

Sex Differences In Educational Aspirations and Academic Performance in High School Students⁽¹⁾

by Barbara Wand

During the late sixties, the idea that young people had changed their views of marriage and the family and of the role of women began to appear in the popular press. For those who hoped to see women progress in the direction of participating equally in all aspects of society, the signs seemed encouraging. It was known that, through the school years, girls consistently performed as well as boys and, until high school graduation, drop-out figures for girls were lower. As most families expected unmarried young women to earn a living, most girls prepared themselves for a job which they held at least until they married. And one-half of the women in the labour force were married.

Nevertheless, along with the flurry in the press about the new life style and the increasing presence of women in the job-world documented by labour statistics, it was common to find in academic discussions of adolescent development such statements as "In Western society, achievement-orientation is deemed a basic essential for boys, and somewhat less so for girls." (2) It was hardly encouraging to note that, although the number of women in the labour force had indeed increased, women continued to be employed largely in clerical and sales positions or as workers in service industries. (3) This lack of evidence of a corresponding change in patterns of living and work-

ing, combined with the largely traditional views expressed by high school students at the time, raised the question of the extent to which the expectations of young women in regard to their role had in fact changed and led to the study reported here.

Method

In an effort to study some of the factors affecting a girl's educational aspirations, her academic planning and performance, a study of high school students in Grade 12 was carried out in 1968 in a metropolitan area of Ontario. The information was gathered by questionnaire and from the school records of a sample of students consisting of 150 boys and 149 girls in a five-year programme leading to university entrance, and from 122 boys and 141 girls in a four-year programme leading to community college or directly to employment.

The first part of the questionnaire asked a variety of personal questions, providing background information on parents and families, educational and occupational aspirations and attitudes towards work, marriage and children.

The second part included a number of questions designed to measure attitudes toward women working under a variety of hypothetical conditions: as single or married women, with and without children, and with children of varying ages. As well, the question-

naire contained ten items drawn from a longer "desire to work" scale designed by Lorraine Eyde.(4) The scale was accompanied by a five-item response list ranging from "would not want to work under this condition" (scored 1) to "would very much want to work under this condition" (scored 5). Girls were asked to check the response indicating how strongly they would want to work under each of the ten conditions. Boys were asked to use the responses to indicate how much they would want their prospective wives to work under each of the conditions.

A third part of the questionnaire was specially designed for the study and consisted of a list of tasks carried out in any household. Both boys and girls were asked to indicate whether they felt each task should be done (1) always by the wife, (2) usually by the wife, (3) alternately by both or shared, (4) usually by the husband, or, (5) always by the husband. Another response, "by outside paid help" was checked infrequently by the students and, as it broke the pattern, it was rescored as (3).

The scales measuring attitudes toward women working and toward who should carry out the household tasks were combined and are referred to here as the Roles Orientation Instrument. A factor analysis(5) was carried out on this part of the data and resulted in a grouping of the items used in the analysis of the data.

School records yielded information on the students' academic performance in the preceding academic year (average final grade in the Ontario Grade 11) and scores on a group test of academic ability (SATO) administered in the fall of Grade 12.

It was of particular interest in this study to examine the differences between the boys and girls in their attitudes toward the role of women and in their academic planning and performance. An attempt was also made to study the corresponding differences between the students in the four- and five-year programmes.

Although sex differences in the factors which influence academic planning and performance were the primary focus of the study, significant differences in attitudes were noted between the mainly middle-class students in the university-oriented five-year programme and their contemporaries from mainly working-class families in the four-year programme. No direct estimates of socio-economic status were attempted. Important differences in the amount of education of the parents of the two groups of students were observed, however, sufficient to suggest that some of the attitudinal differences derive from social class differences.

With reference to sex differences alone, and not to their interaction with social class, the differences

between the boys and girls which hold for both groups combined are given primary emphasis here.

Results

Judging by their responses to the questionnaire, the boys and girls in the sample differed considerably in their aspirations and planning. The boys were more likely to indicate intentions to continue their education beyond high school (see Table 1): 59 per cent of the boys but only 21 per cent of the girls in the four-year programme planned to go on beyond high school graduation. (6) As most of the students of both sexes in the five-year programme planned to seek further education after high school, the differences between boys and girls were revealed in the level of education sought. Whereas 31 per cent of the boys planned to take post-university training, this was true of only 13 per cent of the girls in the academic programme. (7)

Although expressing on the average more modest educational aims, the girls nevertheless appeared to give equally serious consideration to their future, mentioning thoughts about "the kind of work I'd like to do" as frequently as the boys and, in response to the question "How important is it for you to make plans for your future?" stating more frequently than the boys that it was "very important." (8) The girls were more likely than the boys

TABLE 1

Educational Plans by Sex and Programme

	Five-year Programme				Four-year Programme			
	Males		Females		Males		Females	
	N = 150	N = 149	N = 122	N = 141	f	%	f	%
"How much education or training do you plan to get?"	f	%	f	%	f	%	f	%
I plan to complete Grade 12	5	3.3	5	3.4	46	38.0	109	77.9
I plan to complete Grade 13	8	5.3	10	6.7	3	2.5	1	.7
I plan to work for a diploma or certificate after high school	15	10.0	38	25.5	44	36.4	28	20.0
I plan to work for a university degree	71	47.3	72	48.3	23	19.0	2	1.4
I plan to work for a diploma or certificate after university	47	31.3	20	13.4	5	4.1	0	.0
No answer	4	2.7	4	2.7				

to state that they "definitely plan" to marry(9)and the girls, particularly those in the five-year academic programme, differed on the average from the boys in wanting to have larger numbers of children.(10) In addition to exhibiting these differences in their thinking about the future, the girls were more likely than the boys to state that their parents' views about what they should do after high school were the same as their own.(11)

In spite of having more modest educational goals, more definite plans about marriage and a family, and being more likely to express aims similar to the aims they felt their parents held for them, the girls on the average differed from the boys in holding less traditional views of women's role.

The students were also asked to indicate which of "two ideas of what women should be like" they agreed with. A viewpoint (A) "where women do many things including being leaders in politics, the professions and business (the same as men do);" and a viewpoint (B) "where women's lives centre on home and family and their jobs are in such fields as teaching, nursing and secretarial service (different from men)."(12) The responses are summarized in Table 2 and it is evident that the greater majority (69.1 per cent of the boys and 58.9 per cent of the girls) supported viewpoint (B)--the "traditional" view. Nevertheless, more of the girls (34.5 per cent) than

the boys (21.3 per cent) selected viewpoint (A)--the more "modern" view. (13)

The students were asked a number of questions used in an earlier study by Eyde(14)about the various conditions under which women might work. The conditions ranged from being single to being married without children, to being married with children of varying ages. The girls were instructed to "indicate how much you would want to work under this condition" whereas they boys were asked to "indicate how much you would want your wife to work under this condition" (italics mine). Girls, especially those in the five-year programme, were more eager to work when married and childless than the boys would want their hypothetical wives to work in this instance.(15)

Scores on these questions were summed to yield a crude "desire to work" score. It is interesting to note that girls in the five-year programme scoring low on "desire to work" were more likely to have views similar to parents on their aspirations for after high school(16)and were more likely to report a strong interest taken by the father in their activities.(17) If a majority of the parents of these girls may be assumed to have held a traditional view of women's role, as in viewpoint (B) above, then a close identification with parents, in particular the father, as revealed by the responses to these two questions,

TABLE 2

Views on Women's Role by Sex and Programme

Response to "two ideas about what women should be like:"	Males		Females		Total	
	No.	%	No.	%	No.	%
I definitely agree with Viewpoint A*	16	5.9	34	11.7	50	8.9
I am <u>somewhat</u> more in agreement with Viewpoint A	42	15.4	66	22.8	108	19.2
I am not sure	20	7.4	15	5.2	35	6.2
I am <u>somewhat</u> more in agreement with Viewpoint B**	129	47.4	117	40.3	246	43.8
I definitely agree with Viewpoint B	59	21.7	54	18.6	113	20.1
No answer	6	2.2	4	1.4	10	1.8
Total	266	100.0	290	100.0	562	100.0

* Viewpoint A: "A viewpoint where women do many things including being leaders in politics, the professions and business (the same as men do)."

** Viewpoint B: "A viewpoint where women's lives center on home and family and their jobs are in such fields as teaching, nursing and secretarial service (different work from men)."

would appear to have lowered a girl's desire to work outside the home.

The Roles Orientation Instrument gives some indication of how students feel the tasks around the house should be shared. Generally, the girls were more definite that the wife should carry out traditional female tasks and felt this even more strongly than the boys did. The exception to this was found in areas where sharing the task would induce greater interest or involvement of the husband in the business of the household--in bathing the baby, for example. The girls appeared to be more concerned than the boys to foster joint participation in these tasks. Boys were willing to see the husband carry out the task but preferred to see it done on a more efficient, impersonal, division-of-labour basis. It was as if the boys saw the husbands saying, "I'll choose my clothes and take them to the cleaners. You choose yours." The girls seemed to see the wives saying, "I'll help you choose yours and you help me choose mine. We'll take them to the cleaners together."

At the same time, the girls seemed to think the wife should do more in the house than the boys expected her to, and expected the husband to do less than the boys thought he should. These differences in their perceptions of the proper allocation of household responsibilities and the merits of sharing or dividing the daily work

suggested a number of possibilities for role conflict.

Educational performance and planning

The attitudes and personal characteristics of the students, as well as their scores on the factors measured by the Roles Orientation Instrument (18) were correlated with their answers to the question: "How much education or training do you plan to get?" The results of this analysis are summarized separately for each sex in Table 3 and discussed below.

Scholastic ability

In the fall of Grade 12 the Scholastic Aptitude Test of Ontario (SATO), designed to measure academic potential and yielding scores on verbal comprehension and numerical ability, were administered to all the students in the sample. For the girls in the five-year programme, high SATO scores were positively and significantly related to plans to seek further education. For the boys, however, the correlations, though positive, were small and not significant, suggesting that factors other than sheer ability were important in shaping the boys' plans to continue their education. Among these could be, for example, the family's expectations. As a family's expectations for girls may be presumed to be lower, it is not surprising to note that academic ability was, by comparison, a more important single variable in relation to academic plan-

TABLE 3
Variables Related to Educational Aspirations(1)

Variables	Males		Females		Total	
	N	= 272	N	= 290	N	= 562
Father's education		.35**		.44**		.39**
Mother's education		.22**		.41**		.32**
Career plans: degree of certainty		.00		.12		.08
Intention to marry		-.04		.10		.09
Preferred age at marriage		.04		.31**		.20**
Age at birth of first child		-.01		.22**		.15*
Age at birth of last child		-.13		.21**		.07
Attitude toward women's role		-.14*		-.33**		-.20**
Conjugal roles expectations: (2)						
1 traditional male responsibilities		-.11		-.22**		-.11
2 traditional female responsibilities		-.00		.09		.15*
3 working mother		.03		-.15*		-.09
4 child care (external reference)		.09		-.01		.03
5 financial/bookkeeping		.19**		.26**		.25**
6 involvement in furnishings		-.04		-.13		-.04
7 infant and child care		.17*		.17*		.06
8 "togetherness"		-.20**		-.16*		-.21**
9 working woman		.02		-.13		-.14*
10 instrumental choice		-.07		-.12		-.07
SATO verbal score		.43**		.65**		.52**
SATO numerical score		.39**		.62**		.54**
Grade Eleven average		.27**		.32**		.24**

* $p < .05$ (two-tailed)

** $p < .01$ (two-tailed)

1. As expressed in answer to the question: "How much education or training do you plan to get?"
2. Factor scores derived from analysis described in Burshtyn, H. and B. Wand, "High School Students' Conceptions of Conjugal Roles," (unpublished manuscript, 1972).

ning for the girls.

School performance

Average grades in the preceding year were obtained for each student and it was found (see Table 3) that the relation to educational plans was positive and significant for both boys and girls.

Parents' education

As mentioned above, the parents of the students in the five-year programme had themselves obtained more education than the parents of the students in the four-year programme. In the students' choice of programme, then, there was a strong relationship with the schooling of the parents. However, within a given programme, the differences in the students' plans for further education were not related to the educational level of the parents, except for the girls in the five-year programme.(19) Among these girls, those whose fathers had more education were themselves more likely to plan to continue their education.

It was observed above that the interest taken by the parents, in particular the father, was related to the girls' desire to work. The implication that identification with the parents was possibly a determinant of central importance in the girls' motivation is supported by this finding as well. The direction this influence would take would depend of course on the particular parental attitudes.

Attitudes toward women's role

Those girls who tended to agree with the more traditional view of women tended to be the girls who planned to terminate their education earlier. It was not predicted however that a similar, though weaker, relationship would be found for the boys in the four-year programme. The proper explanation of this finding is obscure although it is possible that higher ability and higher educational aspirations are in some manner related to more liberal views of women's role.

Preferences for marriage and a family

The girls who wanted to marry young and have their children at an early age were also those who planned to terminate their education earlier. For boys, these preferences bore no significant relationship to educational aspirations, with two exceptions: among the boys in the five-year academic programme, those who "definitely plan" to marry and those who would like to have their children when they are young were also those who had plans to seek the most education.(20) This finding was unexpected and presents an interesting problem in interpretation.

Expectations of conjugal roles

Scores on ten groups of items were derived from the Roles Orientation Instrument as a result of the factor analysis and were correlated with

stated educational aspirations. On the whole the correlations obtained were low and largely non-significant. There were, however, a number of interesting exceptions.

Students of both sexes with higher educational aspirations tended to score low on a factor labelled "togetherness:" that is, they were more likely to decide that, for example, the wife's coat and the husband's suit should be selected independently, by each rather than by both together. (21) For the group as a whole, of the ten factors, attitudes towards household financial-bookkeeping tasks were the most strongly related to educational aspirations, with both the boys and girls of high aspirations tending to view them as "husband" tasks.

In general, the attitudes toward household tasks were more closely related to the educational aspirations of the girls than to those of the boys. This is consistent with the finding that attitudes toward marriage and a family were related to educational plans for girls, but generally not for boys. Girls who felt that some of the traditional male tasks should be shared or carried out by the wife were also those who had higher educational aspirations. These girls, as well, tended to prefer more involvement of the husband in infant care although, as noted above, they scored low on the "togetherness" items. The attitudes

of the boys with high educational aspirations were similar to those of the girls in this regard. It is interesting that, among the girls in the five-year programme, those with high aspirations were more likely to be those who thought that mothers should not work.

In their responses to the questionnaire many of the differences between the boys and girls, and between the students in the four- and five-year programmes tended to support the contention that, by extending the years of formal schooling, the period of adolescence is artificially extended, as well. The group of boys in the five-year programme was the group which would undoubtedly receive the most formal education and therefore be dependent and "adolescent" for a longer period of time. It is not surprising then that in this study, it was also the group whose members directed their thoughts more to "fun" and "travel" and less to "marriage" or "family life." They were less likely to be sure about their choice of a career, less likely to feel it was important and more likely to have plans similar to those of their "friends."

To this extent, the boys in the five-year programme were showing less clarity, less future orientation and less independence than the other three groups of the same age for whom "adolescence" would be shorter. By

contrast, the adolescence of the girls, in particular that of the girls in the four-year programme would be the shortest as they were most likely to be planning to terminate schooling at the end of Grade 12: 78 per cent of these girls as compared with 38 per cent of the boys in the four-year programme; 3 per cent of the boys or 3 per cent of the girls in the five-year programme.

Within the group of boys in the five-year programme, it was noted above that those who "definitely plan" to marry and have their children when they were young were also those who had plans to seek the most education. (22) The boys in this programme who had the highest educational aspirations deviated from their group in their attitudes toward marriage and the family. It may be that, within this group, those who held clearer and more positive attitudes toward assuming the adult role were also those who had the more ambitious educational aspirations.

It would appear, therefore, that positive attitudes toward marriage and the family are consistent with heightened educational aspirations for boys but with lowered educational aspirations for girls.

Discussion

This study was undertaken in 1968 because of the apparent contradiction at

the time between the views being expressed in the mass media toward women's changing role in society and the views expressed informally by groups of adolescent girls about to assume an adult role. At that time, these girls apparently had adopted quite uncritically a set of attitudes reminiscent of attitudes generally held at least twenty-five years previously and bearing little relation to attitudes being aired by the media.

The findings in general tended to suggest that the factors shaping educational aspirations for girls emanated to a great extent from the expectations they had about marriage, the family and their perceptions of the proper division of labour in a household. At that time, lack of formal education in the parents was related to low educational aspirations for themselves. It was encouraging, however, to see that high scholastic aptitude and a degree of academic success were related to higher aspirations for these girls. Less encouraging was the discovery that the girls held more conservative conceptions of future household duties for women than did the boys and that their plans for themselves were correspondingly more constricted. In addition, a high interest in marriage and family life was accompanied by academic self-limitation in the girls, though not in the boys.

Moreover, for the girls in five-year academic programmes, a conflicting set of attitudes appeared to exist, including a strong desire to work, an intention to pursue education and training and, as well, the intention to have large families and the view that mothers should not work. In some of these attitudes they also tended to differ from the boys in the same programme whom, it should be noted, they were likely to select as husbands.

These findings suggested that the girls in the five-year Arts and Science programme were, in contrast to the girls in the four-year programme, entering adulthood with an inconsistent set of attitudes and role conceptions, not necessarily shared by their male counterparts, which potentially could cause distress and ultimate frustration.

The attitudes expressed by the girls in the four-year programme appeared to have greater internal consistency, greater congruence with the boys in the four-year programme whom they were most likely to marry and greater awareness of the set of realities they were likely to face.

That the study produced evidence, at least for the girls in the academic programme, of inconsistency and confusion in attitudes toward social roles, of the simultaneous presence of

high academic or vocational goals and compliance in adopting a traditional role for women is not surprising. The recent literature in women's studies (23) reiterates the presence of a conflict for women between the demands of domestic life and their freedom to develop their talents. This does not appear to be balanced by a similar conflict for boys in whom, it has been noted, high aspirations for both family life and higher education were more likely to co-exist. That boys may base this optimism on the knowledge that the responsibility for their personal lives may be delegated to women who, in relinquishing their personal aims, will be prepared to receive it, is probably done without reflection that it may be a loss to both.

In conclusion, it appears that as late as December 1968, the attitudes of a group of Grade 12 students, with an average age of 17.4 years, could be considered to be fairly traditional in regard to the role of women in society. In particular, some of the attitudes held by the girls were even more traditional than those held by the boys. Moreover, attitudes toward the role of women, toward certain aspects of conjugal roles as well as their personal expectations of marriage and family life were, for these girls, important correlates of their educational aspirations.

These groups are now nine years older. For those who attended college, attitudes may have been modified and decisions may have been made on a different basis. For the others who proceeded into jobs or training courses at the end of high school, life now may be largely an acting out of the decisions based on the attitudes expressed at the time the study was carried out.

The findings of this study suggest that these high school students were busily engaged in making some of the most important decisions of their lives, and basing them on a highly traditional set of social attitudes, in the middle of a period of significant social change. It is to be hoped that high school students are presently more aware of the range of choices open to them in shaping their lives than they appeared to be eight years ago.

Acknowledgement

Hyman Burshtyn of Carleton University conducted the factor analysis of these data, deriving the factor scores on which part of this discussion is based, and was principal author of an earlier joint paper on "High School Students' Perceptions of their Conjugal Roles." The author appreciates his help and interest in this study.

NOTES

1. Presented as a paper to the Annual Meeting of the Canadian Psychological Association, Victoria, B.C., 1973.
2. Dorothy Rogers, *Issues in Adolescent Psychology* (New York: Appleton-Century-Crofts, 1969).
3. Canada Department of Labour, Women's Bureau, *Facts and Figures about Women in the Labour Force* (Ottawa: 1966).
4. Lorraine D. Eyde, "Work values and background figures as predictors of women's desire to work," *Ohio Studies in Personnel Research*, Monograph 108 (The Ohio State University: Bureau of Business Research, 1962).
5. Using Hotelling's principal axis iterative method rotated to simple structure using Kaiser's Varimax criterion.
6. Chi-square = 48.4, df = 3, $p < .001$.
7. Chi-square = 21.1, df = 3, $p < .001$.
8. Chi-square = 9.2, df = 3, $p < .05$.
9. Chi-square = 17.9 for the students in the four-year programme and 20.26 for the students in the five-year programme; df = 3 and $p < .001$, in both cases.
10. Chi-square = 11.8, df = 3, $p < .01$.
11. Chi-square = 12.3, df = 3, $p < .01$.
12. From a study by P.S. Houts and E. Entwistle, "Academic achievement effort among females," *Journal of Counselling Psychology*, 1968, 15, 284-286.
13. Chi-square = 12.0, df = 2, $p < .01$.
14. Lorraine D. Eyde, *op. cit.*
15. Chi-square = 25.6, df = 3, $p < .001$.
16. Chi-square = 7.7, df = 2, $p < .05$.
17. Chi-square = 8.3, df = 2, $p < .02$.
18. Factor scores were derived from a factor analysis described in Burshtyn, H., and B. Wand, "High School Students' Conceptions of Conjugal Roles." (Unpublished manuscript, 1972).
19. $r = .28$, $p < .01$.
20. $r = -.36$, $p < .01$ and $r = -.17$, $p < .05$, respectively.
21. $r = -.21$, $p < .01$.
22. $r = -.36$, $p < .01$, and $r = -.17$, $p < .05$, respectively.
23. See for example, *Canadian Psychological Review*, 1977, 18. In particular, an article by L. Woolsey, "Psychology and the reconciliation of women's double bind: to be feminine or to be fully human."