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A COMPARISON OF MALE-FEMALE COLLEGE ATTENDANCE PROBABILITIES.

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A HETEROGENEOUS SAMPLE OF 246 FOUR-YEAR COLLEGES AND UNIVERSITIES REQUIRED ALL ENTERING FRESHMEN TO FILL OUT A SHORT INFORMATION FORM WITH REGISTRATION MATERIALS. THE 76,015 MALES AND 51,100 FEMALES GAVE INFORMATION ON FATHER'S OCCUPATION, FATHER'S EDUCATION, AND HIGH SCHOOL GRADE AVERAGE. A STUDY OF THE DATA SUGGESTS THAT THREE INFLUENCES, IN COMBINATION, MODIFY THE PROBABILITY OF COLLEGE ATTENDANCE FOR GIRLS COMPARED WITH BOYS. A GIRL'S LIKELIHOOD OF COLLEGE ATTENDANCE RISES WITH THE EDUCATIONAL LEVEL OF HER FATHER. A GIRL WHOSE FATHER IS CLOSELY ASSOCIATED WITH THE ACADEMIC COMMUNITY IS ALMOST AS LIKELY AS HER BROTHER TO ATTEND COLLEGE. A GIRL WHOSE GRADES ARE RELATIVELY POOR IS MUCH LESS LIKELY THAN A BOY WITH EQUALLY LOW GRADES TO ATTEND COLLEGE, BUT HIGH ABILITY GIRLS AND BOYS ARE EQUALLY LIKELY TO ATTEND. PARENT ATTITUDES INFLUENCED BY SOCIOECONOMIC CONDITIONS APPEAR TO FAVOR MALES OVER FEMALES. THIS PAPER WAS PRESENTED AT THE AMERICAN PERSONNEL AND GUIDANCE ASSOCIATION CONVENTION, DALLAS, TEXAS, MARCH, 1967. (WR)

A Comparison of Male-Female College Attendance Probabilities*

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National Merit Scholarship Corporation

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The following news story from the Chicago Sun Times, July 3, 1966, illustrates one man's viewpoint on college education for girls. Peter L. Schreiner, 35, learned that he had just won $56,000 in the Irish Sweepstakes. When asked what he would do with the money he said rather definitely he was going to put most of it into a trust fund so that his two sons, aged nine and two, would be able to attend college. "It's like this," he said. "My take-home pay is $125 a week, and I've never been able to get my head above water. I just don't have the education to get a better job . . . The wife and kids have already figured out a hundred ways to spend the money, but I'm not going to do it. If I plan this carefully, it can get the boys through college and solve a lifetime of problems for all of us." When asked about plans for his two daughters, aged 8 and 6, he replied, "But I'm not so worried about the girls. They'll probably get married." Peter Schreiner is a steel cleaner for a wire manufacturer, and his attitude toward education for girls may be quite common. In fact, we will show that sons of semi-skilled workers, like Schreiner, are 80 per cent more likely than their sisters to enter college.

The data I will talk about here were collected by one of our discussants--Alexander Astin--in the fall of 1961. A heterogeneous sample of 246 four-year colleges and universities required all entering freshmen to fill out a short information form, along with the usual registration materials. Compared with many studies, there was no problem of volunteer bias. The sample was made up of 76,015 males and 51,110 females--that is, about 60 per cent males and 40 per cent females or one and a half times as many males as females. The freshmen gave information on father's occupation, father's education, and high school grade average, which was used in this study. For each father's occupation we divided the number of boys by the number of girls. These ratios are given in Table 1, which you have before you. I have interpreted these ratios as the probability of a son's attending college compared with that of a daughter from the same family background. The difference between the number of boys and the number of girls attending college will, in general, be a function of sex role differences. It can be assumed that there are equal numbers of both sexes for each father's occupation, and there is every reason to believe that girls are just as academically able as boys. Maintaining the present academic standards, there potentially could be the same number of girls as boys attending college--both from the population as a whole and

for each father's occupation. You can see from Table 1 that the daughters of psychologists, physicists, architects, college administrators, and college professors are almost as likely as their brothers to enter college. This contrasts with the situation in lower social class families (that is, Group IV in Table 1) where the boys are considerably more likely to enter college. For example, a laborer's son is nearly twice as likely to go to college as his sister. Undoubtedly there are many reasons for this large loss of girls from lower class families. Certainly, limited resources (where the boys get whatever money is available) and lack of motivation (where family attitudes favor early marriage rather than advanced education for girls) both play a part.

To better understand this general social class phenomenon, we computed the ratios of boys to girls for different levels of father's education, as shown in Table 2. The interesting thing about these ratios is that the probability of a son's attending college compared with a daughter's is very similar for the three highest levels of father's education--those with some college or more. In other words, as long as the father has even a year of college, an advanced degree, such as a Ph.D., does not increase his daughter's probability of attending college. Part of this may be related to the fact that almost all the fathers in the sample were educated prior to World War II,

when men with any college education at all were about as rare as those with M.A.s today. Perhaps most of these men can afford to send both sons and daughters to college, and therefore the matter becomes one of motivation rather than finances. As the father's education falls below college level, the probabilities favoring boys rise, so that sons of fathers with only grammar school education are almost twice as likely as their sisters to attend college.

Actually, knowing both the father's education and his occupation we may ask an additional question: Can the boy-girl ratio differences between fathers' occupations shown in Table 1 be attributed mostly to differences in the fathers' educational levels? To answer this, for each father's occupation we computed the ratio of boys to girls we would expect if only the father's education, and not his occupation, were known. These expected ratios are shown in the right-hand column of Table 1. Glancing down the list, you can see that the ratio of boys to girls predicted from the father's education is fairly close to the observed ratio for most of the fathers' occupations in Groups II, III, and IV. In contrast, the daughters of men in Group I are more likely to attend college than one would predict from their father's education--which is what the smaller observed ratios mean.

You can see that physicians and lawyers--who certainly have as much formal education, money, and prestige as the fathers in Group I--clearly fall into Group II. Of course, there is nothing in the data to show why the Group I daughters should particularly value a college education. However, you will notice that the occupations in Group I generally involve close contact with the academic community. I venture to suggest that these fathers consider themselves "intellectuals," while the Group II fathers have a more practical, businesslike orientation towards the world. Perhaps Group I fathers emphasize learning as a way of life and look upon education as equally valuable for both sexes. Group II fathers may be somewhat more practical in their outlook, stressing the vocational benefits of education which are more applicable to, and thus more important for, their sons.

Another interesting question concerns the girls who do not go to college but whose academic ability would qualify them for admission. In other words: Do grades have a bearing on college attendance when we compare girls with boys? Grades are not the most useful measure in comparing academic abilities, since girls get somewhat higher grades. This does not indicate a greater knowledge of subject matter, but instead reflects the more pleasing

personality characteristics of girls--pleasing, at least, to teachers. Project Talent's data indicate that girls average about one quarter of a letter grade higher than boys. Therefore we adjusted the boys' grades upward by one quarter of a point in order to compare the sexes on academic ability. Table 3 shows the ratio of boys to girls for different levels of adjusted, high school grade average. These are, of course, only approximations, because we assumed that the distribution of academic ability would be the same for both sexes. Project Talent's data suggest that this assumption is a reasonable one. The ratio of boys to girls for different high school grade average levels indicates that grades do make a big difference. Among children with relatively low grades (that is, D, D+, C, and C+ averages), boys are nearly three times more likely than their sisters to attend college. Among children with relatively high grades (B+, A-, A, and A+ averages), boys and girls are almost equally likely to attend college. In short, low grades clearly are more of a deterrent to college attendance for girls than for boys.

To summarize, the data suggest three influences that, in combination, modify the probability of college attendance for a daughter compared with a son. First of all, the daughter's likelihood of college attendance rises

with the educational level of her father. On the college level, the number of years the father attended is not significant--that he went to college at all is the only important factor here. Second, a girl whose father is associated closely with the academic community is almost as likely as her brother to attend college. Third and last, a girls whose grades are relatively poor apparently is much less likely than her brother who has similarly poor grades to attend college--although high ability boys and girls are equally likely to go.

These influences work together so that the few girls at the highest father's education levels who do not choose to attend college are of relatively low ability. On the other hand, many high ability girls from low socioeconomic backgrounds cannot overcome the family influences that act to deter their going to college. This question arises: If lower class girls capable of doing college work were completely subsidized--that is, if financial barriers were removed--would these girls go to college? We do not know the answer, since money is not the only deterrent in an environment in which parents do not actively favor advanced education for girls.

Table 1

Ratio of Male to Female College Students

for Various Fathers' Occupations

	Father's Occupation	Sample Size		Ratio	Predicted[a] Ratio
		Males	Females	M÷F	M÷F
Group I "Intellectuals"	Psychologist	44	42	1.05	1.25
	Physicist	71	67	1.06	1.26
	Scientist, not elsewhere classified	260	272	1.09	1.27
	Architect	179	163	1.10	1.29
	College administrator (dean, registrar)	153	138	1.11	1.26
	Teacher administrator (principal, counselor)	481	433	1.11	1.26
	College professor	672	602	1.12	1.25
Group II Professionals	Engineer	2,558	2,155	1.19	1.31
	Social worker	92	76	1.21	1.31
	Clergyman	805	663	1.21	1.29
	Dentist	404	333	1.21	1.26
	Official (mayor, congressman, judge)	179	146	1.23	1.36
	Physician	1,917	1,562	1.23	1.25
	Teacher (primary or secondary)	1,145	921	1.24	1.27
	Professional, not elsewhere classified	1,039	824	1.26	1.28
	Chemist	349	277	1.26	1.28
	Lawyer	1,433	1,125	1.27	1.26
	Pharmacist, optometrist, osteopath, chiropractor	557	435	1.28	1.29
Group III Semiprofessionals	Armed Forces officer	556	429	1.30	1.34
	Actor, musician, entertainer	103	79	1.30	1.45
	Writer (author, journalist, editor)	333	247	1.35	1.34
	Business executive (vice president, banker)	3,032	2,249	1.35	1.36
	Deceased	2,445	1,780	1.37	1.54
	Accountant	1,399	1,009	1.39	1.34
	Business manager (office manager, supervisor)	6,715	4,826	1.39	1.46
	Business proprietor (merchant, contractor)	7,784	5,550	1.40	1.52
	Artist, designer, interior decorator	340	238	1.43	1.49
	Technical (surveyor, draftsman)	877	584	1.50	1.51
	Salesman (buyer, insurance agent)	6,067	3,920	1.55	1.46
Group IV Low Social Class	Not elsewhere classified	8,090	5,150	1.57	1.53
	Farmer	5,597	3,521	1.59	1.66
	Clerical (typist, secretary, postal clerk)	2,706	1,635	1.66	1.55
	Skilled (carpenter, electrician, chef)	2,777	1,623	1.71	1.67
	Service or protective (waiter, policeman)	940	531	1.77	1.64
	Semiskilled (cab driver, machine operator)	5,472	3,055	1.79	1.69
	Foreman	1,389	743	1.87	1.63
	Laborer	3,235	1,711	1.89	1.73
	No response	3,757	1,972	1.91	1.49

[a]The predicted ratio of boys to girls is the ratio expected from the father's educational level, as shown in Table 2.

Table 2

Ratio of Male to Female College Students

for Various Levels of Father's Education

	Father's Education	Sample Size		Ratio
		Males	Females	Males/Females
Some College Or More	Post Grad Degree	8,859	7,097	1.25
	College Graduate	13,365	10,480	1.28
	Some College	13,365	10,011	1.33
	High School Grad	19,144	11,968	1.60
	Some High School	11,681	6,354	1.84
	Grammar School	8,206	4,268	1.92
	No Response	1,551	1,031	1.50
	Totals	76,015	51,110	

Table 3

Ratio of Male to Female College Students

for Various High School Grade Levels

High School Grade Average	Sample Size		Ratio
	Males[a]	Females	Males/Females
D, C	7,423	2,359	3.15
C+	12,619	4,254	2.97
B-	12,248	5,959	2.06
B	15,217	11,292	1.35
B+	12,133	11,459	1.06
A-	8,266	8,266	1.00
A, A+	6,323	6,323	1.00

[a]The ratios calculated from these sample sizes are only approximations based on the assumption that the mean and variation in academic ability of boys are the same as for girls. Girls have a mean high school grade average 1/4 of a letter grade higher than boys, although there is little difference between the sexes on objective achievement tests. Therefore the frequencies for males were estimated by moving the frequency histogram for male grades 1/4 letter grade higher along the scale and measuring the area under this adjusted curve. Because of missing data, the sample sizes do not sum to total sample frequencies.