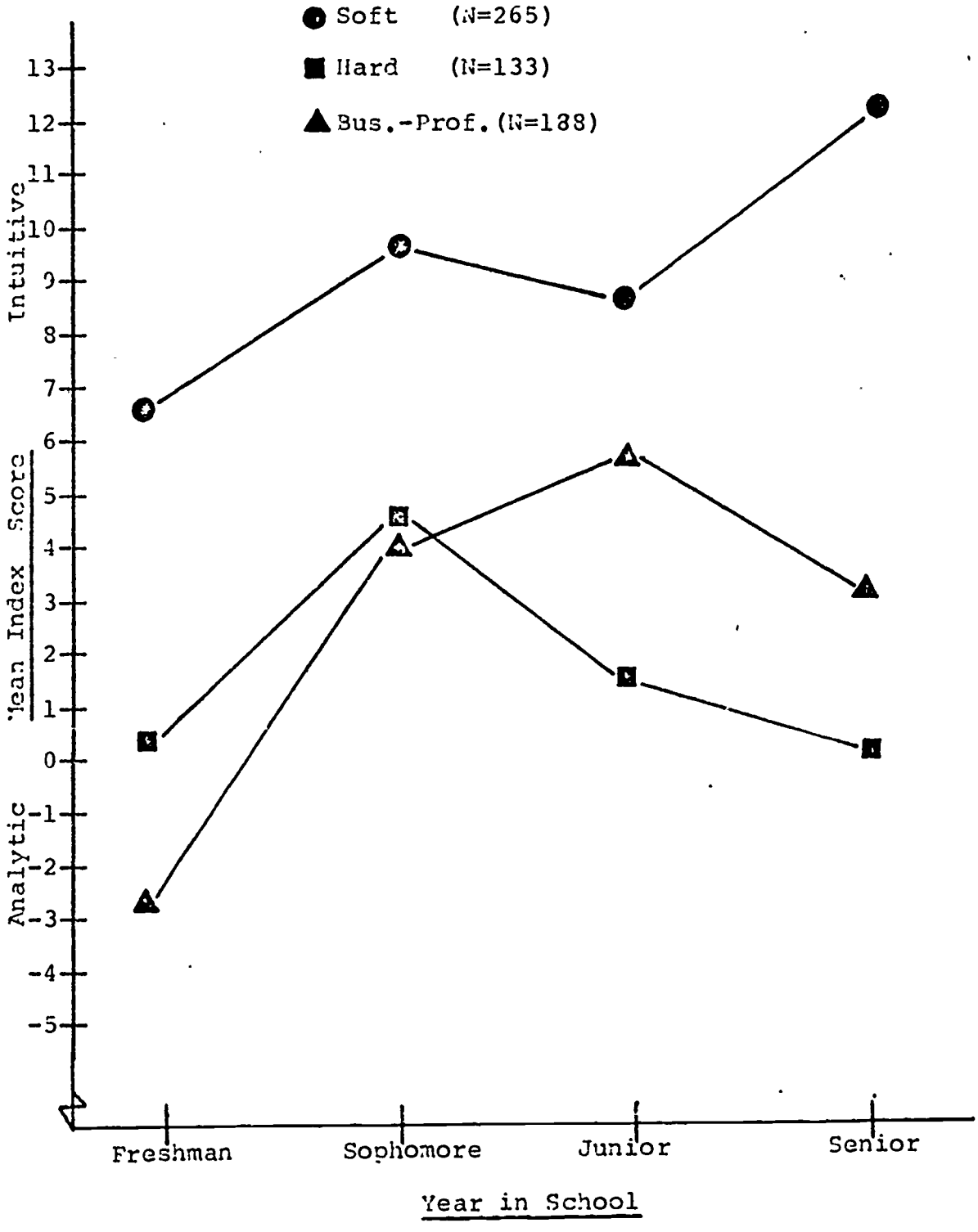

Figure 2

Sophomores Actual versus Advisors' Ideal

and Predicted Index Scores by Area of Study

SA - Sophomore's Actual Score (N=169)

AP - Advisor's Predicted Sophomore Score (N=13)

AI - Advisors' Ideal Score (N=13)