

THE WOMAN STUDENT

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Although most educational leaders are aware of inequality of opportunity for women in higher education, many find it hard to get excited about it. The Newman Task Force concluded that, "Our study found that discrimination against women, in contrast to that against minorities, is still overt and socially acceptable within the academic community" (1971, p 80). In these times of great pressure for equality of educational opportunity, attitudes that prevent the realization of the goal are difficult to understand. But the attitudes seem to spring from different bases of knowledge and sensitivities. A few educators deny that there is discrimination against women; some know that there is, but believe that women have distinctively female talents and roles and that educational opportunity may be differentially presented to men and women; some maintain that higher education is less important or less useful for women; some have adopted a crisis style of administration that calls for attention and change only when the old way becomes more uncomfortable than a new alternative.

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Equal educational opportunity for women presents some new problems that are both more and less difficult to resolve than those faced in the drive for minority rights. The relative distance from the presumably aggrieved parties makes a difference. Most men, after all, know some women well enough to feel that they really understand their attitudes and feelings. If a wife, for example, finds ample satisfaction and fulfillment in her role as wife and mother, it is easy for the husband (and many wives for that matter) to feel critical of and even threatened by women who want another way of life. Many people believe that the extremists of the women's liberation movement will deny women the right to choose to be wives and mothers without feeling guilty or unliberated. But that is not what the women's rights movement is all about. It is about blatant or subtle discrimination that treats women as a class of people rather than as individuals. To discriminate is to deny freedom of choice; it is to make decisions affecting the lives of individuals without their consent and frequently without their knowledge. Women are becoming sensitive to the restrictions that discrimination has placed upon their lives. Those who do not want to do what their grandmothers did are simply asking for the right to choose. Women are asking for the right to pursue higher education judged by their interest and achievement rather than by their sex. They do not now have that freedom of choice. Some are denied it by institutional practices that are consciously or unconsciously discriminatory. Some are denied it by social pressures that define acceptable behaviors for women. Some are denied it by their own social conditioning and attitudes regarding women's roles. Denial of the full development of individual potential is, or should be, of concern to educators everywhere.

The purpose of this paper is to provide background information about the issues involved in granting full equality of educational opportunity for women of all ages and at all levels of postsecondary education. Since the problems are somewhat different for undergraduates, graduate students, and adult women, they will be discussed under separate headings.

UNDERGRADUATE WOMEN

Access to college is not as easy for women as for men, and the handicaps have a way of piling up. Women from poor families, for example, receive less parental encouragement to attend college than do their brothers (Froomkin, 1970), and they receive lower amounts of financial aid than do men (Haven and Horch, 1972). If they are also not very good students, they have less chance of being accepted by colleges than men with equally poor records (Walster, Cleary, and Clifford, 1971). Add to these handicaps the fact that despite better high school grades, women have less academic self-confidence than men (Cross, 1971b) and more deterrents which can be classified as family responsibilities (illness in the home, care of younger children, etc.) and we are left with some admiration for the determination of women from the lower socioeconomic levels who make it to college at all.

Research is quite clear that women are still underrepresented in the college-going population, with the national ratio of entering freshmen men to women now standing at 55 men to 45 women (ACE, 1971). The bastions of male predominance at the undergraduate level are the private universities and the public community colleges, where the ratio is 60 men to 40 women

among entering students. It is interesting that the greatest imbalance should exist in the most selective and the least selective institutions.

Open Door Colleges

Open door colleges can hardly be accused of practicing discrimination in their admissions policies, but let us take a closer look before concluding that community colleges are absolved from considering the need for corrective action. Since public community colleges were established with the explicit purpose of providing equality of educational opportunity for all, it is ironic that they, of all places, should find themselves devoting more money and effort to the education of men than to the education of women. This occurs because the community colleges serve large numbers of students from the lower socioeconomic levels.

It is in this conservative segment of society that women's roles are most clearly stereotyped. Mothers who have attended college express no difference in their desire for college educations for sons and daughters-- 98 percent want college for their sons and 97 percent for their daughters. Mothers with a grade school education, however, are more likely to want college for their sons (73 percent) than for their daughters (60 percent, Froomkin, 1970).

Not surprisingly the largest reservoir of academically well-qualified young people who are not now attending college consists of women from the lower socioeconomic levels. Whereas 25 percent of the high-ability (top-quarter) males from the lowest socioeconomic quarter fail to enter college, 40 percent of their equally able sisters fail to continue their education (Cross, 1971a). Included in the low socioeconomic group are black women, but as a group, they seem to be responding more rapidly to the new

opportunities for further education than are white women. Knoell (1970) studied the college-going rates of whites and blacks in urban areas and concluded that able white women constitute the group most neglected by college recruitment personnel. She found that in a number of cities, black women were attending college in larger numbers than their brothers, and that in some cases, they were surpassing white women in similar categories of ability in terms of percentage going to college. As Knoell takes care to point out, she is not suggesting any lessened effort to recruit black women to higher education but, instead, is calling attention to the "reservoir of ability among the white women who are not yet attracted to college..." (p 73). This message, of course, is addressed to selective as well as non-selective institutions.

Financial Assistance

Since the largest number of highly-able women not now in college are from families with limited financial resources, recruitment efforts must be combined with realistic financial assistance. In a recent study of the finances of college sophomores, Haven and Horch (1972) found that, on the average, women received smaller grants and scholarships than men, larger loans, and if they could find work, they received less pay for it. There were no significant differences in the socioeconomic backgrounds of the men and the women in the sample, but institutionally administered grants averaged \$671 for men and \$515 for women. While it is true that the parents of women contributed more money for educational costs than the parents of men, this is part of the problem and not part of the solution, since parents from the lower socioeconomic levels are

less interested in sending a daughter than a son to college. Neither are the larger loans to women reported by Haven and Horch a logical solution. The "negative dowry" effects of taking out loans for a woman's education should, one would think, deter chauvinists from saddling women with larger loan amounts. If any favoritism is to be shown, it would appear that colleges should make larger grants to women to compensate for fewer and lower paying jobs and the frequent requirement that women live in more expensive campus housing while men are permitted to cut costs by doing their own cooking in apartments off campus. "Contract" dining which requires women to contract for board and room while men pay room only bills in campus housing is another practice that is financially discriminatory.

Selective Institutions

Let us now turn our attention to the other end of the continuum and see how women fare in the male dominated universities. Here the situation regarding the pool of potential students is quite different. The universities draw their students largely from high school graduates who rank in the upper-half academically and socioeconomically. Among this group, women enter college at the same rate as men. Eighty percent of the women and 80 percent of the men in this able and privileged group are now continuing their education beyond high school, most of them in four-year colleges and universities. The fact that advantaged men and women are equally likely to enter college does not necessarily mean freedom of choice, however. Women constitute 47 percent of the enrollment in state colleges, whereas they represent only 40 percent of the student body of private universities.

Historically, four-year colleges--public and private--have emphasized liberal arts and teacher education, curricula which have had a special appeal to women. But with new career fields opening to women and with an oversupply of elementary and secondary school teachers, it is time to examine the distribution of the sexes in institutions of post-secondary education. How does a highly prestigious university that appeals to many women, able financially and academically to attend, maintain a 65-35 male-female ratio while selecting one in four applicants, for example?

Quotas exist in many places on the campus, and when they are all collected in the admissions office, the total effect can be quite dramatic. It is, for example, still common practice to require on-campus housing for freshman women but not for men. With limited campus housing available, this practice leads quite readily to differential selection rates and to the complaint of both men and women students that the women are "too intellectual" for the men on many selective coeducational campuses. Co-ed dorms have one major advantage--sex discrimination becomes painfully obvious. But it creeps into the curriculum in more subtle ways. A university may have relatively more "spaces" for agriculture majors than for home economists--a practice which leads to denying admissions to able women interested in home economics while accepting less well-qualified men into agriculture curricula.

Even in these days of heightened consciousness about discrimination, it is not especially difficult to find blatant examples of discrimination at the undergraduate level where many still insist it does not exist. The data in Table 1 were computed from information presented in the most recent issue of The College Handbook (1969) which serves to acquaint

students, parents, and high school counselors with the admissions practices of more than 800 colleges. Women who take the trouble to compute their chances should certainly get the message that they must be better qualified than men to gain admission to the selective four-year liberal arts college illustrated.

Table 1

Percentages of acceptances to a selective four-year liberal arts college.

	Percentage of applicants accepted*	
	<u>Male</u>	<u>Female</u>
High school class rank		
Top fifth	92	62
Second fifth	58	18
Third fifth and below	36	4
SAT score--Verbal		
700-800	92	93
600-699	87	75
500-599	73	32
Below 500	35	6
SAT score--Math		
700-800	91	85
600-699	81	68
500-599	59	33
Below 500	19	11

*Applications were received from 1037 men and 1097 women. Overall rates of acceptance were 68 percent for men and 45 percent for women.

Experimental studies (Walster et al, 1971; Simpson, 1970) as well as field data (Cross, 1971a) indicate that highly able women are not as likely to suffer inequities as are their average or below-average sisters. This means, however, that as the competition and the discrimination become stiffer--from undergraduate to graduate student to faculty

member--women who persevere become increasingly aware of discrimination at the hands of educational institutions.

Dual Roles

Not all inequities are the result of discrimination. Women have generally been unable to pursue higher education with single-minded purpose. The typical college freshman today is sensitive to the need for planning for both career and marriage. Part of her dilemma is how to keep open the options for both. The ambiguities of women's lives are apparent in group statistics. The largest proportion of women in college today hope to be married career women 15 years hence (45 percent), but a substantial number (35 percent) prefer the more traditional role of wife and mother (CSQ, 1972). The duality of women's concern with home and career is also seen in figures showing that 65 percent of the young women entering college today say that raising a family is essential or very important to them, but almost as many (53 percent) are equally emphatic that being an authority in their field is important to them (ACE, 1971).

Despite the fact that there is a swing toward serious preparation for careers among college women, they are probably still underestimating the importance of this aspect of their futures. Today, it is the typical rather than the atypical woman college graduate who is in the labor force. Furthermore, 40 percent of the female workers work because they must. They are single, widowed, separated, or divorced. Another 30 percent of the female labor force are married women whose husbands earn less than \$7,000 per year (Women's Bureau, 1971). The old argument that women will not use their education or that they suffer no economic

hardship because of discrimination is surely belied by the facts. Whether the primary purpose of education is career training or whether it is the liberation of the mind and the enrichment of life, it is hard to argue that the education of women is any less important than that of men.

Academic Ability

Although I suspect most educators know that intellectual capacity is not a sex-linked characteristic, many still feel that it is somehow more satisfying to engage the "male mind" in disciplinary enquiry than the "female mind." Interestingly enough, many professors espousing this point of view are also staunch supporters of the validity of grades as a measure of intellectual competence. Just how they explain the fact that, by their own judgement and standards, women are better students than men is something of a mystery. From grade school through college women receive markedly better grades than men. Among all freshmen entering college this fall 41 percent of the women and 25 percent of the men reported high school grades of B+ or better (ACE, 1971). At the college level, the story is the same. In the spring of 1970, for example, 46 percent of the freshmen women at the University of California at Berkeley made first semester averages of B or better, compared with 39 percent of the men. For seniors, the figures were almost identical; 45 percent of the senior women and 38 percent of the senior men had spring semester averages of B or above.

As for other measures of academic aptitude, men have a clear edge when quantitative test scores are used, whereas women score slightly better on tests of verbal abilities. Although it has rarely been

discussed in the literature, the use of test scores as admissions criteria helps men to compensate for the better high school records of women. The College Board Commission on Tests tacitly accepts this use as they observe that tests "tend to reduce the advantage that girls enjoy in graded school work, since males and females have roughly the same mean scores on the SAT" (Commission on Tests, 1970, p 51-52). If the purpose of testing is to predict the college grade point average (as it is in admissions testing programs) then men should be required to have somewhat higher test scores than women in order to achieve comparable success in college as measured by the GPA (Linn, 1972).

Grades are coming increasingly under fire as a measure of academic prowess, however, and critics often point to the lack of intellectual excitement present in the conscientious conforming grade-getter, which is the frequent stereotype of high school and college women. Chauvinists of both sexes feel that men are better able to deal with big ideas and abstractions, whereas women handle day-to-day problems in a more practical manner. But research measuring the personality trait called "intellectuality" fails to support the stereotype. Evidence indicates that women are slightly more interested in aesthetics and in working with ideas and abstractions whereas men are more interested in theory and the use of the scientific method (Cross, 1971a). While cultural expectations may push males and females towards somewhat different emphases in academic choices and behavior, a careful review of the research available on academic interests, abilities, and personality characteristics indicates that there are not important differences between men and women in their potential for academic accomplishment.

The greatest problem in reaching equity for women in higher education is getting them into college following high school graduation. Once in college, their graduation completion rate is about the same as that of men. As a matter of fact, in recent years, with the relatively large influx of low-achieving males (but not low-achieving females, as yet) into the open door colleges, the overall completion rate from freshmen to senior year is slightly higher for women than for men (Ferriss, 1971).

GRADUATE WOMEN

Graduate study poses different problems for women than those encountered at the undergraduate level, and they sharpen the conflicts between the traditional roles of women and alternative roles. In the first place, women of typical graduate school age are also at the age when society makes the greatest demands for traditional role behavior. Young women of 22-30 years of age are expected by others, as well as by themselves, to be wives of husbands on the way up in establishing their own careers and mothers of young pre-school children. That role is in frequent conflict with the role of women as students and scholars.

In the second place, graduate study is considered a commitment to a professional career, and hence the use made of the education becomes an important issue. If a woman doesn't use her undergraduate education in a career it is argued that she uses it, perhaps equally well, in raising her family, preserving the cultural heritage, contributing to her community, and furnishing appropriate companionship

for her college-educated husband. The case for liberal arts education for women has frequently been made on these grounds, but as a matter of fact, some of the career curricula that have been most attractive to undergraduate women--nursing, elementary education, and home economics--are also considered highly appropriate for futures as homemakers and mothers. Their dual usefulness has been one important reason for their popularity. But few would maintain that a master's degree in any field is necessary or even desirable for women who expect to live out their lives as wives and mothers, and many people would argue that a Ph.D. is a downright disadvantage. And so graduate education is much more controversial for women and much more difficult because the woman who embarks upon this path runs into the barriers erected by the broader society as well as those erected by graduate and professional schools.

Societal Barriers

Let us look first at the societal barriers to graduate education. Among the highly selected segment of the population that make it through four years of college, graduate school is a popular aspiration for both men and women. Of the 130,000 women who received a bachelor's degree in the spring of 1961, 72 percent expected to enter graduate school, and three years later 42 percent had actually done some graduate work (NIH, 1968). Many factors determined who went and who did not, but among the most important were marital and parental status. Fifty-nine percent of the single women went on to graduate study compared with 44 percent of the married women, but the percentage of mothers taking graduate courses dropped sharply to 24 percent. When

the 40 percent of the women who had wanted to attend graduate school but who had not done so in the three years since graduation were asked what provisions would enable them to do so, the largest proportion (57 percent) said that the availability of child care facilities would be essential.

The very recent studies of academic women at the Universities of Chicago (1970) and California at Berkeley (1970) confirm these earlier findings. At the University of Chicago, 33 percent of the men and 77 percent of the women with children said that the need to care for their children interfered with academic work. At Berkeley the report of the Subcommittee on the Status of Academic Women concluded that, "The largest single category of grievances or proposed changes was the need for high-quality child care facilities for members of the University community" (p 67).

One of the attitudes that rears its head whenever child care is discussed is the feeling of many that young mothers should be home taking care of their children. Illustrative of this attitude is the testimony from a graduate student at the University of California at Berkeley. "In our department at least one professor cut off funds to a married student when she became pregnant, thus forcing her to TA and increasing the time it took her to finish. He said the reason for cutting off funds was 'You should be home caring for your family.'"

Women, too, have been known to voice sharp criticism of other women for "neglecting" their husbands and children. The research on this issue fails to support the arguments. Marmor (1966) cites research

that shows that the percentage of disturbed children in the homes of non-working mothers was three times as high as in the homes of working mothers. He concludes that "There is no sound evidence that the mothers working per se tends to create behavioral disturbances in children. It is the unhappy or disturbed mother whose children tend to be disturbed" (p 55). Thus, it seems hard to oppose the establishment of child care centers on the grounds that women should be home taking care of their children. Children may be far better off with people who choose to spend their time with them rather than with those who feel resentful of the obligation.

The premise that women who stay home are less likely to neglect their husbands is also of dubious merit. An unhappy homebody may be much more neglectful than a happy career or student wife. According to the reports of graduate women at the University of California (1970) some professors have opposed advanced study for them on the grounds of protecting their marriage. One woman related the following incident. "I was asked...in a formal interview, with two other professors present, whether I felt that my husband and I were competing intellectually. I am sure he would not have asked such a personal question of a male student" (p 70).

No doubt some men are threatened by what they see as intellectual competition from women. Astin (1969) found that 12 percent of the women who had received doctorates reported negative attitudes from their husbands. But one would suspect that at least as many husbands welcome the intellectual interests of their wives. In fact, many husband-wife teams find great satisfaction in intellectual collaboration despite the fact that nepotism regulations in the academic community

frequently do all they can to discourage it. Since marriage is a very personal relationship between two people, it is impossible for the educational community to devise any sort of general policies that will add to or detract from the satisfaction of the marriage. To oppose graduate education for a woman on the grounds that it is bad for her marriage, her chances of marriage, or her children is unwarranted and certainly an unacceptable role for the university.

Cost Effectiveness

Now let us turn our attention to the other major criticism of increasing the opportunities for graduate study for women. Graduate study is expensive; it is designed as career training; and if it is not used for this purpose, then it is a waste of money and effort that might better have been used for the education of someone who would justify the expenditure. Lewis (1968), succinctly presents the arguments that are frequently heard.

Many graduate and professional programs for which members of both sexes commonly apply tend to discriminate against women, and many authorities believe they have good reason. Women are poorer bets than men to finish such a program, and those who do are less likely to use their education productively. A university feels some obligation not only to educate individuals but also to be of benefit to society; thus, if an admissions committee must choose between a capable man and a capable woman for a place in its program, the choice can logically be made in favor of the man. The woman who is thereby rejected may, of course, be the exception who would have finished and who would have made a worthwhile contribution, but her more casual sisters have prejudiced the committee against her (p 212).

The argument appeals to many rational men and women everywhere, and yet it is a little akin to setting out to solve discrimination against blacks by observing that society has tolerated conditions that have resulted in very few blacks completing graduate study and making

professional contributions. Since, the argument would continue, they have not demonstrated professional productivity in the past, they seem poor bets for the future. But there are research reasons as well as moral reasons for not accepting the three major arguments summarized by Lewis at face value.

Differential Admissions

In the first place, women cannot afford the luxury of indignation over the rejection of women who are as capable as the men who are accepted, until the problem of the rejection of women with superior academic qualifications is solved. An increasingly popular method of dealing with the question of discrimination against women is to base acceptances on the proportion of women applying. Thus at Berkeley, 31 percent of the applicants are women and 29 percent of the acceptances are granted to women. On the surface that doesn't look too bad until one considers the fact that women who get as far as making an application for graduate study at Berkeley are highly self-selected. Under the equal rejection rate system, a department may be--and usually is--accepting men with poorer credentials than some of the rejected women.

On the whole, women would be better off if judged solely by their credentials than they are when admitted under quota systems. Lannholm's (1968) survey of admissions policies showed that most departments reported that they assign the greatest weight to the undergraduate record. And women do have the edge on grades. Among a national sample of enrolled graduate students, 51 percent of the women and 40 percent of the men reported undergraduate GPA's of B+ or better (Creager, 1971).

Completion Rates

The second portion of the argument for differential acceptance rates to graduate school has to do with the likelihood of the candidate completing the degree. The argument is that so many things can happen to interfere with a woman's commitment to graduate study--marriage, pregnancy, moving from the area when her husband moves, etc.--that a man is a better bet for a long-range contribution to society. While this seems unjust when considered on an individual basis since no one can predict which man or which woman will complete the degree, it is felt by many to be a more responsible use of graduate training resources. Actually, there is very little information available on completion rates for men and women. Longitudinal studies of graduate students as they move through their course of study are simply missing from the literature. Bits and pieces of data from various sources seem to indicate some validity to the argument, however--at least on the surface. The ACE-Carnegie Commission report (Creager, 1971) shows that women constituted half of the graduate students aiming ultimately for the master's degree. If they are completing their study on a par with men, they should receive roughly half of the master's degrees granted, but they don't; they received 36 percent of the master's degrees granted in 1968 (Ferriss, 1971). The figures are comparable at the level of the doctor's degree. More than one-fourth of the graduate students aspiring eventually to the doctorate are women, but they receive only 13 percent of the doctor's degrees.

There is also evidence that women are relatively slow in getting their degrees. Ferriss (1971) found that the median time lapse from the receipt of the baccalaureate to the doctorate is 7.9 years for

men and 11.2 years for women. These figures agree well with those of Astin (1969) who reported that it took women about 12 years to complete their degrees and that they were four years older than their male colleagues.

As the Berkeley study (1970) points out, however, the fields in which women predominate--education, humanities, and languages--have lower and slower production rates than do the sciences where students tend to be full-time students. Seventy-five percent of the students in biosciences and 65 percent of those in math and physical science, for example, are full-time students, compared with 25 percent of those in education and 52 percent of those in arts and humanities (Creager, 1971).

The University of Chicago study presents one of the few analyses of attrition rates of men and women within fields of study. For students in the biological sciences they reported 26 percent of the men and 33 percent of the women dropping out. Rates of attrition in other fields were as follows: physical sciences, 16 percent for men and 20 percent for women; social sciences, 40 percent for men and 51 percent for women; and humanities, 24 percent for men and 19 percent for women. Although the differences are not as great as is usually assumed, the evidence from this single study indicates that with the exception of the humanities, women do seem somewhat more prone to drop out than men do. But how many return later or continue their study on a different campus? We need much more careful analysis before we accept the common assumption that graduate training for women is wasteful.

Much can be done, of course, to protect our investment. The major obstacles to graduate study for women who entered graduate school and dropped out or who want to go but have yet to enter are financial limitations and family responsibilities (NIH, 1968). The importance of child care has already been discussed as advantageous to graduate student parents, whether male or female. Financial assistance is another aid that benefits both men and women, and there is no evidence of discrimination in the awarding of fellowships and assistantships. Among all graduate students, men are a little more likely to derive primary support from fellowships or assistantships, but the differences are not large--perhaps not as large as should be expected considering the higher levels of student assistance available in the sciences (Creager, 1971). (A cynic might take some note of Sharp's (1970) discovery of the operation of a high order of self-screening among graduate applicants for financial assistance. She reported that fewer than 3 percent of the students who applied for financial support were turned down--thus leaving little opportunity for discrimination against anyone.)

The real financial problems are not seen in the data collected from graduate students, however, because married women or divorced women with children with limited resources probably don't get to graduate school. Most couples honor the custom that if only one can go to graduate school it should be the male. While the popular press tends to sensationalize the sexual revolution, it is probably a very small proportion of young couples who are experimenting with abolishing sex-typed behaviors.

Productivity

The third aspect of the rationale presented by Lewis is that even when women do get their degrees, they are less productive than men. Those who are sympathetic to the scholarly aspirations of women view the presumed lack of productivity as a continuation of the role problems experienced in getting the degree, while those who are less sympathetic point to history and the lack of women Nobel laureates and listings in Who's Who. (History, of course, has a near perfect record of not rewarding or recognizing women for contributions outside of home and family.) But let us subject the arguments to research.

The charge that women who receive doctor's degrees do not use their advanced training is no longer true, if indeed it ever was, and the figures indicate that it may now be dropped as an argument deserving serious consideration. Astin (1969) found that 91 percent of the women who received doctorates in 1957 and 1958 were working in 1966--81 percent full-time, and 79 percent of these women had never interrupted their careers. Mitchell's study reported by Robinson (1971) found an even more astounding 99 percent of the women receiving doctor's degrees from Oklahoma Ph.D. granting institutions at work, 98 percent full-time.

The evidence is not as clear on measures of scholarly production, but we are severely handicapped by the lack of studies that compare men and women in the same types of work. Women devote a greater proportion of their time to teaching while men are more likely to hold research positions. This is true within major research universities,

but it is also true across national samples since women tend to hold jobs in teaching institutions rather than in research universities. It is a moot question, of course, whether writing articles and books is more "productive" than teaching students. Research from self-reports of faculty indicate that women are more likely than men to express interest in teaching; they are less traditional in their teaching styles, and they are more eager for student criticism and evaluation*

In these days of increased emphasis on teaching, we would do well to use some new measures of "productivity." If, however, we accept the old definition of scholarly productivity and simply count the number of publications, then admittedly women get off to a slow start in graduate school. Among doctoral candidates men are almost twice as likely as women to have published (21 percent to 12 percent), and they are also considerably more likely to be engaged in research that might lead to publication--61 percent of the men to 44 percent of the women (Creager, 1971). But the rate of productivity shows an enormous variation by field of study with majors in the sciences being the most likely to result in publication and the humanities and education being the least likely to do so. Astin's study (1969) indicates that the field of study rather than sex is probably the primary determiner of publication rate; 25 percent of the women receiving doctorates in the natural sciences were highly productive (11 articles or more) compared with 7 percent of those in education.

*Unpublished data by Robert C. Wilson, Center for Research and in Higher Education, University of California, Berkeley, California.

The questions regarding the productivity of women scholars have not been answered. Our present measures of productivity are woefully inadequate, and results of present research varied from no difference between the publication rates of men and women Ph.D.'s (Simon, Clark, and Galway, 1967) to minor differences. In any event, the notion that the education of women at the level of the doctorate is wasteful is much exaggerated, if indeed there is any validity at all to it.

In summary, the research fails to offer support for the old arguments for preferential treatment of men for graduate study. Conclusions regarding the alleged lower and slower rates of degree completion among women await further study which take into consideration the field of specialization, completion at a later date, etc. Once women do get their degrees, there is every evidence that they make good use of their education. It is the highly unusual Ph.D. recipient who does not work full-time, making apparently good and productive use of her training.

ADULT WOMEN

The segment of the population with the greatest potential for enormous expansion consists of mature women. The typical woman today has sent her youngest child off to school by the time she is 35, and she faces some 30 years of productive work life but reduced home responsibilities. The number of women filling these years with work outside the home is increasing dramatically. Between 1940 and 1966, the number of women in the labor force more than doubled in the

35 to 44 year age group, more than tripled among those 45 to 54, and more than quadrupled in the 55 to 64 age group (Women's Bureau, 1966). The continuing inventions of labor saving devices for the home plus new career opportunities for women in the labor market plus the concern about the population explosion plus the rising level of educational achievement in the population combine to create new demands for career education as well as for general education. If the women's movement had not come along, someone would have had to invent it. Indeed, it solves more problems for society than it presents.

But higher education is not yet ready for the learner who does not fit the stereotype of the young, single, unemployed, student who is ready to devote full-time to the pursuit of a degree. With the possible exception of the community colleges, higher education has taken little note of the changing character of the student population. Mature women constitute a significant segment of that new population. Although one survey of 750 colleges and universities (Oltman, 1970) found that 95 percent claimed to offer opportunities for mature women to complete degrees, Mattfeld's followup (1971) determined that only 49 percent made any concessions in rate of work, class hours, or customary academic practices to meet the needs of mature women.

Many graduate departments, for example, do not accept candidates over the age of 35, and others "discourage" older applicants. The prejudice in this instance is against age rather than sex, but women are more educationally disadvantaged by such attitudes because of their life patterns.

The discouragement of part-time study is another practice that is not directed against women but it operates to their disadvantage. Almost three-fourths of the married women living near enough to the University of Illinois to participate in on-campus classes said that they could attend school only part-time. One student confessed, "When I was single and a college undergraduate, I know that I took the privilege of attending college for granted; now I would give anything in the world to be able to go to school again. I can go only at night or on Saturdays" (Shelden and Hembrough, 1964, p 49). Mothers of older children frequently prefer regularly scheduled classes that they can attend while their children are in school, but the point is that part-time educational opportunities are essential for the majority of adult women.

The mobility of women, or more accurately the timing of the move, is another problem that we have yet to face in providing education to an increasingly mobile population. The notion that it is "normal" for a student--even a young student--to graduate from college four years after entrance to that same college is a quaint relic of an earlier era. We have yet to deal realistically with the "portability" of credits. And this problem is exaggerated for women who generally move, not at their convenience, but when husbands have completed a given segment of education. Shelden and Hembrough (1964) found that most (57 percent) married women students and student wives expected to leave the university area in three years or less--not enough time to add up to a University of Illinois degree, especially when part-time student status is a necessity

for most of them. And yet 71 percent of women without a bachelor's degree expressed the desire to obtain one. They will need better mechanisms for transfer of credits, and many will need better methods for evaluating credits that have "aged" while they were totally engaged with a young family. The rapidly growing opportunities to receive credit-by-examination will certainly be a boon to women who had to leave school at unpropitious times for their educational careers.

Incidentally, a little-touted advantage of the credit-by-examination movement is the psychological boost that being able to compare one's own performance with those of "regular" college students gives to older women. One of the messages that the women's movement may get across is that women have egos too, and there is an understandable reluctance to re-enter a classroom in competition with youth who have been idolized in the popular press as the brightest best-educated generation ever. Home study with validation by examination may help to bridge the confidence gap.

The usual way of easing the transition for women returning to college, however, is through counseling and group support. Some of the oldest and most effective programs for mature women consist primarily of counseling services that bolster self-confidence and help women surmount the obstacles placed in their way largely by history and tradition.

Related to the old fashioned notion that education is reserved for the young who can spend full-time at it are a host of practices and requirements that are grounded more in tradition than in logic. Why should scholarship and loan aid be so commonly restricted to the use of

full-time students? Do residency requirements and regulations calling for continuous enrollment serve a sufficiently valuable purpose that we are justified in shutting out students whose life circumstances prohibit meeting them? Why must the size of an individual's academic load be determined by the institution rather than by the learner?

One of the great unsolved problems of education is the transfer of our excessive concern with procedures to more realistic concerns about purposes and outcomes. We have a way of defining education in terms of the pathways traversed rather than in terms of the ends reached. Most of the problems of women students--and many men as well--could be solved if we permitted them to reach defined goals via open-ended interconnected pathways that suit their life style rather than some preconceived notion of conformity to the procedures that will bestow the proper credentials on those who follow them faithfully.

In the final analysis, the barriers to individual development through education will come down when we decide as a society that educational opportunity depends not on class stereotypes based on the color or shape of one's skin,* but upon individual needs, desires, and potential for contribution. Once we recognize that women as well as men can be doctors, lawyers, scientists, businessmen, politicians, and important writers and artists, we will find the ways to prepare them for their new roles.

*Sandler's (1972) phrase.

RECOMMENDATIONS

1. Recruitment efforts by selective and non-selective colleges among women of lower socioeconomic status must be increased. We need not resign ourselves to wait for society to free lower SES women from limiting stereotyped roles. Our experience with the active recruitment of ethnic minorities to higher education proves that it takes hard work and that progress is frequently slow, but it can be done with long-range benefits to society.
2. Financial aid must be realistically combined with recruitment efforts and must be impartially administered. On-campus employment at undergraduate and graduate levels should be studied for equality of opportunity in terms of the relative number of jobs available for men and women and for equity in pay scales. Housing and dining requirements must be examined for discriminatory practices.
3. Admissions and enrollment statistics for undergraduates and graduate students must be examined year by year to disclose intentional and unintentional discriminatory practices. Affirmative action programs should be instituted wherever needed.
4. Fact-finding committees operating with strict time deadlines should be appointed to assess local problems and needs. The committees should be charged with looking into the feasibility of nationally recognized needs such as child care centers, part-time study options, and adequate educational and career counseling for women of all ages. But they should also give special attention to the full spectrum of local problems.

5. Resources of the institution must be allocated to reflect the value commitment to equality of opportunity.

6. The appointment of women to positions where their counsel will form a natural and continuous input to decision-making will be an important improvement over the blackout of women's participation or the practice of seeking advice only when it becomes necessary or convenient. In addition, exposure to talented female scholars is a vital educational experience for young men as well as young women.

The question of providing equal educational opportunity without regard to race, sex, age, or any other class identification is not one that is likely to go away if ignored. The options are really two-- whether to lead with a bang or to follow with a whimper.

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