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# LEARNING TO LABOUR OR LABOURING TO LEARN? CURRICULAR STRATIFICATION IN ISRAELI VOCATIONAL HIGH SCHOOLS*

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**Abstract**—Allocation and socialization are two separate dimensions of the 'hidden curriculum'. Following recent studies on the reproductive nature of the vocational school curriculum, we explore the curricular stratification of students within the rigidly structured Israeli vocational high schools. We examine whether students' allocation to specific vocational programmes by ethnicity, status of origin, and gender, is related to the prestige of the occupation studied in the progammes, or whether it is influenced by academic ability. Analyzing the student composition of all 81 vocational high school programmes operated between 1980 and 1982, we find that girls are allocated to curricula leading to lower occupational attainments than boys, particularly regarding their prospects of achieving managerial positions and business ownership. In contrast, curricular stratification by ethnicity and status of origin is influenced by the students' chances of placement in the academically demanding matriculation sub-track. Our findings, lending only partial support to the thesis of direct social reproduction by the vocational school curriculum, reflect the ambivalent charter of the vocational schools, incorporating socialization for work with the provision of equal educational opportunity. A better correspondence between the socialization and stratification principles of their curriculum is recommended.

## INTRODUCTION

Among the various sociological aspects of school curricula, one which is yet to be thoroughly explored is that of curricular stratification. On the one hand, the 'hidden curriculum' concerns socialization, and consists of the transmission of values and knowledge corresponding to the ideology of the dominant classes (Apple, 1979). But on the other hand it may consist of the 'hidden allocation' of students to different social strata. High school students selecting or being assigned to specific curricular programmes may be exposed both to different types of knowledge and to the differential commodity value of their curriculum in the labour market.

This is especially true of vocational high schools, where students are allocated, by placement procedures or by their own choice, to curricular programmes leading towards specific occupations. In the vocational school system of various countries these curricular programmes are quite diverse, offering training for prestigious technological vocations as well as for lower-status manual jobs, sometimes within the same schools. The question we raise concerns the criteria of students' curricular allocation. In particular, we shall examine the hypothesis that secondary vocational education in Israel contributes to social reproduction by curricular allocation according to the student's ethnicity, status of origin, and gender. This allocation ensures that students of the dominant ethnic group and of higher socioeconomic strata, as well as male students, will be able to enter more prestigious occupations than their counterparts upon the completion of their studies.

This hypothesis goes far beyond the tracking literature, which evaluates the contribution of vocational high schools to social reproduction *vis-à-vis* the tracking of students of different social origins to vocational vs academic programmes. Such tracking studies have demonstrated the disadvantage of vocational students, compared with graduates of the elitist academic track, with respect to their pursuit

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of post-secondary or higher education, and their subsequent occupational attainment (Alexander *et al.*, 1978; Griffin and Alexander, 1978; Kerckhoff and Everett, 1986). The present paper examines the proposition that vocational high schools facilitate social reproduction not only in comparison with academic schools, but also in their internal processes of the students' stratification by specific vocational training. We thus explore whether the curricula of these schools serves as a mechanism for social stratification.

Critical perspectives on secondary vocational education support our line of investigation. These perspectives, each one from its own particular angle, focus on the reproductive aspects of vocational schooling. In general, theories adhering to the correspondence or reproduction approach view vocational education as serving the interests of dominant groups by providing loyal semi-educated workers. Vocational schools are claimed to inculcate in their students the respect for capitalist work values (Bowles and Gintis, 1976; Violas, 1978), or for the ethno-cultural division of labour (Ogbu, 1978), together with the acceptance of their subordinate position in society. Resistance theories (Giroux, 1981), rejecting the notion of automatic correspondence between the social structure and school operation, have focused on the active role of students in social reproduction. According to studies in this vein, working-class students 'learn to labour' in school and end up in working-class jobs, because they resist the middle-class ideology of school and resort to their own lower-class student subculture (Willis, 1977; Gaskel and Lazerson, 1981).

Subsequent to these critical perspectives, one may expect the reproductive role of vocational schools to be reflected in their internal structure as well. Yet, little research has been devoted to the processes by which vocational high schools facilitate social reproduction through their curricula. Studies of such issues were mainly pursued from a phenomenological perspective. Focusing on the French technical secondary schools, Grignon (1971) has claimed that their symbolic and pedagogic order serves to transmit a 'technical culture', dervied from the precision of technical processes, while the elite culture penetrates these schools only in a transmuted form. Tanguy (1985) has further shown that the curriculum of the French technical schools emphasizes empirical–practical knowledge much more than the theoretical. The inculcation of this specific cultural capital actually serves to domesticate the skilled workers of the future, separating them from the unskilled working class, yet subordinating them to the dominant social classes. Employing Grignon's theory in their analysis of British vocational education, Dickinson and Erben (1982) depicted the vocational schools as pursuing 'the pedagogy of technicization'. They claimed that social relations in these schools are conducted as if they were technical ones. Pedagogic control is exerted by the technical requirements of the task at hand rather than by the teachers' specialist authority. This further separates the students from elite knowledge, defined by authoritarian control over specialist bodies of knowledge.

These phenomenological studies, while focusing on the stratifying nature of the vocational school curriculum in general, did not distinguish among particular curricular programmes of vocational schools. Quantitative empirical studies, which considered particular vocational programmes in addition to the academic–vocational track comparison, have mainly concentrated on the occupational outcomes of vocational school training. These studies have consistently demonstrated, to the dismay of the vocational education advocates, that high school vocational training has no systematic effect on labour market opportunities (see extensive reviews in Mertens *et al.*, 1980; Rumberger and Daymont, 1984). Three studies are however noteworthy, since they directly relate to our hypothesis. Using the American National Longitudinal Survey, Rumberger and Daymont (1984) found that girls taking vocational high school courses tended to concentrate in office occupations and home economics, while male students preferred courses related to trades and industries. This picture corresponds to Gaskell's (1985) Canadian findings, that high school girls consider their labour market opportunities when choosing vocational courses, and in turn tend to reproduce gender inequalities by their course choices. However, Rumberger and Daymont found no systematic racial differences in types of vocational courses taken by Whites vs Black and Hispanic students. In contrast, Oakes' (1985) comparison of 25 American secondary schools revealed that non-white students, while not being enrolled in disproportionate numbers

in vocational programmes, concentrated in specific vocational courses preparing for low-level occupations. White students, on the other hand, predominated the courses enhancing general vocational skills, as well as courses of industrial arts, marine technology and aviation, and courses emphasizing the managerial and financial aspects of the business world.

## CURRICULUM AND STRATIFICATION IN ISRAELI VOCATIONAL HIGH SCHOOLS

The non-systematic findings of the American studies with respect to curricular stratification may be attributed to the 'soft' nature of vocational secondary education in the United States, characterized by the mixture of vocational and academic courses in the regular high school curriculum. As a result, students' vocational courses do not necessarily form a coherent programme of specific occupational training. We may benefit by exploring curricular stratification in other national school systems, where both the vocational high schools and their curricular programmes are more rigidly structured.

The Israeli vocational high schools are a case in point. Most of these schools operate separately from the academic high schools, though both types of schools belong to the same public secondary school system. In any event, the assignment of students to the academic or vocational track is always clear-cut. Furthermore, the curricular programmes of the vocational schools constitute training for specific occupations, easily identified by the programme title. All the vocational courses taken by the students of each programme prepare them for that particular occupation. The number of curricular programmes offered is large, currently approaching 100 curricula in 12 occupational areas. As shown in the Appendix, programmes within each area are very specific. For example, the area of electronics and electricity comprises of 12 curricular programmes, ranging from 'automatic data processing' to 'air-conditioning and cooling systems'.

Examining curricular stratification in the rigorously structured Israeli vocational schools is important for two additional reasons. Firstly, the vocational high schools are very popular. They presently enrol about 80,000 students per year, constituting half of the total high school population (Israel, State of, 1985, p. 82). Secondly, about two-thirds of the vocational high school graduates are employed in the occupations they have studied (Guttman and Tomer, 1975; Levi and Klaus, 1981). These figures elucidate the extensive and long-term effects of the vocational school system on occupational stratification in Israel.

Up to the mid-1960s the vocational students constituted less than a quarter of the total high school population. The rapid expansion of vocational secondary education in Israel, in contrast to its concurrent decline in most Western countries (Benavot, 1983), resulted from a planned policy. It was aimed at improving the educational attainment of lower-status groups which did not fit the academic high schools (Kahane and Starr, 1976). Subsequently, the proportion of low SES students, and those of the Oriental minority (of Asian–African ancestry), has largely increased in the vocational high schools during the last two decades (Kahane and Starr, 1984).

A number of studies on vocational vs academic tracking in Israeli high schools demonstrated the over-proportionate vocational tracking of Oriental and lower-status students, subsequently affecting their educational and occupational opportunities. These processes are partly, but not fully explained by academic ability.[1] It is possible that these reproductive processes are also embedded in the curricular stratification of the vocational students. In that sense, the allocation to specific vocational training may serve as 'fine tuning' of the social reproduction by tracking. One has to recall, in that respect, that the number of curricular programmes in the vocational high schools is by far larger than that offered by the academic schools,[2] increasing the probability of curricular segregation by social origin.

On the other hand, it is also possible that the internal curricular stratification of the vocational students may serve as a factor overriding their social reproduction by tracking. Curricular allocation in the vocational schools is based on a variety of factors: personal choices and inclinations toward specific vocations of the students themselves, as well as counselling and placement policies of the schools. Though we do not directly examine the placement processes in this study, we have to consider their overriding potential effect on the

social reproduction of students.

A possibility of particular importance is that the curricular allocation of students is primarily based on their academic ability. The training programmes defer in their academic demands, and the more sophisticated technological and artistic programmes, which eventually may lead to a higher occupational prestige, may mainly attract the more academically capable students. The schools themselves may also stress academic ability in their placement policies. Doing so, they will follow the 'ideological abivalence' of the Ministry of Education and Culture towards vocational education (Iram, 1986). The ministry regards the vocational schools not merely as practical suppliers of a skilled labour force, but also as providing a channel of educational mobility alternative to that of the academic high schools.

Following this ambivalent conception, the vocational students are not only allocated to specific vocations, but are also placed in one of three sub-tracks: the academically demanding vocational–matriculation sub-track (leading toward a governmental matriculation diploma, which is a prerequisite for university enrolment), the regular sub-track (leading to a high school completion certificate), or the practical sub-track.

About 40% of the vocational students are placed in the matriculation sub-track. Only a portion of them pass the matriculation examinations and get the diploma. Though the majority of the vocational students do not pursue education beyond high school, the vocational schools tend to emphasize academic ability in their curricular placement policies. The matriculation sub-track is offered in most curricular programmes, but is more available in the programmes training toward sophisticated technological and artistic vocations. It is therefore possible that the academic ability of students, rather than their social origin, directly determines their allocation to curricular programmes which lead to high occupational prestige. In that case, curricular stratification may override the reproductive nature of tracking into vocational vs academic schooling.

We therefore resort to testing two propositions on the curricular stratification of vocational high school students. Our propositions may be entitled the 'learning to labour' vs the 'labouring to learn' hypotheses. The first proposition pertains to direct social reproduction by vocational training. It claims that, following their vocational tracking, the students will be further allocated by social origin to different curricular programmes: students of lower status, of the Oriental minority, and females, will study vocations leading to lower occupational attainments than students of higher status of origin, of the dominant Ashkenazi group (of European–American ancestry), and male students.

In contrast, the 'labouring to learn' proposition regards the vocational schools as an integral part of the high school system, which contributes to social reproduction mainly indirectly, through stratification by academic ability. The vocational students are subsequently viewed as striving to pursue their educational career through the vocational track, due to low academic ability or to their own preference. If this is the case, curricular stratification by students' social origin should be related to academic ability, rather than to the prestige of the occupations taught. Specifically, we shall examine the extent to which curricular allocation by status of origin, ethnicity and gender is related to the chances of placement in the academically demanding matriculation sub-track.

## RESEARCH METHODS

### *Data*

Since our major concern is the vocational school curriculum, we use the curricular programmes as units of analysis. The data source for the social composition of the programmes is the student data bank of the Ministry of Education and Culture. It provides, mainly for administrative purposes, yearly information on all high school students, their grade level, track, curricular programme, and their gender, ethnicity, and father's education. The students' data were collapsed by their curricular programmes. This procedure was applied to all 10th–12th grade students during the three-year period of 1980–1982.[3] The data were then averaged for the three years, to correct for yearly fluctuations in student composition.

Altogether, 96 curricular programmes were operated during the three years—15 of the academic track, and 81 of the vocational.[4] The latter, listed in the Appendix, largely varied with regard to enrolment. Their mean number

Table 1. Distribution and coefficients of variation of variables representing the social composition of students in the vocational and the academic programmes of Israeli high schools, 1980–1982

| Variables | Curricular programmes of the vocational track ($N = 81$) | | | Curricular programmes of the academic track ($N = 15$) | | |
|---|---|---|---|---|---|---|
| | $\bar{x}$ | SD | CV* | $\bar{x}$ | SD | CV* |
| 1. Per cent Ashkenazi students | 28.79† | 14.75 | 0.512 | 51.05† | 20.31 | 0.398 |
| 2. Per cent fathers — secondary education | 35.50 | 11.11 | 0.313 | 36.56 | 7.03 | 0.192 |
| 3. Per cent fathers — higher education | 9.05† | 6.70 | 0.741 | 31.19† | 15.63 | 0.501 |
| 4. Per cent male students | 54.08‡ | 39.89 | 0.778 | 35.90‡ | 23.79 | 0.663 |

*CV stands for coefficient of variation (SD/$\bar{x}$).

†Difference between means of tracks is significant at $p < 0.05$ (one-tailed $t$-test).

‡Difference between means of tracks is significant at $p < 0.10$ (one-tailed $t$-test).

of students per year was 557 (SD = 377), reflecting a range from very popular programmes (e.g. more than 5000 students per year in electronics and mechanics) to specialized ones (e.g. less then 50 students per year in the programmes training librarians, medical secretaries, meteorologists and textile designers).

*Variables*

For each programme we constructed four variables reflecting its student composition: the percentages of male students in the program, of Ashkenazi students, and — as indicators of status of origin — the percentages of students' fathers who attained secondary and higher education (the third redundant category of fathers attaining primary education only was excluded). The distribution of these composition variables, for both the vocational and the academic programmes, is presented in Table 1. The table shows the well-known tendency for vocational tracking of Oriental and lower-status students, and of males (due to the technological emphasis of vocational education). Yet it also provides the coefficients of variation among the programmes of each track for the four composition variables. Derived by norming the standard deviations on their original means, these coefficients of relative variation (Martin and Gray, 1971) are comparable across tracks. The higher coefficients for the vocational programmes on all four composition variables indicate the stronger tendency of the vocational schools for curricular segregation by students' ethnicity, status of origin, and gender. This tendency probably reflects the large variance in academic ability among the vocational students, and the large number of vocational curricular.[5]

The first dependent variable, the prestige of occupations taught in the vocational programmes, was measured by Hartman's (1979) scale of Israeli occupational prestige. As the programmes' titles in the Appendix indicate, it was easy to ascertain the exact occupations towards which most of them lead. For ascertaining the rest we were helped by the 17 superintendents of the vocational school system, each responsible for a specific study area. In matching the programmes with prestige scores we assumed, on the basis of the low university enrolment of vocational high school graduates, that the students will not attain higher education. One major problem, however, arose in the matching process. The prestige scores of various occupations depend upon the labour market position of job incumbents, and differ largely for workers vs managers or business owners. Since the students may reach different positions in their future occupational careers, we constructed two versions of the occupational prestige variable. One consisted of the prestige scores for workers, and in the other these scores were replaced, for the appropriate programmes, by the prestige scores of managers or business owners in the same occupations. The mean score for the 81 vocational programmes is considerably higher in the second version (62.4 vs 55.4 for the first), but the standard deviation is the same for both versions (14.8).[6]

Finally, we had to rely on other sources to assesss the students' chances of placement in the

Table 2. Intercorrelations of the social composition variables of the vocational programmes and regression effects of the prestige of occupations studied in these programs on their social composition ($N = 81$)

| | | | | Dependent variables | | | |
|---|---|---|---|---|---|---|---|
| | Intercorrelations of composition variables | | | Occupational prestige (excluding managers and business owners) | | Occupational prestige (including managers and business owners) | |
| Independent variables | 2 | 3 | 4 | $r$ | β | $r$ | β |
| 1. Per cent Ashkenazi students | 0.748 | 0.696 | −0.050 | 0.207 | 0.139 | 0.093 | 0.123 |
| 2. Per cent fathers—secondary education | | 0.641 | 0.038 | 0.201 | 0.058 | 0.121 | 0.045 |
| 3. Per cent fathers—higher education | | | −0.056 | 0.172 | 0.050 | 0.031 | −0.055 |
| 4. Per cent male students | | | | 0.189 | 0.197 | 0.498 | 0.499* |
| $R^2$ | | | | | 0.086 | | 0.263 |

*$p < 0.001$.

vocational–matriculation sub-track, given their curricular programme. The students' data bank precludes this information, but the Central Bureau of Statistics independently collects data on the proportions of 12th grade vocational students in the matriculation sub-track. These data, available for the 12 study areas of the vocational high schools, were used to estimate the students' placement chances according to their specific curricula.

## ANALYSIS AND RESULTS

We start by examining the 'learning to labour' hypothesis, pertaining to direct social reproduction by the vocational curricula. Table 2 presents the results of two regression analyses, in which the prestige scores of the occupations studied in the 81 vocational programmes were regressed on the four student composition variables. The two versions of occupational prestige—the first for workers only, and the second inclusive of managers and business owners, were alternatively used in the two regressions. To some extent, the first regression pertains to the occupational prestige of programmes' graduates in the short run, while the second relates to their potential attainment in the longer run, provided that they retain the same vocations.

The results of both analyses indicate, in contrast to our proposition and to the literature supporting it, that the vocational school curriculum hardly serves as a mechanism of direct social reproduction. The first regression equation explains only 8.6% of the variance in the prestige of occupations taught by the different programmes. None of the student composition variables is significantly related to this prestige. The picture somewhat changes in the second equation, in which the occupational prestige scores for managers and business owners were included. This procedure lowered the correlations between the ethnic and status compositions of the programmes and their occupational prestige,[7] but sharply increased the correlation of the latter with gender composition. In fact, this is the only student-composition variable which is significantly related to the programmes' occupational prestige. Male students are allocated to curricular programmes which lead in the long run to high occupational prestige, while females are destined for lower occupations. The fact that this gender segregation is revealed in the second regression coincides with previous studies on women in the Israeli labour force, showing their under-representation in managerial and ownership positions (Izraeli, 1979; Semyonov and Kraus, 1983). Girls' own curricular choices, coupled with a traditional sex-role orientation of the vocational school curriculum, seem to enhance the reproduction of this gender-segregated labour market.

However, both our regression analyses show no significant effect of the prestige of occupations studied in the vocational programmes on the ethnic and status composition

Table 3. Discriminant analysis of vocational fields of study by programmes' contextual variables: results for the first two functions (direct method)

| Standardized discriminant function coefficients | First function | Second function |
|---|---|---|
| Per cent Ashkenazi students | 0.111 | 0.355 |
| Per cent fathers—secondary education | 0.184 | −0.517 |
| Per cent fathers—higher education | −0.015 | 1.022 |
| Per cent male students | 0.841 | −0.057 |
| Occupational prestige (including managers and owners) | 0.469 | 0.070 |
| Wilks' Lambda | 0.366 | 0.607 |
| $p$ ($\chi^2$ test) | <0.001 | 0.003 |
| Canonical correlation | 0.856 | 0.630 |
| Group centroids | | |
| 1. Electronics and electricity (91.8%)* | 1.831 | 1.075 |
| 2. Arts and crafts (89.5%) | −1.167 | 1.668 |
| 3. Printing and chemistry (77.5%) | 0.515 | −0.809 |
| 4. Wood, construction and draftsmanship (75.0%) | −0.209 | 0.029 |
| 5. Agriculture (63.4%) | 0.876 | −1.039 |
| 6. Seamanship (62.9%) | 2.368 | −0.169 |
| 7. Mechanics (60.0%) | 1.297 | −0.419 |
| 8. Secretarial work (47.9%) | −1.473 | −0.026 |
| 9. Nursing (43.7%) | −2.088 | −0.240 |
| 10. Fashion (37.8%) | −2.564 | −0.227 |
| 11. Auto mechanics (36.8%) | 1.534 | −0.703 |
| 12. Hotel management and home economics (34.6%) | −1.917 | −0.289 |

* Percentages in parentheses represent the proportion of 12th grade students in 1981 who have studied in vocational matriculation programme out of the total number of seniors in the given field of study.

*Source:* Israel, State of (1983, p. 665).

of their students.[8] This leads to our second, 'labouring to learn' hypothesis, proposing that social reproduction by the vocational curricula is indirect: curricular stratification by students' social origin is related to academic ability rather than to the prestige of the occupations taught. Placement in the matriculation sub-track is an indicator of the acadmic ability of the vocational students. This sub-track is offered by all curricular programmes, but is more often provided in those considered more academically demanding. Subsequently, these programs are selective and may consist more of higher status and Ashkenazi students.

The 12 study areas of the vocational high schools, each comprising several curricular programmes, are presented in Table 3 in a hierarchical order of their proportion of matriculation seniors. The table reports the results of a discriminant analysis of the 81 programmes, in which their grouping by fields of study was examined along the discriminatory functions created by five variables; the four student composition variables and the programmes' occupational prestige (including managers and owners). Discriminant analysis was applied, since it exerts the functions or dimensions which separate a set of nominal categories (the fields of study) according to a pre-determined set of interval variables (Klecka, 1980). The inclusion of the programmes' occupational prestige as a discriminating variable may help in assessing the relation of the exerted functions to the prestige of the occupations studied.

Although five discriminant functions were exerted, only the first two were statistically significant. They are presented in order of

discriminant power, indicated by the Wilks' Lambda coefficients and the canonical correlations.[9] The first function coincides with the previous findings of the regression analysis. It is mainly determined by the percentage of male students and by the programmes' occupational prestige, but is unaffected by the programmes' ethnic and status composition. The group centroids (the mean function scores of each study area) clearly separate between male-populated fields leading to high occupational prestige (particularly seamanship and electronics and electricity), and study areas characterized by female enrolment and lower occupational prestige (especially fashion, nursing, and hotel management and home economics).

It is the second function which is of particular importance. This function is totally unrelated to either the gender composition of the programmes or their occupational prestige. It is determined by the students' status composition (mainly by the percentage of each programme's students whose fathers attained higher education) and by their ethnic composition. For interpreting this function we should examine the centroids of the study areas in relation to the percentages of their senior students in the matriculation sub-track. The first two vocational fields, electronics and electricity and arts and crafts, have the highest proportions of matriculation students. As indicated by their centroids, they also consist of mainly Ashkenazi and higher-status students. The fields of study with lower percentages of matriculation seniors tend to consist of lower-status and Oriental students, though there are a few exceptions to this trend.[10]

The discriminant analysis clearly shows that the status and ethnic compositions of the curricular programmes are determined by the students' academic ability. Due to co-linearity with academic achievement, higher-status and Ashkenazi students are placed more often than others in the matriculation sub-track of the vocational curricula.

## DISCUSSION

Our analysis reveals two different processes of curricular stratification in the Israeli vocational high schools, pointing to either direct or indirect reproduction of specific social groups. Firstly, the gender composition of the curricular programmes reflects their functioning as direct reproducers of gender segregation in the labour market. Probably the girls' own curricular choices and traditional sex-role orientations employed in the schools' placement procedures influence their enrolment in vocational curricula leading to lower occupational attainment compared with boys. The fact that girls learn vocations which specifically lower their future chances of entering managerial positions or becoming business owners is directed at the very heart of gender inequality in the Israeli labour market. Since the vocational high schools are a primary source of the future female labour force, they directly contribute to the reproduction of the specific features of gender segregation in the labour market.

The importance of this gender stratification of the vocational curricula notwithstanding, it should be recalled that it was not the major concern of the recent critical literature on vocational schooling. The primary concern of correspondence, resistance, and phenomenological studies in the area was the contribution of vocational education to the reproduction of social classes and the ethnic division of labour. These studies led to our proposition that lower-class and minority students are taught less prestigious occupations than their peers. However, our findings defy the depiction of the vocational high school as an immediate reproducer of subordinate groups. At least in the context of the Israeli vocational schools, students of higher and lower strata, Ashkenazim and Orientals alike, are taught occupations potentially leading to similar status attainments.

We did find, however, that curricular stratification by ethnicity and status of origin is directly related to the students' chances of placement in the academically demanding matriculation sub-track. In this respect, the vocational students are labouring to learn rather than learning to labour. Their occupational socialization is regarded as a means in the pursuit of educational career. Therefore, variations in academic ability account for the specific curricular allocation of students of different ethnic and status groups.

It is perhaps peculiar that the vocational high schools emphasize academic ability as a criterion for programme allocation, while only a minority of their students actually pursue higher

education. More than anything else, this seems to reflect the ambivalent ideology of secondary vocational education in Israel. Swinging between pedagogical and practical considerations, it has led to an ambivalent charter of the vocational high schools.

This charter incorporates the socialization for work with the provision of equal educational opportunity for minority and lower-status students. The vocational schools comply with the conflicting demands of their dual charter by putting an emphasis on academic ability in the curricular allocation of their students. Doing so, they actually turn the curricular placement into a factor which tends to override the overall reproductive nature of vocational tracking. The tendency of the curricular programmes to segregate students by their ethnicity and status of origin cannot be explained by allocation to occupations which defer in their prestige. This segregation is rather related to the different academic abilities of various social groups, which lead to their sub-tracking within the schools. In this sense, curricular allocation functions at most as an indirect mechanism of social reproduction, rather than a direct one.

It should be re-emphasized that our study does not clarify empirically how such curricular stratification occurs within the vocational schools. As we have already said, curricular placement within the vocational schools is a complex process which involves placement and counselling policies on the one hand, as well as students' personal choices on the other. Our study points at the outcomes of these processes. Given the outcomes, further research on the processes of curricular allocation in the vocational schools is needed. One question such research could answer is how much of the emphasis on academic ability is due to the students' own choice of curricular programmes, and to what extent is it due to policies instituted by the schools themselves?

The focus on academic ability in the students' occupational allocation elucidates, however, a more general problem of the vocational school curriculum. As emphasized, allocation and socialization are two analytically separate dimensions of the vocational school curriculum. It may be argued that some correspondence is required between the socialization and stratification principles underlying the curriculum. In the case of the Israeli schools, the vocational curricula emphasize practical rather than theoretical knowledge, but students' stratification is based on academic criteria. The call to improve the intellectual capacity of school curriculum for the working class (Apple, 1981) is especially relevant to our case. The transmission of mainly practical knowledge to students stratified by academic ability is, in a way, a pedagogical absurd, which may lead to greater student resistance and school rejection. Recently, a reform of the Israeli vocational schools has been announced. This reform, which intends to improve and expand the academic courses taken by the students, may be a step forward in matching the stratification and socialization patterns of the vocational schools.

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## NOTES

1. On these issues see Yuchtman (Yaar) and Samuel (1975), Nachmias (1980), Yogev (1981) Yogev and Ayalon (1982, 1986), Shavit (1984), Yogev and Shapira (1987) and Shavit and Featherman (1988).

2. The academic high school programmes consist of areas of specialization (e.g. mathematics and physics, humanities, biology, music, religious studies), within which students take courses in preparation for the matriculation exams.

3. From 1983 on, the Ministry stopped collecting data on students' ethnicity because of ideological reasons.

4. A few additional vocational programmes were excluded from the analysis due to low enrolment. The total number of students in these programmes for the three-year period did not exceed 25, indicating a single specializing class.

5. A comparison of the 15 academic programmes with the 15 largest vocational curricula reveals, however, that the coefficients of variation are still higher for the vocational programmes with respect to student composition by father's education. We also calculated the composition variables for students of each grade separately. The large coefficients of variation among the vocational programs remain stable between the 10th and 12th grades (Yogev and Ayalon, 1987).

6. Occupational prestige is only one attainment indicator applicable to the examination of social reproduction by the vocational curricula. Income is another possible indicator. We used occupational prestige for three reasons. Firstly, we assume that future variations in the occupational prestige of each programme's students are potentially less acute than their income variations. Secondly, estimates for average

incomes of occupations are available for wage-earners only, while many vocational students may be self-employed in the future. Thirdly, ethnic gaps in Israel are larger in occupational prestige than in income (Smooha and Kraus, 1985).

7. The inclusion of scores for managers and owners might have led to an emphasis on the income component of occupational prestige. As explained in Note 6, income is less related to ethnic inequalities in Israel.

8. The regression analyses were repeated for students of each grade level separately. The results were almost identical to those obtained for the entire vocational high school population, sustaining the validity of our findings, and indicating the stability of curricular allocation.

9. A high Wilks' Lambda indicates a low discriminant power. The canonical correlations are between the discriminating variables and 11 dummies constructed of the fields of study.

10. The most noteworthy exceptions are the study areas of agriculture and of printing and chemistry, both consisting of Oriental and lower-status students despite their provision of matriculation studies. This may be due to the traditional low image of curricular programmes in these areas, and to students' exclusion in special boarding or apprenticeship schools.

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## APPENDIX

*List of 81 curricular programmes operating in Israeli vocational high schools from 1980 to 1982, by field of study*

1. *Electronics and electricity.* Electronics; Electronics—Reinforced; Automatic Data Processing; Automation and Control; Instrumentation and Control; Instrumentation for Girls; Electricity; Telegraph and Telephone; Air-Conditioning and Cooling Systems; Electricity Officers; Radio Officers; Ship Electronics.

2. *Arts and crafts.* General Crafts; Artistic Crafts; Industrial Design; Diamond Design; Jewellery; Graphics; Photography; Ceramics; Wood Carving; Textile Design; Knitting.

3. *Printing and Chemistry.* General Printing; Typesetting; Relief Printing; Offset Printing; Offset Photography; Industrial Laboratory Assistants; Technical Laboratory Assistants; Laboratory Assistants for Educational Institutions.

4. *Wood, construction and draftsmanship.* Wood Processing; Construction Crafts; Construction Draftsmanship; Architectural Draftsmanship; Architecture.

5. *Agriculture.* Agriculture; Soil and Irrigation; Horticulture and Planting; Agricultural Industry and Management; Agricultural Automation; Agricultural Mechanics.

6. *Seamanship.* Seamanship; Ship Machinery Operation.

7. *Mechanics.* Mechanics; Construction Mechanics; Precision Mechanics; Machine Draftsmanship; Mechanics—Automation; Mechanics—Instrumentation; Meteorology; Ship Mechanics; Aviation Mechanics; Aviation Instruments.

8. *Secretarial work.* Clerical Work; Secretaries; Accounting; Librarians; Technical Clerks; Medical Secretaries; Planning-Office Workers.

9. *Nursing.* Nursing; Dentist Assistants; Dental Technicians; Nursemaids; Kindergarten Assistants.

10. *Fashion.* Sewing; Fashion Knitting; Hairdressing; Cosmetics.

11. *Auto mechanics.* Auto Mechanics; General Mechanics; Auto Electricity.

12. *Hotel management and home economics.* Integrated Management and Economics; Hotel Management; Tourism; Nutrition; Cooking; Home Economics; Service Economics; Service Economics for Education Institutions.