

The Effects of Sex on Careers within Education: Implications for a Plan of Action*

Carol Reich

ontario institute for studies in education

Helen La Fountaine

women's associates consulting, ltd.

A survey was conducted on 2885 secondary teachers throughout Ontario. Information was collected on the following factors: demographic characteristics; family responsibilities; career commitment; formal qualifications; job performance; encouragement received; applications made; and position attained. Multiple regression analyses showed that sex had an independent effect on each factor, including position. That is, women teachers were generally less well qualified, but even when qualifications were equal women were still less likely to be promoted than men. These results demonstrate the need for affirmative action programs to address both the activities of teachers themselves in preparing for positions of responsibility, as well as the development and promotion policies of boards of education.

Une enquête a été menée auprès de 2885 enseignants du niveau secondaire de toutes les régions de l'Ontario. Les données recueillies portent sur les variables suivantes: caractéristiques démographiques, responsabilités familiales, importance accordée à la carrière, diplômes obtenus, performance au travail, encouragements reçus, demandes d'emploi effectuées et poste obtenu. Des analyses de régression multiple montrent que la variable sexe a un effet indépendant sur chacune des autres, incluant le poste obtenu. On constate en effet que les enseignantes sont en général moins qualifiées que leurs confrères et qu'à diplôme égal, elles ont moins de chance qu'eux d'être promues. Ces résultats soulignent la nécessité d'élaborer des programmes d'action qui visent à la fois les politiques de formation et de promotion des commissions scolaires et les activités des enseignantes elles-mêmes, afin qu'elles se préparent à assumer des fonctions de responsabilité.

Although the teaching profession as a whole is largely female, women hold very few positions of responsibility within the educational system. In an American study conducted in 1972-73, 66% of all teachers were found to be women, but women held only 22% of all elementary and 1% of all secondary principalships, 39% of all elementary and 6% of all secondary assistant principalships, and 12% of all positions at the level of assistant superintendent or above (Seawell and Canady, 1974). Furthermore, these

* This study was commissioned by the Task Force on Women of the Ontario Secondary School Teachers' Federation. We wish to thank the following members of the Task Force for their help and support: Mary Donlevy (Chairperson), Ann Barrington, Betty Bonner, Kirby Chown, Margaret Harkin, Fran Watson and Eileen Conkin.

figures represent a small, but absolute, decrease from figures for the preceding year.

This distribution can be viewed as reflecting the different roles which society assigns to women and men. Most research conducted within education on the effect of sex roles has focused on the characteristics and performance of women themselves. First of all, it has been well documented that most women teachers interrupt their careers for some period of time. In 1959, Mason, Dressel, and Bain found that 70% of beginning teachers in the United States planned to leave the profession at some point in time in order to become homemakers. Stokes (1970) reports Ontario data from the late sixties which shows that 75% of the members of the Federation of Women Teachers and 81% of a sample of student teachers planned to leave. The consequence is that women teachers will generally have fewer years experience in education than men of comparable age.

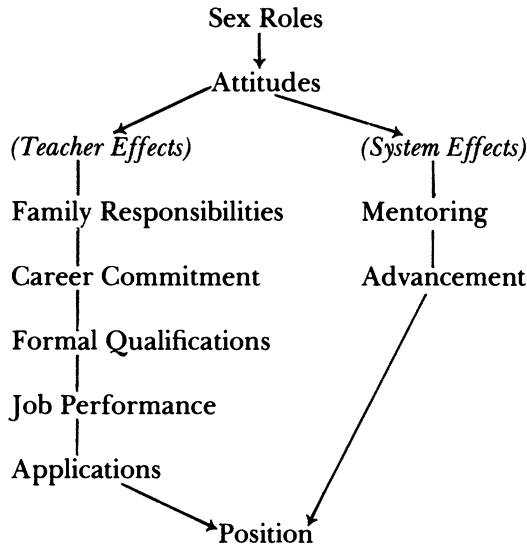
However, even women with equal experience to that of men are less likely to be promoted (Seawell and Canady, 1974). Greaball and Olson (1973) found that women teachers saw themselves first as wives, then as mothers, and finally as teachers. Forty per cent of this group said that they would leave teaching if their husband desired it, and 80% viewed their husband's career as more important than their own. Thus women teachers assign less importance to their careers than do men. There is evidence that women within education are even more traditional in this regard than women of other professions (Herman and Sedlacek, 1974; McMillin, 1974).

Women teachers also have lower aspirations than men. Only 22% of the women in Greaball and Olson's study were willing to accept an administrative position, compared to 65% of the men. Even fewer women actually expected to obtain one: 9% of the beginning women teachers in Mason, Dressel, and Bain's study compared to 59% of the men, and virtually none of either the practicing or the student teachers in Stokes's study. Seawell and Canady report that almost all of the women who held elementary principalships (72%) viewed it as their final goal, while only 39% of men in the same position did so. Thus, even when women aspire to and obtain positions of responsibility, they aspire lower.

A simple model can be developed to summarize this research (see Figure 1). The basic components of the model are the existing sex roles within society. As internalized by women in education and reflected in their behaviour, the female role has been shown to have consequences for Career Commitment (i.e., psychological importance of a career and level of aspiration) and for Formal Qualifications (i.e., years of experience).

These effects are at least partially mediated by Family Responsibilities, i.e., the tasks and obligations which women assume toward husband, children, and other dependents. Although no studies have been done on teachers specifically, the existence of large discrepancies in time spent on

FIGURE 1
A Model of the Effects of Sex on Careers within Education



NOTE: The arrows indicate the direction of some causal relationships. These are not the only ones, as the factors undoubtedly interact in complex ways. However, the relationships indicated are likely among the most important.

household tasks is well documented (Meissner, et al., 1975). The factor of Family Responsibilities is also included in Figure 1.

Two important areas are missing from the research in education. One is the actual performance of women and men teachers on the job. Thirty-nine per cent of the married women in the Stokes sample said that Family Responsibilities interfered to some extent with their work as teachers. Although this evidence is subjective, it is not unreasonable to suppose that differences in sex do affect job performance directly. Indeed, this has been demonstrated within the laboratory (Larwood, O'Carroll and Logan, 1977; Megargee, 1969).

A second area that has not been researched is the activity of teachers in applying for promotion. One might expect fewer applications from women as an indirect result of differences in other areas, such as Formal Qualifications or Job Performance. In addition Horner's (1969) work on fear of success suggests that even highly capable women are less likely to seek advancement than comparable men. Although the validity of this construct as a general psychological process is uncertain at the present time (see Tresemer, 1976), there is substantial support for the notion that women avoid certain types of success in certain circumstances, and it is

thus reasonable to ask whether this occurs during the promotion process in education.

A second line of research has focused on the way in which the existence of sex roles influences system behaviours, i.e., the manner in which women are seen and treated as employees. Taylor (1973), investigating the attitudes of school superintendents and Board members, found that men were preferred as administrators over equally qualified women. Figure 1 includes attitudes toward women and represents them as a direct internalization of sex roles which mediates both teacher and system behaviours (see Kohlberg and Ullman, 1974).

There are no studies documenting the existence of actual discrimination within education, although this has been demonstrated for society generally. Within a laboratory setting, Terborg and Illgen (1975) found that women were more often assigned to routine tasks. Larwood and Blackmore (1978) found that men more often chose other men for leadership tasks. This type of behaviour is represented in Figure 1 as Mentoring, which refers to the way in which organizations encourage and prepare staff for further growth.

Women are also less likely to be placed in high-level positions. It has been shown experimentally that women are less likely to be hired (Fidell, 1970), to be hired at a lower level (Fidell, 1970; Terborg and Illgen, 1975), and to receive less rapid advancement (Rosen and Jerdee, 1974; Terborg and Illgen, 1975) than equally qualified men. In a field study, Austin (1972) found that women psychologists received lower salaries than men even when actual performance variables, such as position and number of publications, were statistically controlled. This factor is indicated in Figure 1 as Advancement.

Affirmative action programs typically address both employee and organizational behaviour. Lyon and Saario (1973) present a package of recommendations designed to ameliorate the imbalance of males and females in administrative positions within education. Four of these concern the staff of local school districts directly. Item 4 recommends modifications to policies governing leaves of absence, part-time work, and child-care services, all of which increase the likelihood that a female teacher can meet responsibilities of family while remaining within the profession.

Items 2 and 3 refer to the identification and encouragement of promising women interested in administrative positions. Item 6 recommends the development of programs which are designed to eliminate overt discrimination on the basis of sex. Thus this program is fairly comprehensive with regard to the factors listed in Figure 1. The most notable omissions occur, as is true with the research, in the area of job performance.

The purposes of the present study are threefold. First of all, it seems useful to collect up-to-date information on variables which had been

previously researched. Some investigators, noting a certain amount of inconsistency in the research literature, have suggested that sex roles are changing (Tresemer, 1976; Der-Karabetian and Smith, 1977; Wood and Greenfield, 1976; Peck, 1978). The second purpose is to collect information on variables not previously studied within education, especially job performance and applications. The third purpose of the study is to conduct a multivariate analysis of the status of men and women in order to determine which factors have an independent effect, and which of these are most important. Previous studies have only isolated one or two variables for investigation. In particular, interest centered on determining the relative contribution of teacher behaviours and system behaviours to the differential advancement of women and men.

PROCEDURE

All of the factors listed in Figure 1 were operationalized in a questionnaire, with the exception of Advancement, which could not be studied directly. Following the approach of Austin (1972), the existence of such a factor was inferred indirectly by analyzing the degree of congruence between the actual characteristics of women respondents and the position they had attained.

The measures derived from the questionnaire are briefly described below.

MEASURES

Demographic Characteristics. Respondents were asked to give their sex, age, marital status and number of dependents.

Family Responsibilities. Respondents were asked to read through a list of general household tasks and to indicate how often they were responsible for each task in their own home, and how many hours a week they generally spent on all household tasks. Respondents were also asked a series of five questions on the extent to which family responsibilities interfered with their professional life. For each question, level of interference was indicated on a scale of 1 to 3. The individual scores for the five questions were added to give a total score for Interference. This score could range from 5 to 15. The reliability of this scale was satisfactory. All items contributed significantly to the total score, with an average item correlation of .68 (range of .54 to .76).

Career Commitment. Respondents were asked about their long-range professional objectives. Responses were scored as follows to give an index of Ambition: 1/ classroom teacher, guidance counsellor, librarian; 2/ psychologist, social worker, department or assistant department head; 3/ vice-principal; 4/ principal or other administrator. If the respondent could not answer the question or planned a career outside of education, his or her Ambition was taken as the current position.

Respondents were also asked in which of nine different activities they would be willing to engage in order to further their career. Activities ranged from taking a course during the year to assuming a position in another city. An overall score on Willingness was the number of items a person was willing to do. All items contributed significantly to the total score, with an average item correlation of .59 (range of .30 to .64). Married respondents were also asked whether or not their spouse would be supportive of each activity (average reliability was .62, with a range of .29 to .71).

Formal Qualifications. People were asked for their years of Experience, highest degree, number of Specialist Certificates, and whether or not they were currently Studying. They were also asked to describe any interruptions in their careers.

Job Performance. There were two measures of Job Performance. The first was a measure of Innovativeness. Respondents were asked to indicate in which of nine areas they felt they had made an innovative contribution during the course of their teaching career. The nine areas were: subject matter; teaching methods; evaluation; extra-curricular activities; field trips; classroom grouping; parent programs; community programs and "other". For areas in which an innovation had been made, respondents were asked to indicate how far it has spread – to their class (1 point), to other classes within the school (2 points), or to other schools (3 points). Zero points were given when there had been no innovation. A total score was derived by adding the individual area scores. Total scores could range from 0 to 27.

All areas contributed significantly to the total score, with an average item correlation of .57 (range of .23 to .68). Some evidence regarding the validity of this scale is presented in Reich (1975).

The second measure reflected the number of extra assignments that people were willing to undertake in addition to classroom duties. Ten types of assignments were listed and people were asked which ones they had assumed in the previous year, as well as whether participation had been requested of them or whether they had volunteered. Total score was the number of activities undertaken. All items contributed significantly to the total score, with an average item reliability of .45 (range of .40 to .54).

Mentoring. Respondents were asked whether or not they had ever received encouragement or recognition from superiors for their contribution to the learning environment of the school. Respondents were also asked which supervisors (vice-principal, principal, area superintendent, other supervisory official), if any, and which other people (co-workers, friends, family, students), had ever encouraged them to apply for promotion. Scores were the number of "yes" responses in each category.

Applications. Respondents were asked how many applications they had made for positions of responsibility, and whether or not they had been successful.

Position. Respondents were asked what position they currently held. A

four-point scale of responsibility was derived in the same way as for ambition.

Attitudes. There were two measures of attitudes towards women. The first was the Competency scale. By Competency is meant the ability of women and men to actually perform at a high level in positions of responsibility. For each of 16 situations, people judged the relative ability of men and women on a 5-point scale ranging from "woman has considerable advantage" to "man has considerable advantage." "Three" was the neutral point signalling a response of "no difference". Most of the items described situations which are stereotypically thought to be best handled by a man. A few items were developed for which it was expected that women might be seen to have an advantage.

In scoring this scale, interest centred on the overall perceived competence of men vs. women, i.e., the "average" score, as well as the extent to which respondents were willing to ascribe an advantage to men or women on a situation basis, i.e., the "discrepancy" score. The latter was computed by scoring each item according to how far it stood from the "neutral" category in either direction. All 16 items contributed significantly to the overall average score, with an average item reliability of .56 (range of .19 to .74).

The second measure of attitude was the perceived Promotability of men and women. Perceived Promotability was measured by asking respondents, for each of 11 situations, whether a man or a woman applying for a position would have an advantage if both were otherwise equally well qualified. Again some of the situations represented conditions which might be thought to give an advantage to men, and a few were likely favourable to women. As with the perceived Competency scale, "average" scores and "discrepancy" scores were computed. Nine of the 11 items contributed significantly to the total average score with an average reliability over the nine items of .36 (range of .07 to .52). Two items appeared to be unreliable because they elicited responses which generally favoured a woman over a man. However, they would contribute to the discrepancy score.

The questionnaire was distributed to a random sample of the members of the Ontario Secondary School Teachers' Federation. This is a professional organization which includes all public secondary school teachers. Teachers were sampled in the ratio of 1:1:1. Males at the level of vice-principal or above were sampled in the ratio of 1:2. All females at these levels were included since there were so few. In addition, all Board superintendents were sent a questionnaire regardless of whether or not they were federation members. The purpose of over-sampling at the higher levels was to obtain an adequate number of administrators so that the relationship between career activities and eventual promotion could be determined. Seventy-four per cent of the questionnaires were eventually returned, yielding a total sample of 2,885.

RESULTS¹

The analysis has three parts. The first part examines differences between women and men in the factors leading to advancement. The second part examines the effect of these differences on advancement itself. Part three deals with attitudes and their relationship to the career activities of women.

Factors Leading to Advancement

This part first looks at family responsibilities in order to detect differences in basic demographic characteristics and role relationships which may have an indirect effect on advancement. The analysis then proceeds to investigate the relationships among those factors that are likely to influence promotion rather directly – i.e., career commitment, formal qualifications, job performance, encouragement, and applications. One indicator is selected to represent each of these factors and serves, in turn, as a dependent variable against which all other variables are regressed. The analysis proceeds in stepwise fashion, with all independent variables except sex entered in free fashion at step 1, and sex entered alone at step 2. The results indicate the contribution of sex alone to each factor, and thus identify independent sources of difference between women and men.²

Table 1 summarizes the findings. Each row represents an independent variable and each column represents a dependent variable against which the independent variables were regressed. The entries indicate whether or not a particular independent variable had a significant effect and its level of significance. Thus, for example, a reading of Table 1 indicates that the age of respondents had a significant depressing effect on their level of ambition. Sex is likewise seen to have an effect on this variable, with females being less ambitious than males. A reading of the table shows that there is an effect for sex on each factor.³ Each factor will now be examined in turn.

Family Responsibilities. Women teachers as a whole were younger and fewer were married or had children than men. The average age of women teachers was between 30 and 34, while men averaged between 35 and 39 years of age. Ninety per cent of the men, but only 68% of the women were ever married, and 71% of the men, but only 33% of the women had dependents. This is typically found to be the case in large organizations (cf. Reich, 1975; CBC, 1975).⁴

Nevertheless, women teachers had more family responsibilities than men. Of the 14 tasks listed, only 10 were usually performed by the men. Men reported spending an average of 11 hours per week in household tasks, while women averaged 14 hours. Women teachers with children

TABLE 1
Determinants of Career Activities and Experiences of Men and Women Educators

Independent Variables	Dependent Variables						
	Ambition	Experience	Innovativeness	Supervisors	Others	Applications	Promotion
Age	-.001 ^a	.001	ns	-.001	-.001	ns	.001
Time	-.001	ns	.001	na ^b	na	-.001	na
Interference	-.001	ns	.001	na	na		na
Ambition	na	.001	.001	.001	.001	.001	na
Commitment	.001	-.001	ns	-.050	ns	ns	.010
Willingness	.001	ns	ns	.001	.001	.001	.001
Experience	.001	na	.001	.001	.001	.001	.001
Degrees	.001	.001	.001	.010	.050	.001	.001
Certificates	.001	.001	ns	ns	.001	.001	ns
Studying	-.001	.001	-.001	-.001	ns	ns	ns
Innovativeness	.001	.001	na	.001	.001	.001	.001
Extras	ns ^c	-.001	.001	.001	.001	-.001	.010
Encouragement – supervisors	.001	.001	.001	na	na	.001	na
Encouragement – others	ns	ns	.001	na	na	.001	na
Application	.001	.001	.001	.001	.001	na	.001
Sex	.001	.001	.001	.001	ns	.001	.001

^aLevel of significance in multiple regression equation.

^bNot applicable. Variable in question not included in the equation.

^cNot significant. Variable in question did not make a significant contribution to equation.

TABLE 2
Contributions of each variable to current position

<i>Factor</i>	<i>Measure</i>	<i>B</i>	<i>Contribution^a</i>		<i>Difference</i>
			<i>Men</i>	<i>Women</i>	
Demographic Characteristics	Age	.024*	.110	.090	.020
Career Commitment	Commitment	.022*	.160	.150	.010
	Willingness	.050*	.370	.350	.020
Formal Qualifications	Experience	.310*	1.010	.750	.260
	Degree	.290*	.620	.570	.050
	Certificates	.026	.030	.020	.010
	Studying	.043	.070	.070	.000
Job Performance	Innovativeness	.041*	.230	.140	.090
Applications	Applications	.160*	.260	.010	.250
Sex	Sex	-.140*	-.140	-.280	.140
	Constant		-.550	-.550	
Overall Position			2.160	1.320	.840

^aObtained by multiplying the unstandardized *B* weight for the sample as a whole by the male or female mean score on the variables in question.

*Factor makes a significant contribution to the equation at or beyond the .05 level.

spent 17 hours per week. A simple regression of sex against Time was highly significant ($F = 165.34$; $df = 1/2798$; $p < .001$).

The data on Interference are less clear. It is the male teachers who more often reported that they "sometimes" or "almost always" had to go home after school in order to be with children (40% vs. 37%), experienced some difficulty in working at home (42% vs. 37%), or in going out in the evening (45% vs. 31%). Slightly more women said that family or household responsibilities interfered with their professional life (29% vs. 31%), or with their willingness to accept a position of greater responsibility (43% vs. 48%). However, the overall average for men teachers on the interference index was 7.4, and for women, 7.0.

Of course, the age and family situation of teachers must again be kept in mind. Looking only at married teachers with children, men scored much lower than women (7.8 vs. 8.6). Male administrators scored lower still

(6.6). Thus it seems that people who are promoted, usually men, do manage to minimize interference from the family. A hierarchical analysis which controlled for age, marital status, and number of dependents found that the difference between men and women was statistically significant ($F = 6.71$; $df = 4/2768$; $p < .001$).

Additional information on the role of family responsibilities emerges from questions on part-time work and day care. Roughly three-quarters of the women teachers expressed an interest in working part-time at some point in their careers. The corresponding figure for men was roughly half that. However, relatively few of the sample (17% of the women and 14% of the men) were interested in the greater availability of day care. The level of interest among married women with children was not much higher (23%).

Career Commitment. Women showed somewhat lower levels of career commitment than did men on all three measures. The first measure of commitment was ambition, the position that respondents reported they hoped to attain. The data show that more men than women hoped to attain positions of responsibility (54% vs. 35%). Nevertheless, the figure for women is much higher than has been reported in earlier studies, perhaps signalling an important change.

A full hierarchical regression, using all of the variables, was used to assess the effect of sex on reported ambition. A statistically significant effect was obtained ($F = 13.32$, $df = 15/2757$, $p < .01$).⁵

The effect of sex on career commitment can also be seen in the other two indices of this factor. An interesting pattern emerged with respect to the subjective importance of a career. On the question, "How important is it to you that you continue in your profession?" somewhat more women than men responded with "important" or "very important" (97% vs. 94%). On the question, "If some member of your family wanted you to leave teaching ... ?" virtually identical proportions of men and women teachers responded with "yes," "perhaps," or "no."

However, important differences were obtained for: "Is your career more or less important than that of your spouse?" Many more men than women said "more important" (44% vs. 8%), and more women than men responded with "less" (7% vs. 17%). The difference on this question alone is sufficient to result in a significant difference between men and women on the total importance score (7.1 vs. 6.7). Nevertheless 75% of the women said that their career was equally important to that of their spouse. Taken as a whole, these data present a striking contrast to that obtained by Greaball and Olson (1973).

The final measure of Career Commitment was the actions that people would be willing to undertake in order to advance their careers (Willingness). The results for the nine different activities showed a surprising lack of difference between men and women. There was one activity which men were far more willing to take than women, i.e., accept

a position in another city (62% vs. 46%). But the difference must not be overemphasized: many men were not willing to move and many women were. The other items either showed no difference or favoured women. On total score, which was the number of "yes" responses, women and men were actually identical (6.85 vs. 6.83).

However, male administrators outscored male teachers (7.65), which means that there was a total population difference by sex in favour of men. As well, data on the extent to which teachers' spouses would support them in each activity show that men teachers are in a more favourable position than women (overall scores of 7.2 vs. 6.8).

Thus we see that men consistently show higher Career Commitment than do women, but the effect of sex does not consistently override other factors. The data also suggest that the career commitment of women teachers has risen substantially in the last few years.

Formal Qualifications. Women teachers, as a group, had fewer years experience in education than did men. Thirty per cent of the women had been teaching for only one to four years and another 34% for five to nine years. The largest group of men fell into the five to nine (30%) and 10 to 14 year categories (28%).

A large part of this difference is obviously due to the women being younger. However, women were also more likely than men to have had interruptions in their careers. Thirty-seven per cent of the women, but only 18% of the men, had been away from teaching for a period of time. Furthermore, 39% of the women and 25% of the men were planning a future break in their careers. There are also differences in the reasons for these interruptions. Most women had interrupted their careers for either marriage or child-care (54%); only 2% of the men did so. Forty-one per cent of the men with interruptions left to study; only 17% of the women did so. A large number of the men left temporarily for another job (25%) or to travel (8%). Fewer women left for another job (9%), although an equal proportion left to travel (5%). The leaves taken by women were also somewhat longer than those taken by men, an average of 2.7 years vs. 2.2 years.

Overall, the statistical analyses show a significant effect on experience for sex, even when all other variables were taken into account ($F = 14.27$, $df = 15/2757$, $p < .05$).

Men, overall, also had higher levels of education. The percentage of men and women holding only a teaching certificate was virtually identical (16% vs. 15%), but more men than women teachers had post-graduate degrees (16% vs. 10%), and 47% of administrators held post-graduate degrees.

Seventy-nine per cent of the male teachers held one or more specialist certificates, but only 58% of the women did so. Among administrators, the figure was 88%. There were, however, no differences among men and women teachers in the proportion currently studying, about 34%.

Job Performance. The major measure of performance was reported innovativeness in the classroom. Fewer women than men teachers reported introducing the various categories of innovation, although the differences were not very large. Averaging over the nine areas, the figure for men was 24%, and for women, 19%. Looking only at teachers who had been innovative in a particular area, innovations introduced by men had more often spread beyond their own class to other classes and to other schools (73% vs. 60%). The overall average score for men and women on the index of innovativeness was 4.2 and 3.1, respectively.

The regression analysis shows a significant, overall effect for sex, even when other factors had been taken into account ($F = 4.45$, $df = 15/2757$, $p < .001$).

The other measure of job performance was the number of extra assignments that teachers had undertaken in the past year. For six of the ten activities, the percentage of men involved exceeded that of women. Overall, men averaged 3.0 activities during the year, while women averaged only 2.6.

It was thought that men might have participated to a greater extent because their supervisors requested them to do so. However, very few teachers participated as the result of a request, and the overall percentage of activities undertaken on a request basis is similar for men and women (5.2% vs. 4.8%). By and large, teachers undertake extra assignments because they wish to do so, and men volunteer for more assignments than women.

Mentoring. Encouragement comes from outside of the self, and is an important indication of the existence of sex discrimination within the environment. The first measure of encouragement was the extent to which respondents had received recognition from their superiors for their contribution to the learning environment of the school. Virtually identical percentages of men and women had been so encouraged – 59% vs. 58%. While other variables were taken into account, the results indicated that women were *more* likely to receive such encouragement than comparable men.

The second measure was encouragement to apply for promotion. Teachers were asked whether they had ever been so encouraged, and if so, by whom. On this measure, there was a substantial difference between women and men. Results showed that 46% of the men but only 30% of the women had received such encouragement. More men than women had received encouragement from each source, and this averaged out to about one encouragement for each male teacher, but only one for every two female teachers.

On the index of Encouragement for Supervisors, the regression analysis showed that women received significantly less encouragement to apply for promotion than men in comparable circumstances ($F = 9.42$, $df = 12/2760$, $p < .001$). There was no effect for sex on Encouragement from Others.

Applications. Many more men than women teachers had applied for promotion (46% vs. 21%). Many people had made more than one application and this was more often true for men than women. Men teachers, who had applied for promotion, had made an average of 1.9 applications, while the average for women applicants was 1.6. Administrators, on the other hand, had applied for promotion an average of 2.9 times. The results of the regression analysis for total number of applications shows that the difference between men and women is statistically significant ($F = 21.43$, $df = 15/2757$, $p < .001$).

Advancement

The first section shows that there are discrepancies in the career activities of men and women. It also shows that the system discriminates against even qualified women in encouraging them to apply for promotion. This section examines how important each of these factors is for advancement, and how sex affects their operation.

To begin, the factors discussed above were regressed against position respondents currently held. Sex was again entered alone at the last inclusion level.⁶ It can be argued that a significant independent effect for sex indicates the presence of discrimination in the promotion process. It is possible that such an effect is attributable to some other difference between women and men that was not measured in the study. However, we feel that the most likely determinants of position have been taken into account, and that any remaining discrepancies are at least *more* likely due to discrimination than to some other, unnamed factor. Such an interpretation is congruent with the effect of sex on encouragement which had been discussed above.

The results of the regression analysis show that each of the factors investigated, including sex, made significant independent contributions to a teacher's current position. However, statistical significance only indicates that an effect is reliable, which may not be very meaningful in a sample of the size used here. Equally important is some assessment of the magnitude of the effect.

Normally this would be indicated by ΣR^2 , i.e., the proportion of variance accounted for. However, in the present case, this is not appropriate since sex is a dichotomous variable which was used in the initial stratification of the sample. This reduces the proportion of variance that can be accounted for by sex and makes ΣR^2 meaningless for comparative purposes.

More appropriate to the present study is an examination of the regression coefficients (β), which are indicated for each variable in the first column of Table II. An indication of how much each variable contributes to position can be obtained by multiplying the unstandardized β weight by the average score for each group. For example, the first variable listed in Table II is age, which has a β weight of .024. On the scale

used in the study, men scored an average of 4.6. Thus the total contribution of age to position attained for men is given by $(.024 \times 4.6 = 0.11)$. These calculated values are given in columns 2 and 3 of the table.

As can be seen on the bottom line of these columns, the average position rating of men is 2.16, of women 1.32, a difference of .84. The variable making the largest contribution to this difference is experience (see column 4). The previous section presented data which showed that men had more years of professional experience than women. Together with the substantial contribution of experience to promotion, this variable emerges as an important factor in the lesser advancement of women.

The second most important variable is application. Sex follows third, innovativeness and degree make lesser contributions. The remaining variables are of little importance, either because their effect on promotion was small, or because women and men had similar scores.

A similar analysis was undertaken for women and men as separate groups in order to determine more precisely the way in which sex discrimination operates. An overall test of the slopes for the two equations shows that they are not parallel.⁷ In order to locate the major sources of difference, separate confidence intervals were determined for the β weights in each of the two equations ($\beta \pm 1.96 \times s.e.$), and variables with non-overlapping intervals were noted.

Only two variables were found to have significantly different coefficients. The first is experience. Men received significantly more advancement from accumulated years of experience than did women (β equals .36 and .15, respectively). Women, however, advanced more than men by applying for promotion (β equals .24 and .14, respectively). The overall analysis of Table II shows that women received little advancement *in toto* as a result of applications. The separate analysis suggests that this was due to the low rate at which they applied, and that qualified women who did apply were likely to be recognized. However, this was not sufficient to fully compensate for the undervaluing of their years of experience.⁸

Attitudes

Results from the Perceived Competency scale show that teachers generally believe that men are better able to deal with most situations than women. However, this feeling was not very strong; average scores fell only slightly to the side favouring men, and there were areas in which women were believed to have an advantage. Advantages ascribed to both men and women, however, were stereotyped according to expectation. Women were believed to have an advantage in dealing with female students and in handling students' personal problems. Men were thought to have a rather substantial advantage in dealing with male students, vocational and composite high schools. Men teachers as a group, showed greater stereotyping than did women. The respective discrepancy scores

were 8.5 and 5.7. The attitudes of male administrators were intermediate (6.7) and closer to the women than the men.

The pattern of Promotability is similar. Men were thought to be more suitable for promotion when the husband of the woman candidate is likely to be transferred, when the man is the sole support of his family, when the community may not accept a woman, and when the woman has small children. There were some situations in which the woman was seen as having an advantage: when she is the sole support of her family, when she is attractive, and when the man has a history of ill health.

The average scores showed little difference among male teachers (1.9), female teachers (2.0), and administrators (1.9). Each group rated men and women almost equally overall. However, the discrepancy scores show that respondents were discriminating among candidates on the basis of sex, in most cases in favour of the man. This was especially true among male teachers (4.4), less so among administrators (4.1), and least of all among women teachers (3.1).

The data on women were analyzed to explore relationships between attitudes and activities. Regression of age on each attitude measure showed that older women had less favourable attitudes toward the promotability of women (average score: $F = 4.589$, $df = 1/645$, $p < .05$; Discrepancy score: $F = 8.350$, $df = 1/645$, $p < .01$); and married women scored lower on Average Perceived Competency ($F = 6.813$, $df = 1/645$, $p < .01$).

Attitudes, in turn were related to family responsibilities. Less favourable scores on all four measures were associated with more time spent on household tasks (Competency – average score: $F = 4.569$, $df = 1/645$, $p < .05$; Competency – discrepancy score: $F = 5.332$, $df = 1/645$, $p < .05$; Promotability – average score: $F = 6.572$, $df = 1/645$, $p < .05$; Promotability – discrepancy score: $F = 7.290$, $df = 1/645$, $p < .01$). Lower scores on competency were associated with higher scores on perceived Interference from Family Responsibilities (Average score: $F = 13.005$, $df = 1/645$, $p < .001$; Discrepancy score: $F = 19.635$, $df = 1/645$, $p < .001$).

Analyses were also conducted of the relationship among the attitude measures and career activities – i.e., Experience, Ambition, Innovativeness, and Applications. These analyses were hierarchical, with the entire set of independent variables previously investigated entered at level 1, and the attitude measures entered at level 2. There were two analyses for each dependent variable; one which included the *average* Competency and Promotability scores at level 2, and one which included the two *discrepancy* scores. This yielded eight analyses in all, only one of which was significant. The analysis using the two average scores showed that those who rated women as less competent rated themselves as less ambitious ($F = 7.379$, $df = 16/630$, $p < .001$). There were no other significant relationships between attitudes as measured in this study and career activities of women.

SUMMARY AND DISCUSSION

Looking at a comprehensive sample of people who were in teaching and administrative positions, it was found that sex role has an independent effect on each aspect of professional life and the experiences leading to advancement.

Sex role, as reflected in teachers' behaviour, affects the family responsibilities that they assume and their commitment to a career. It affects their accumulation of formal qualifications, their actual performance on the job, and their willingness to apply for promotion. Sex role also affects the degree to which the system encourages teachers to apply for promotion, as well as its willingness to promote qualified applicants.

These results, with a comprehensive sample of secondary school teachers, replicate an earlier study conducted with elementary and secondary teachers from a single urban board (Reich, 1975). The data are also congruent with earlier studies which focused on single variables.

Given the pervasive effects of sex role, any attempt to equalize the status of women within education requires a comprehensive program reaching into every area of a teacher's professional life, and operating over a substantial period of time. However, some points of attack appear more promising than others.

The most critical teacher characteristic is years of experience. Affirmative action programs need to include a plan for encouraging women teachers to remain on the job during their child-rearing years. One effective way is to provide opportunities for part-time work. Most teachers in the sample expressed an interest in working part time at some point in their careers, while the greater provision of day-care had little appeal. It appears that women teachers wish to retain the role of primary caretaker of their children, at least during the pre-school years.

The lesser experience of women can also be dealt with indirectly by crediting applicants for non-remunerative work and by placing a greater emphasis on evaluating skills directly rather than inferring level of skills from years of professional employment. The data on career interruptions suggest that women will continue to lag behind their male peers in years of experience, and this very serious barrier to their advancement needs careful consideration. A variable of essentially equal importance is applications. Boards should consider ways of giving women special encouragement to apply for promotion, and/or implementing active searches for qualified women rather than relying exclusively on spontaneous applications.

Job performance, which comes next on the list of important teacher behaviours, is notably missing as a focus in affirmative action programs. However, the validity of this finding must be questioned since the data on job performance are very subjective. Goldberg (1968) has shown that women tend to undervalue the work of other women, and it is thus

possible that they undervalue their own work as well. Reich (1975), using a measure that included more in-class activities, found that women only evaluated their performance lower than did men on administrative tasks. On activities which related directly to students, women rated themselves more highly than did men.

A similar result occurred in the present study, in that women appeared to be over-recognized by supervisors for "contributing to the learning environment of the school," while they received relatively little encouragement to apply for promotion. It is thus possible that women only underperform in certain areas, and that even this limited discrepancy is merely a reflection of the same sex-role stereotyping which pervades the rest of the promotion process. These are questions which require further study using more objective indices of job performance. Formal education is the final area of teacher behaviour with influence, indicating the need to increase the number of women teachers who obtain advanced training.

Moving to system behaviours, the existence of an independent effect for sex indicates the presence of overt discrimination within the promotion process. This effect is the third largest in size, locating sex in importance directly after experience and applications. This conclusion is supported by data on the attitudes of men toward women. Thus affirmative action programs should include a focus on overt discrimination, either through measures which attack attitudes directly, and/or by restructuring the evaluation process to place a greater emphasis on objective indices of achievement.

The remaining factors have less sizeable effects. Family responsibilities is one of these. Women consistently spent more time on household tasks than men, but time did not relate in a consistent manner to career behaviour. The same was true for degree of interference from family responsibilities. However, data from the specific questions included on the scale raise further questions about the relationship between family and professional roles. Men reported more specific problems arising from family responsibilities (i.e., having to be home after school, problems working or going out in the evening). However, men felt less general interference with their current level of professional activity or their willingness to become more professionally involved. Thus it may be that, while men experience problems reconciling their two roles, they see these as obstacles to be overcome, rather than as absolute barriers. The limitations for women may lie in their attitude toward family responsibilities, rather than in those responsibilities themselves.

Career commitment describes another set of variables whose importance was not apparent in these data. Similarly, the attitudes of female teachers towards women does not seem a fruitful area upon which to focus. In the highly professional group of women studied here, surface attitudes, at least, are basically egalitarian, and the attitudes of women are not highly predictive of their own behaviour. This finding might mean

that respondents were choosing answers according to their desirability, rather than indicating their true feelings. At the very least, these data indicate that programs directed at women's attitudes must adopt an in-depth approach.

A comment should be made on a limitation of the research. This study has looked only at the effect of sex role on the careers of individual teachers, especially their own professional behaviour. It has treated position as an outcome which derives from the operation of prior variables, and has not investigated the source of those behaviours. However, sex role behaviour develops through an ongoing process of socialization. Katz and Kahn (1966, p. 178) discuss the importance of "role-sending" which occurs within organizations. The pattern of mentoring observed in this study, in which women are encouraged to perform at a high level within the classroom but not to seek advancement beyond it, is likely part of a mechanism through which the organization communicates different role expectations to male and female members. The organization is therefore partly responsible for the self-limiting behaviour of its women teachers. Likewise, the fact that women are rarely found in positions of responsibility within education reinforces the sex stereotyped behaviour of members of the profession. It has been shown for example, that the attractiveness of an occupation to boys and girls depends, in part, on the sex of the incumbents (Plost and Rosen, 1974). Thus, at least in the long run, professions can change the composition of their leadership, both through staff development directed at individuals, as well as by making direct changes in the male/female leadership ratio, and thus changing the expectations of its membership.

As a final note, it is important to consider the historical implications of this study. What seems to have been documented is a transition point between a traditional and more egalitarian order. Although there are few empirical reference points, we have noted the increased level of aspirations evidenced by women in the present study, the basically egalitarian view they hold of their own abilities, and the incongruence between these and their concrete strivings for advancement. There is a need for continuing research to see to what extent women will be able to translate their newfound ambitions into reality, and the extent to which society will accommodate them.

NOTES

- ¹ The authors would like to thank Mr. Richard Wolfe, head of the Computing Services Group, O.I.S.E., for help with the statistical analysis.
- ² A zero-order correlation matrix is available from the author for anyone who would like to investigate these relationships using a different statistical model.
- ³ A similar analysis was performed for 16 subgroups defined by age and position. Such an analysis is more precise since it separates age cohorts who, because of differences in social and personal history, may exhibit different patterns of relationships. Although the overall effects for sex obtained in the total group analysis were not replicated within each subgroup, scattered effects were obtained on each variable.

- ⁴ Throughout this report, differences between men and women on descriptive measures were analyzed using Chi-square or t-test (two-tailed) statistics, whichever was appropriate, and are only reported if conventional levels of significance were obtained.
- ⁵ Table 1 only indicates the significance of individual variables in the final equation. However, total solutions were also tested to determine whether equations which included step 2 accounted for significantly more variance than the equation which included step 1 variables alone. In all instances in which sex made a significant individual contribution to the final equation, the *F* value comparing the two equations was also significant.
- ⁶ Several variables were omitted from this part of the analysis. Ambition was omitted because it is greatly constrained by the position a person currently holds. Since very few people aspire to lesser levels, those who are already in a position of responsibility can only score high. Extras is constrained in the opposite direction. Since the duties of administrators are so broadly defined, there can really be no extras – everything is part of the job. Family responsibilities, encouragement from supervisors, and encouragement from others were also omitted, since they would not be expected to have a direct effect on whether or not applications were successful.
- ⁷ This raises questions about the appropriate set of coefficients to use in evaluating the effects of the independent variables. The analysis reported above uses coefficients from the combined equation, since it represents the structure of the total sample. It is also interesting to calculate the contribution of each variable using the coefficients from the male equation. This analysis can be interpreted as indicating the differences which might be expected between the two groups if the qualifications of women received the same weighting as those of men. In fact, this analysis yields results that are almost identical to those from the combined equation; in particular the relative importance of the major variables remains the same.
- ⁸ We might also ask how the structure would appear if the characteristics of men and women were evaluated using coefficients from the female equation. This analysis reverses the relative contribution of applications and experience, but the remaining variables retain their relative position.

REFERENCES

- Austin, H. S. Employment and career status of women psychologists. *American Psychologist*, 1972, 27, 371–381.
- Canadian Broadcasting Corporation. Women in the CBC: Report of the task force on the status of women. Toronto: CBC, 1975.
- Der-Karabetian, A., & Smith A. J. Sex-role stereotyping in the United States: Is it changing? *Sex Roles*, 1977, 3(2), 199–202.
- Fidell, L. S. Empirical verification of sex discrimination in hiring practices in psychology. *American Psychologist*, 1970, 25, 1094–1098.
- Goldberg, P. Are some women prejudiced against women? *Transactions*, 1968, 5(5), 28–30.
- Greaball, L. C., & Olson, J. A. Role dissatisfaction and career contingencies among female elementary teachers. *Journal of Spate*, June 1973, 5, 131–138.
- Herman, M. H., & Sedlacek, W. E. Career orientation of high school and university women. *Journal of National Association for Women Deans, Administrators and Counselors*, Spring 1974, 11(4), 161–166.
- Horner, M. S. Fail: Bright women. *Psychology Today*, 1969, 62, 36–38.
- Katz, D., & Kahn, R. L. *The social psychology of organizations*. New York: Wiley, 1966.
- Kohlberg, L., Ullman, D. Z. Stages in the development of psycho-sexual concepts and attitudes. In R. C. Friedman, et al. (Eds.), *Sexual differences in behavior*. Toronto: Wiley, 1974.
- Larwood, L., & Blackmore, J. Sex discrimination in managerial selection: Testing prediction of the vertical dyad linkage model. *Sex Roles*, 1978, 4(3), 359–368.

- Larwood, L., O'Carroll, M., & Logan, J. Sex role as a mediator of task performance. *Sex Roles*, 1977, 3(2), 111-116.
- Lyon, C. D., & Saario, T. N. Women in public ed: Sexual discrimination in promotions. *Phi Delta Kappan*, 1973, 60(2), 120-123.
- Mason, W. S., Dressel, R. J. and Bain, R. K. Sex role and the career orientations of beginning teachers. *Harvard Educational Review*, 1959, 29(4), 370-383.
- McMillin, M. R. Vocational commitment of college women. *Journal of National Association for Women Deans, Administrators and Counselors*, Summer 1974, 158-160.
- Megargee, E. I. Influence of sex roles on the manifestation of leadership. *Journal of Applied Psychology*, 1964, 53, 377-382.
- Meissner, M., Humphreys, E. W., & Schou, W. J. No exit for wives: Sexual division of labour. *The Canadian Review of Sociology and Anthropology*, 1975, 12(4), part 1, 424-439.
- Peck, T. When women evaluate women, nothing succeeds like success: The differential effects of status upon evaluations of male and female professional ability. *Sex Roles*, 1978, 4(2), 205-214.
- Plost, M., & Rosen, M. J. Effect of sex of career models on occupational preferences of adolescents. *Audio-Visual Communication Review*, 1974, 22(1), 41-50.
- Reich, C. *The effects of a teacher's sex on career development* (#131). Toronto: Toronto Board of Education, 1975.
- Rosen, B., & Jerdee, T. H. Sex stereotyping in the executive suite. *Harvard Business Review*, 1974, 52(2), 45-58.
- Seawell, W. H., & Canady, R. L. Where have all the women gone? *The National Elementary Principal*, 1974, 53(4), 47-49.
- Stokes, S. *The shortest shadow*. Toronto: Federation of Women Teacher's Associations of Ontario, 1970.
- Taylor, S. S. Educational leadership: A male domain? *Phi Delta Kappan*, 1973, 60(2), 124-128.
- Terborg, J. R., & Illgen, D. O. A theoretical approach to sex discrimination in traditionally masculine occupations. *Organizational Behavior and Human Performance*, 1975, 13, 352-376.
- Tresemmer, D. The cumulative record of research on "fear of success." *Sex Roles*, 1976, 2(3), 217-236.
- Wood, M. M., & Greenfeld, S. T. Women managers and fear of success: A study in the field. *Sex Roles*, 1976, 2(4), 375-388.

Carol Reich is an Associate Professor in the Department of Special Education, The Ontario Institute for Studies in Education, Toronto, Ontario M5S 1V6.

Helen LaFountaine is the President of Women Associates Consulting, Ltd., 2249 Bathurst St., 2nd Floor, Toronto, Ontario M5B 3B2.