This paper presents some implications concerning career choice obtained from an analysis of the test and survey results for 400,000 high school students. These students were tested by Project TALENT in 1960, were followed up five years later, and were again surveyed in 1970 with selected parts of the TALENT test battery. These papers relate mainly to the increasing realism of choices, especially of the boys; the distinctive patterns of scores for career groups identified five years after graduation; and to the importance of earlier choices of at least the general nature of the career field. The paper reports new findings and relates these to some of the previously reported results. The findings are as follows: the unrealistic and unstable career choices characteristic of high school students throughout the country in 1960 are no longer typical of today's students; later career activities could have been planned on the basis of information available in high school; and if secondary education is to be relevant to student's needs and plans, it is essential that students be assisted in selecting their careers at an earlier time. (WS/Author)
SOME PROJECT TALENT FINDINGS REGARDING CAREER PLANNING

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ABSTRACT

This paper presents some implications concerning career choice drawn from an analysis of results for 400,000 high school students tested by Project TALENT in 1960, a follow-up done five years later, and a survey in 1970 of high school students using selected parts of the TALENT test battery. These relate mainly to the increasing realism of choices, especially of the boys, the distinctive patterns of scores for career groups identified five years after graduation, and the importance of earlier choices of at least the general nature of the career field.
SOME PROJECT TALENT FINDINGS REGARDING CAREER PLANNING

This paper will up-date the findings in Project TALENT, a survey and follow-up of 400,000 high school students. The planning phase of this study was initiated 15 years ago in 1957, and the testing was conducted in March 1960. This paper will present several new findings and relate these to some of the previously reported results.

1. The unrealistic and unstable career choices characteristic of high school students throughout the country in 1960 are no longer typical of today's students.

The instability of the career choices of high school students in 1960 is well illustrated by the fact that only 13% of the eleventh grade boys indicating a particular career choice from a list of 36 occupations reported the same career plan 6 years later. The career plans for the girls showed only a slightly greater amount of stability. This stability was concentrated primarily in the groups of girls selecting housewife, nurse, and high school teacher for their career plans in 1960.

The lack of realism in the choices of the boys is well illustrated by the fact that nearly one-quarter of the eleventh grade boys reported that they planned to be engineers or scientists, and only about one-third as many still reported career plans of this type 5 years after completing high school. In contrast with this, nearly three times as many boys indicated that they
planned careers in business in their reports 5 years after graduating from high school as had indicated such a choice when they were in the eleventh grade. The big change in the career plans for girls was the change from 11% in the eleventh grade to 45% 5 years beyond high school in the proportion reporting they planned that their primary career be housewife.

An update of this 1960 national survey, which was carried out in the spring of 1970, indicates that the proportions of eleventh graders reporting plans for specific careers have become somewhat more realistic in the 10-year interval. For example, the percent planning careers as engineers and physical scientists has dropped nearly a third during this period. Half of the eleventh grade boys in both 1960 and 1970 report they plan to graduate from a four-year college program. These boys indicate plans for careers which require college training. It seems almost certain that about half of them will not complete this amount of training and will therefore be forced to modify their career plans.

The trend toward greater realism in the career planning of eleventh grade boys is further substantiated by an analysis of the average scores on the same reading comprehension test administered to groups of students planning specific careers in 1960 and 1970. The boys planning careers in mathematics, the biological sciences, psychology or sociology, political science or economics, law, and pharmacology in 1970 had average reading scores which were about the same as those entering careers in these fields as reported in the follow-up of students of the 1960 Project TALENT group. In contrast, the 1960 groups of boys planning such careers had average reading scores which were from 5 to 7 points lower than those of the corresponding groups entering these fields.
In several fields the average reading comprehension scores for the boys in both 1960 and 1970 indicated a lack of realism for their choice. These career fields included engineering, dentistry, armed forces officer, airplane pilot, and social worker. In both surveys the groups of boys who indicated they planned such careers while in the eleventh grade had average reading scores which were from 5 to 15 points below those who are actually entering those fields.

The picture for the girls is somewhat different. In 1960 their career plans were in general more realistic than those for the boys. Although there were at least five times as many girls planning careers as scientists, physicians, lawyers, and social and behavioral scientists as the numbers who appeared realistically to be entering these fields five years after high school, these percentages were all relatively small in both years and therefore do not have a very important effect on the general pattern. The analysis of the average reading scores for the groups of girls planning specific careers in 1960 and 1970 does not indicate any field in which the groups of girls in 1960 had been significantly unrealistic and the 1970 girls realistic. In both 1960 and 1970 the groups of eleventh grade girls planning careers as physicians, nurses, social workers, lawyers, and airplane pilots had average reading scores from 5 to 9 points lower than the averages of those entering these fields. In the fields of physical science, business, and the clergy the average scores for eleventh grade girls planning such careers in 1960 were fairly close to the actual averages of those entering them. However, in 1970 the average reading scores for the girls planning careers were from 6 to 10 points below the averages of those actually entering those fields.
More girls report in 1970 that they plan to go to college, and they indicate a trend away from the traditional female jobs such as nurse, secretary, and beautician and toward professional and socially relevant jobs such as biological scientist, social worker, sociologist or psychologist. The above findings suggest that the changes in career plans characteristic of today's girls represent a reaction to social pressure for change but not as yet a genuine acceptance of these new roles. Perhaps the key to this ambiguity can be found in the finding that 45% of the girls 5 years after graduating from high school report only housewife as their career plan. If a greater proportion of our girls are to plan and pursue careers, as has been characteristic of those entering teaching and nursing, they must obtain better guidance at an early stage in their secondary education.

If guidance programs are going to become more effective they need to take into account the changes in the factors important to young people in their choice of careers. In both 1970 and 1960 the most important factor influencing the choice of both boys and girls was "Work which seems important to me." In 1970 nearly three-fourths of the boys and more than three-fourths of the girls reported that this factor was extremely important or very important to them. In both instances these proportions were slightly greater than in 1960. A factor which became more important for both boys and girls was "Freedom to make my own decisions." The other three factors, "Good income to start or within a few years," "Opportunity for promotion or advancement in the long run," and "Job security and permanence," all dropped substantially in the ratings of importance for the 1970 students as compared with the 1960 group.
2. The various career groups identified five years after graduation from high school showed distinctive patterns of scores with respect to abilities such as mathematical reasoning, writing, reading comprehension, and mechanical reasoning on tests taken in high school. Their interests and preferences as shown by both expressed interests in various careers and activities and the types of information they revealed when tested in the eleventh and twelfth grades in high school are also generally consistent with their present career plans.

Thus it is clear that later career activities could have been planned on the basis of information available in high school.

For the eleventh and twelfth grade students tested in 1960, the 5-year follow-up study showed that information and ability test scores predicted which of 27 career groups a student would select 5 years after high school fairly well, the multiple correlation coefficient being 0.48. Additional information from grades, high school curriculum, and expressed interests in various careers and activities typical of them results in an increase in the multiple correlation coefficient to 0.61. A few examples will illustrate the best predictors for some typical careers.

**Electrical engineers.** For electrical engineers 3 ability factors are of special importance, the first being mathematical reasoning, the second mechanical reasoning, and the third reading comprehension. Both the information and interest tests indicated that strong interests in the physical sciences and engineering fields were characteristic of this group.

**Physicians.** For physicians the three most important abilities in that order were mathematical reasoning, writing, and reading comprehension.
This group was also characterized by high scores on the information and interest tests in such fields as physical and biological sciences, literature, and music.

**Lawyers.** The group planning careers in this field were about equally high in mathematical reasoning, reading comprehension, and writing. Their information and interest scores were highest in public service, literature, theater, music, and sports and distinctively low in the fields of mechanics, technology, and the skilled trades.

**Teachers.** In general, the individuals who had entered or were about to enter a career in teaching were only slightly above the mean of all high school students. Their abilities were relatively higher in the reading comprehension and writing areas. On the interest and information tests they tended to be high on social service, literary-linguistic items, social studies, and sports.

**Machinists.** This group tends to be quite a bit below the average of all high school students on reading comprehension, writing, and mathematical reasoning. They are above the average for high school students on mechanical reasoning. Their information and interests relate to mechanical, technical, and skilled trades items and are especially low in the areas of literature and social studies.

3. **If the secondary school education of students is to be relevant to their needs and plans it is essential that they be assisted in selecting their careers at an earlier time.**

The first section of this paper makes it quite clear that although improvement in the realism of career planning was significantly improved between
1960 and 1970, there is still substantial need for further improvement. Although more students in 1970 feel that their coursework is relevant to their future activities, there are still nearly one in four of the students who say that they feel much of their coursework will be of little value to them. It is only possible for students to take responsibility for their own educational development if they have definite and realistic plans. Guidance counselors can be of very great service to today's students by giving them a better understanding of the requirements for effective performance in various types of career activities and assisting them to relate these requirements to their own abilities and interests. Counselors can also assist students in learning to manage their own educational and developmental programs to achieve their goals.
REFERENCES


