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Differential Interests of Agricultural College Students as Measured by the Kuder Preference Record

By JOHN A. BATH

The Kuder Preference Record has enjoyed wide usage as a counselor's aid in determining categorical interests of individuals. Many studies have been made in an attempt to discover differential interests of occupational groups and of those engaged in the pursuit of various college curricula. Such significant differences in interests as are found have been deemed to be of valuable assistance to the vocational and educational counselor.

So far as the writer has been able to discover, little use has been made of the Kuder Preference Record in the measurement of interests of college students pursuing an agricultural curriculum. This may be due to the fact that, until the recent publication of Form C, there was no section of the Kuder Record which, by title at least, was suggestive of interests of those engaged in or preparing for agricultural work. While the "outdoor" section of Form C is pertinent for agricultural activities in general, it is reasonable to assume that the differential interests which might occur in the other nine sections have important implications for guidance.

PROBLEM

The problem was to discover whether there were significant differences in measured interests on the Kuder Preference Record, Form B, between agricultural college freshmen and upperclassmen enrolled at the Iowa State College. A secondary problem was to investigate the profile pattern differences between these two groups and between each of the groups and the median scores upon which Kuder's profile sheet for men-in-general is based.

PROCEDURE

During the fall quarter of 1946, the Kuder Preference Record, Form B, was administered to 521 freshman men enrolled in the Division of Agriculture at the Iowa State College. The subjects were first quarter students enrolled in an orientation course required of all agriculture freshmen. The interest test was administered as part of a unit of study which included also a consideration of the students' aptitudes and abilities.

During the spring quarter of 1947 the Preference Record was

administered to 156 upperclass students in the Division of Agriculture. Testing of this group was on a completely voluntary basis. Announcements were made before each of the department clubs of the time and place that the tests would be given to interested students. Students in all departments of the Agriculture Division were represented in the 156 volunteers. By departments, the ratios of volunteers to total enrollment were approximately equal.

Scores on each of the nine sections were tabulated for freshmen and for upperclassmen, separately. The t-test was applied to differences between the two groups on each of the nine sections.

RESULTS

In Table 1 is provided a summary of the pertinent statistics. A difference in interests between the two groups was significant at the 1% level of confidence in the mechanical, persuasive, artistic and social service sections. The mean scores for each group in these four sections indicate that in two sections, persuasive and social service, there was a significantly higher interest among upperclassmen than among freshmen. In the mechanical and artistic interest sections, the freshmen had significantly higher interests than did upperclassmen.

Table 1

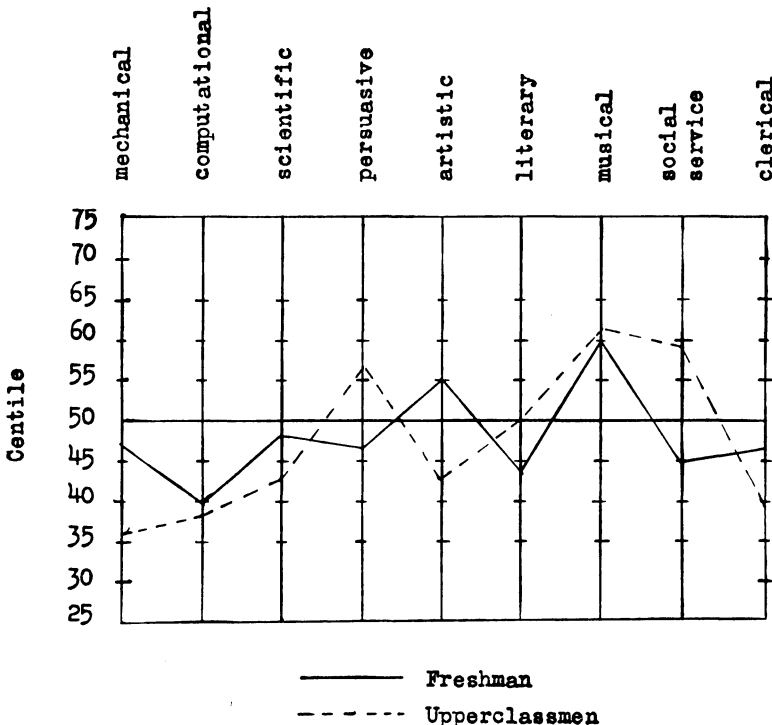
Differential Interests of Agriculture College Freshmen and Upperclassmen as Indicated by Raw Scores on the Kuder Preference Record

| Section | | Freshmen N = 521 | Upperclassmen N = 156 | t |
|----------------|------|---------------------|--------------------------|-------|
| Mechanical | M | 80.03 | 71.56 | 4.36* |
| | S.D. | 20.80 | 21.46 | |
| Computational | M | 32.53 | 31.97 | .49 |
| | S.D. | 11.45 | 12.85 | |
| Scientific | M | 63.04 | 61.01 | 1.62 |
| | S.D. | 15.12 | 13.22 | |
| Persuasive | M | 70.72 | 77.10 | 3.55* |
| | S.D. | 17.57 | 20.30 | |
| Artistic | M | 46.46 | 42.78 | 2.68* |
| | S.D. | 15.20 | 15.00 | |
| Literary | M | 43.90 | 46.17 | 1.61 |
| | S.D. | 15.66 | 15.46 | |
| Musical | M | 16.98 | 17.71 | .83 |
| | S.D. | 9.80 | 9.68 | |
| Social Service | M | 71.12 | 77.65 | 3.93* |
| | S.D. | 16.78 | 18.65 | |
| Clerical | M | 50.21 | 47.49 | 2.14 |
| | S.D. | 13.80 | 14.00 | |

* Significant at the 1% level of confidence.

The profiles in Chart 1 are based upon mean raw scores for freshmen (N=521) and for upperclassmen (N=156) in each of the nine interest sections. Although neither profile fluctuates widely from the 50th centile in any section, slightly greater variation is seen in the profile for upperclassmen. The percentile range for upperclassmen was 25 points as compared with 20 points of range for freshmen. The mean deviation in centile points away from the median, or 50th centile, was -3.0 for the upperclassmen as compared with -2.1 for the freshmen. This comparison is valid only if we can assume that Kuder's standardizing group represented a normal distribution so that the median and mean were equivalent. The greatest variation from the 50th centile in any one section for either group was 14 centile points. A glance at the four sections where significant differences were demonstrated (mechanical, persuasive, artistic and social service) reveals a difference of

Chart 1
 Centile Profiles Based on Mean Raw Scores of Freshmen and
 Upperclass Agricultural College Students on the Kuder
 Preference Record



10 or more centile points between the two groups. In this instance, then, a difference of 10 centile points was significant.

Compared with the men-in-general from whom Kuder developed his profile sheet, both the freshmen and the upperclassmen demonstrated a positive significant difference in only one section, that of musical interest. For freshmen there was a negative significant difference in computational, literary and social service interests. For upperclassmen there was a negative significant difference in mechanical, computational, scientific and clerical interests.

DISCUSSION

It should be kept in mind that the samples used in this study are not intercorrelated. If the data were longitudinal, other differences between freshman and upperclass interests might have been demonstrated. Furthermore, it is recognized that a selection factor may have been operating, since one group was completely voluntary while the other was not. A study of causal factors for the differences found between the two groups should be of some value. One such factor might be curricular satisfaction. Whatever the reason for the differences in interests may be, it would seem appropriate to give more encouragement for an agricultural curriculum to those seeking vocational guidance who have interest patterns essentially similar to those of upperclassmen. This recommendation is in accord with the suggestions of many who have worked in the area of interest measurement. Kuder has published a number of profiles for various professional and in-training groups. Norms on Strong's test are based upon interests of successful professional persons.

Perhaps of more value to the vocational and educational counselor would be information relative to differential interests of students in the various agricultural curricula. The possibility for such an investigation is suggested by several studies of non-agricultural groups. Triggs (1947) compared the scores of 826 nurses with a larger group of women-in-general. She found that interests of nurses differed significantly at the 1% level of confidence in seven of the nine sections of the Kuder. Later, Triggs (1948) measured the interests of nurses in specialized fields of nursing and found reliable differences. Speer (1947) used the Kuder Preference Record to discover whether freshmen students in engineering research differed significantly in vocational interests from other engineering students, and from non-engineering students. He found differences significant at the 1% level of confidence between engineering and non-engineering students; between students in differ-

ent engineering fields; and between students in engineering research and those in pure engineering.

It is proposed to extend the present study to include an investigation of whether interests of students in certain agricultural curricula differ significantly. The absence of marked pattern differences of interests between agriculture students in this study and Kuder's standardizing group suggests the need for a section designed more specifically to measure interest in agriculture. The "outdoor" section of Form C is purported to meet such a need. Nevertheless, there are important implications for guidance from differences that may be revealed in the interest pattern for the other nine sections.

In conclusion, whereas significant differences were found in this study between the interests of freshman and upperclass agricultural college students in four of the nine sections of the Kuder Preference Record, it is proposed that greater significance for guidance may be revealed through a study of differential interests in various agricultural curricula.

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