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AUTHOR   Madhere, Serge
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ABSTRACT
                Human capital theorists suggest that education is a
form of investment in the individual's future which yields economic
dividends commensurate to the investment. Another school of thought
criticizes this theory for not showing the relationship between
schooling, productivity, and earnings, and holds that for minority
workers, program completion may be more important than the number of
years spent in a program. A review of the literature on minority
income distribution shows that blacks earn less than whites and women
less than men; that education, sex, and age influence posttraining
earnings mainly through occupational choice and literacy; and that
social welfare status influences earning through occupational choice
and time in program. A New York City study conducted to evaluate the
effects of education on posttraining wages among participants in a
large manpower program finds that: (1) When marginality
factors--conditions which may result in underutilization of a
particular group of workers, such as physical or mental disabilities,
discriminatory practices, characteristics of some occupations, or
lack of skills or training--are at work, literacy has no effect on
wages; (2) when faced with limited occupational opportunities,
individuals with higher social welfare status tend to prefer lower
status trades which require less training time; (3) educational
marginality neutralizes all other variables in posttraining earnings,
and, under conditions of marginal education, neither literacy nor
occupation contributes significantly to the determination of wages;
and (4) employers reward the possession of a diploma more than the
number of years in training. (AOS)

SOCIAL MARGINALITY, ACADEMIC ACHIEVEMENT
AND VOCATIONAL DEVELOPMENT

by

Serge Madhere, Ph.D

Division of Research, Evaluation & Testing
Newark Board of Education
2 Cedar Street
Newark, New Jersey   07102

Printed in the USA

INTRODUCTION

One of the major propositions of the human capital theory is that education is a form of investment that most significantly determines economic returns. A limited education is described as a condition that contributes to maintaining a worker in a secondary labor market of unstable and low-paying jobs. This consideration has provided the rationale for the funding of manpower programs, with the objective of educating disadvantaged people. As noted by Crain and Weisman (1972), manpower programs are more or less overtly based on the postulate that, if people out of the mainstream "could somehow be pulled out of poverty and given enough education, they would manage to make the rest of the jump into the economy on their own" (p. 20).

However, there is some controversy regarding the significance of the relation between education and earnings. Economists have criticized the human capital theorists for implying but not showing the actual connection between schooling, productivity, and earnings. For minority workers, the hypothesized, positive correlation even fails

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to materialize (Hanoch, 1967; Hansen, Scanlon, & Weisbrod, 1970; Weiss, 1970). More recently, several researchers (Layard & Psacharopoulos, 1974; Spence, 1974; Wise, 1975) have also challenged the view that income differentials are related to years of schooling. They have pointed out, among other things, that the component in education responsible for the social returns may be program completion rather than attendance for a number of years. Thus, the issue has been broadened to address not only the question of whether education influences economic gains, but also how it does so.

In discussing minority income distribution, it may be necessary to hypothesize a more complex pattern of relationships that involves other variables than just the direct correlates of human capital investment. Actually, such a pattern has recently been elaborated by Sullivan (1978) for the discussion of unemployment, underemployment, and income distribution. Central to the proposed system is the concept of marginality. It refers to various conditions that may result in underutilization of a particular group of workers. Sullivan distinguished four such conditions: (a) one that is associated with a physical or a mental disability; (b) one that has its sources in discriminatory practices against a particular race, sex, or age group; (c) one that grows out of the structural characteristics of some occupations; (d) one that is a consequence of a general lack of skills or a limited education.

Each of these conditions, as Sullivan argues, is sufficient to bring underutilization and/or inadequate economic gains. Yet, in a manpower program they are often found in combination. This unique situation allows for the study of the relations between schooling, welfare status, training, and earnings, all critical areas of human resources.

Objectives of the Study

The main objective of this study is to evaluate the direct and indirect effects of education on participants' posttraining wages at a large manpower program in New York City. The indirect component of the relationship, it is hypothesized, develops out of the association of schooling with occupational choice, literacy, and social welfare status, all variables also likely to influence wages.

Literature Review on Minority Income Distribution

The bulk of the investigations involving minority groups focuses on the issue of discrimination. Almquist (1979), mostly drawing from census data, indicated that Blacks earned less than Whites, and that women earned less than men. Stolzenberg (1975) showed that majority and minority subjects, with comparable level of formal schooling, did not have comparable occupational attainment. Lucas (1977) analyzed the data for the 1967 Survey of Economic Opportunity, gathered from a national random sample supplemented by another sample drawing from neighborhoods with a high concentration of minorities. He set up

a cross-classification of race by sex, and found that the positive correspondence between education and earnings was observable only for white males. Becker, in his original formulation, and Hanoch (1967) recognized that education had a smaller return for Blacks than for Whites. Mincer offered the explanation that Blacks not only were likely to have a more restricted access to on-the-job training than to formal schooling, but also received a smaller amount of on-the-job training than Whites did. However, Mach-Erbe (1975) showed that with equal occupational attainment (so one would assume equal on-the-job training), Blacks still earned less than their white counterparts. Hansen, Scanlon, and Weisbrod (1970) analyzed the return from schooling for a group of 17- to 25-year-old men, 50% of whom were non-White. They found that schooling was not an important income determinant for this group. Weiss (1970) calculated the earnings function for minority workers with less than a high school education. The correlation coefficient turned out to be low and statistically non-significant. All this prompted some authors to argue that talking simply of Black-White income differentials is to understate the problem; the standard human capital model may be inadequate to account for minority workers' income.

The problem becomes fairly complicated when one decides to look at one subsection of the minority population: the hard-core unemployed and/or underemployed who constitute

the clientele of the manpower programs. First of all,
one would expect the limited educational range in such a
group to lead to nothing but a negligible correlation
between income and schooling. This is not the case, as
indicated by Gurin (1968) who underscored the importance
"of realizing that distinctions exist among people who come
to a training program. The trainees may appear to be a
very homogeneous group, and differences of one or two
years of age and education may seem to be of little rele-
vance. However, small differences reflect some very signi-
ficant distinction" (p. 138). Gurin reached that conclusion
based on a study of 1,500 underemployed Black youths in a
manpower project in Chicago. Using two criteria of success,
program completion and subsequent earnings, he observed
that trainees with higher earnings were better educated,
and had a better preprogram job history; age was a good
predictor of wages among the male subjects; females, despite
an advantage in schooling, were paid lower wages than
males were, in the posttraining period.

Sweezey (1973), taking into consideration program
completion and placement, showed that these two criteria
could be effectively predicted from such variables as edu-
cation, sex, race, employment history, and financial support
from public assistance.

The latter variable is a source of problems in esti-
mating the net economic cost and return on manpower training

programs. As noted by O'Neill and Ross (1976):

> There are incentives for those who are already
> doing poorly in the job market to enter the
> program, since they will forgo less earnings.
> Moreover, most of the vocational programs
> studied are ones in which the government pays
> a stipend to participants. The stipend is
> more attractive, the less one can earn in the
> market. (p. 5)

This kind of use of and reliance on public assistance
is not, incidentally, limited to the poor and the minorities.
Some authors (Levitan, 1980) have made the observation that
the entire American society may be making a mutation into
a welfare state. "In the welfare state, people increasingly
have the option to work or not to work. . . . Forced idle-
ness does not have the same bite in the welfare state as
it did in the earlier days. We now have almost universal
coverage of unemployment insurance" (p. 51). The serious-
ness about job search, training, and employment may be
diluted because of the availability of transfer payments.

In the present context, evaluating the impact of
dependence on public assistance requires a differentiation
of the unemployed by category or along some kind of con-
tinuum. One parameter that was suggested by Cowell (1977)
is the social welfare function. In his original discussion
of the concept, Cowell presents it as a simple ranking of

> all possible states of society, in the order of
> [society's] preference. The various 'states'
> could be function of all sorts of things--per-
> sonal income, wealth, size of people's car--but
> we usually attempt to isolate characteristics
> which are considered relevant in situation of

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> social choice. We do not have to concern our-
> selves with the means by which this social
> ranking is derived. . . . The key point is
> that its characteristics are carefully specified
> in advance. (p. 41)

In this study the concept is used to classify people accord-
ing to the degree--transitory, extended, or permanent--of
reliance on public assistance.

Incentive or no incentive, stipend or no stipend,
participation in a training program seems to be genuinely
related to future employment and earnings (O'Neill & Ross,
1976). But it is largely held that the manpower training
program is simply not an alternative to but an alternate
form of welfare, another means for many people to prolong
unemployment and "beat the system on and on." This point
of view may be popular, but it does not help one disentangle
the relationships between the variables training, unemploy-
ment, and subsequent earnings. As indicated by Ehrenberg
and Oaxaca (1976):

> Anything that influences an individual's skill
> level will increase his expected post-unemploy-
> ment wage, but may have an ambiguous effect on
> expected unemployment duration. The ambiguity
> occurs because increasing an individual's skill
> level increases the proportion of jobs for
> which he is eligible and also induces him to
> reject a greater proportion of low wage offers.
> (p. 338)

This implies that the ambiguity could be corrected if the
training were to lead to occupations with real economic
potential. Such occupations, noted LoCascio and Hamburger
(1971), are in the fields of metal construction, drafting,

food trade, and electronics. These authors followed up on a group of MTDA trainees in New York State. They identified two clusters of variables that seem related to postprogram earnings. The first cluster comprises type of program, location of training, and trade in which trained; the second cluster includes sex, age, ethnicity, and marital status. Given the wage rates obtained by subjects in the sample, the authors concluded that "completing a MTDA training may increase one's ability to compete and obtain low-paying occupations requiring actually little or no formal training" (p. 52).

The poor quality of placement needs not be regarded as an inherent characteristic of manpower programs. It might be associated with an underlying orientation influencing program sponsors and operators at a certain point in the short history of manpower program. "Indeed, many of these programs, particularly in the earlier days, expended more effort and money in attempts at socialization than in actual vocational training, which often involved minimal training for rudimentary, low-skilled jobs" (Gurin, 1970, p. 278).

Behind the various questions about wage rates lies the fundamental issue of whether a manpower training program can help the participants escape marginality. The concept of marginality and its correlate underutilization were developed by Sullivan (1978) from Hauser's Labor

Utilization Framework. The original paradigm served as a guideline for the study of employment and underemployment in the less developed countries. Sullivan showed how it can be appropriately used to describe the situation of a large number of American workers. Thus, for reasons of physical handicap, of race, age, sex, or a limited education, one may be marginal to the social structure; one's job also may be marginal to the economic structure. It is suggested that "some jobs are marginal by intention, that is, employers deliberately package the least essential tasks into unstable, poorly compensated jobs, so that even high turnover will not disrupt production. The least preferred workers are hired for these jobs" (p. 147). Parallel to the various categories of marginality, there exist several forms of underutilization: unemployment, involuntary part-time employment, very low income, and education-occupation mismatch. A single worker may find himself simultaneously in more than one category of marginality and/or underutilization. Using data on the civilian labor force reported in the 1960 and 1970 censuses, Sullivan investigated and confirmed all the following hypotheses: (a) The rate of underutilization is higher for people with an eighth-grade education or less; (b) Young workers (age 20 to 24) who account for 12.6% of the labor force represent one-fifth of the people with income below the poverty line; (c) Females are higher than males in every

category of underutilization, except educational mismatch;
(d) Minority to majority unemployment is at a 2 to 1 ratio
and has remained at that level between 1960 and 1970;
(e) Utilization, by any measure, is better among profes-
sionals and craftsmen than it is for farm and nonfarm
labor, private household, and service workers.

These findings, as one can see, are not in any way
different from what was already established through human
capital theory. The value of the marginality paradigm,
however, is that it deals directly with the issue of employ-
ability and opportunity structure for the working poor;
thus it allows one to organize a complex topic along a
single theoretical argument.

Path Diagrams

Education, sex, age, literacy, and social welfare
status are assets (or liabilities) that a manpower program
participant brings with him/her when he/she comes for
training. These variables can be integrated into a causal
model for explaining differences in both time in program
and posttraining wages. In its simplest formulation,
the model rests upon the following propositions:

1. Education influences posttraining earning mainly
through occupational choice and literacy, while social
welfare status influences it through occupational choice
and time in program.

2. The relationship of occupational choice with
schooling or the personal attributes, sex and age, is
to some extent contingent upon social welfare status.

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3. The relationship of posttraining wages with occupational choice and literacy is to some extent contingent upon time in program.

Each proposition carries a set of logical implications that must show internal consistency, if the proposition is to be accepted as valid.

In order, for example, to support the assertion that education influences posttraining wages mainly through occupational choice and literacy, it must be demonstrated that: (a) both occupational choice and literacy have direct, significant effects on posttraining wages; (b) schooling has direct, significant effects on both occupational choice and literacy; (c) the indirect connections resulting from the combination of the above variables account, within chance limits,—for the covariation between schooling and posttraining wages. [Insert Fig 1 about here] The logical implications have been examined across three subsamples representing typical segments of the underprivileged population: the educationally marginal, the occupationally marginal, and a group of women who were on welfare prior to training.
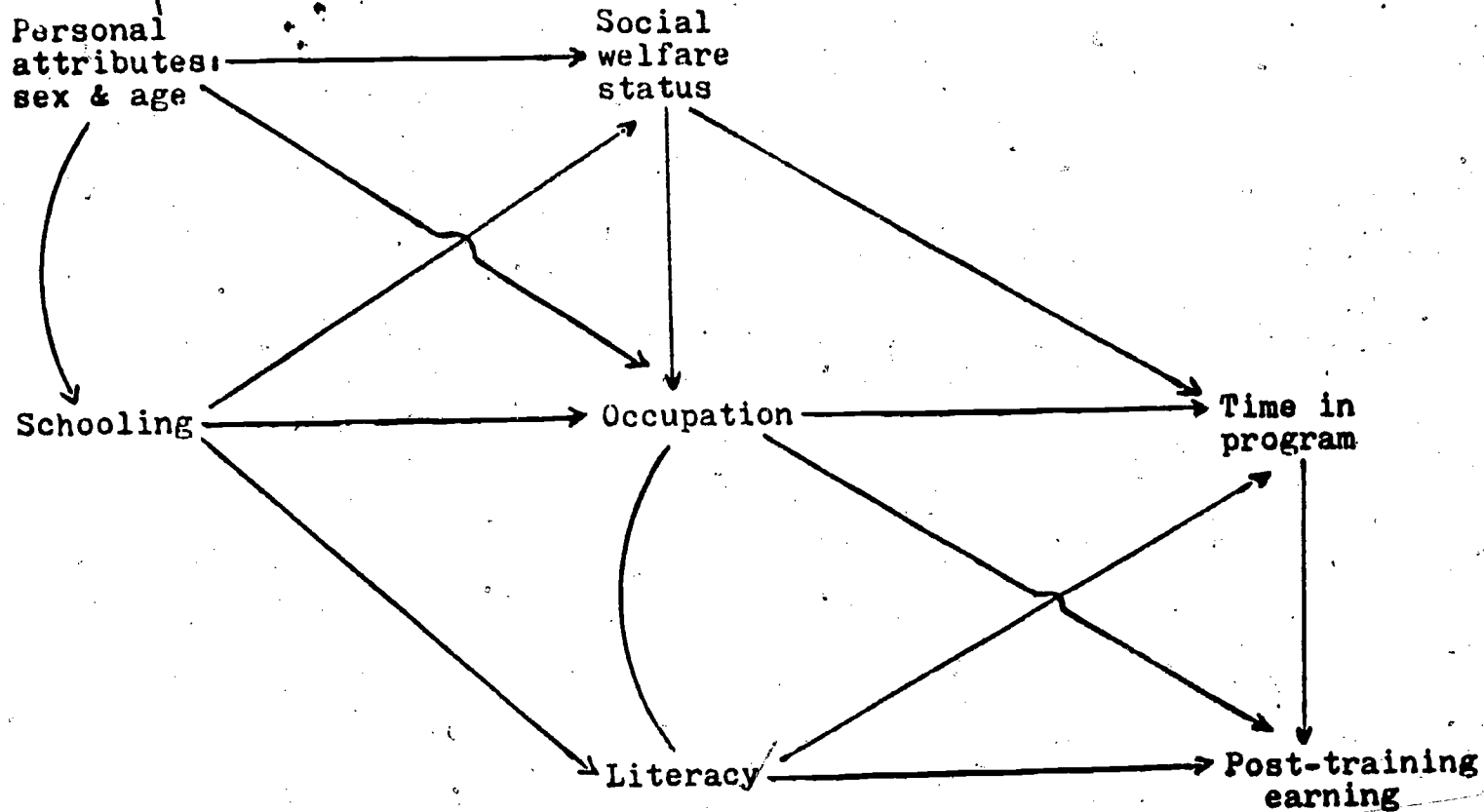
Figure 1 - Path diagram for explaining differences in post-training wages of former manpower program participants.

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METHODOLOGY

Sample

The individuals making up the sample under study are
all disadvantaged adults enrolled at a large manpower
program in New York City. They are selected from a
larger group of trainees who come from Bedford-Stuyvesant,
the Lower East Side of Manhattan, Central Harlem, the
South Bronx, and the South Jamaica area of Queens, all
known poverty points in New York City. This general popu-
lation of trainees presents the following characteristics:
67% are females, 80% are Blacks, and 16% of Hispanic
descent. They are between 18 and 55 years of age, the
mode being at the 24 to 34 interval. Forty-six percent
are heads of household. Fifty percent are on public
assistance. Their previous work experience is very
limited: 82% have had 1 year of gainful employment or
less, 6% have worked for 2 years; 8% for 3 to 5 years,
and the remaining 4% for 6 or more years.

Students are admitted (or at least scheduled for
admission) on a first-come first-serve basis, provided
they meet the CETA guidelines defining the economically

disadvantaged. As part of their initial assessment, they take a battery of standardized tests in reading and arithmetic.

Training is offered in three major occupational categories: the food service field, the clerical/secretarial field, and the computer-related field which includes computer programming, computer operations, and data-entry (keypunch). Even though the program operators have set an average number of weeks for each course, trainees are allowed to advance at their own pace, and they are offered job placement assistance once they approach a marketable skill level. This assistance can take the form of job market information, resume preparation, development of interview skills, as well as direct referrals to prospective employers.

By a systematic random sampling procedure, 117 participants were selected in the clerical/secretarial course area; 100 in the computer-related area; for the food service field, only 89 people were placed on jobs, so all of them were considered for the study. The total sample includes 306 subjects, chosen from a list of 1,174 people placed on jobs.

Data Collection

The data file for this research combines information from three different sources: (a) the participants' record from the counseling office. It contains, in tabular form, individual client characteristics regarding age, sex, highest school grade completed, wage and date of termination on the last job; (b) copies of the monthly progress report filed with the prime sponsor, the Department of Employment. It duplicates the information in the participant's record, but in addition, it reports the date of program termination, the name and address of the new employer, if any, the starting date and wage of each trainee placed; (c) a 1978 labor research report, from the Division of Research and Statistics, New York State Department of Labor. It applies two separate coding schemes to describe occupations: the average number of annual openings for each occupation during the 1974-1985 period, and the specific vocational preparation index, commonly used in the dictionary of occupational titles for occupations under the managerial/professional level.

Statistical Analysis

The analysis of the data follows a path analytic approach. The path analysis methodology belongs to the family of multiple regression analysis.

In this study, to obtain the various path coefficients, the following analyses were carried out: (a) schooling was regressed on sex and age, the correlation between the latter variables remaining unanalyzed; (b) literacy was regressed on schooling; (c) each one of the vectors representing social welfare status was regressed on sex, age, and schooling; (d) occupational choice was regressed on sex, age, schooling, and social welfare status; (e) time in program was regressed on literacy, occupational choice, and social welfare status; (f) posttraining wages was regressed on literacy, occupational choice, and time in program.

Before the analysis was performed, the variables pretraining wages and posttraining wages were corrected for skewness, using a logarithmic transformation, while the variable time in program was modified through a square-root transformation.

An alpha of .05 is adopted for all significance tests.

OCCUPATIONAL MARGINALITY

Social marginality can be first linked to job quality. By job market quality, it is meant whether the employment outlook--as reflected in the annual average of job openings reported by the Bureau of Labor Statistics--is positive or negative. Once the quality of the market is controlled for, one will perhaps see the significant impact of occupational choice on wages disappear.

In the present context, three occupations will be concentrated upon: food service, IBM keypunch, and clerk-typing. Al three are marked for a large market shrinkage (14% in the average) during the 1974-1985 period. Thus, anyone entering one of these trades is actually going into an area that is unstable and marginal to the economic structure.

Results

Of the 306 subjects in the sample, 218, or 71%, have been trained in either food service, keypunch, or typing. The means and standard deviations for this group on all nine variables are reported in Table 9. Table 10 presents both the zero-order correlations (upper half of the table) and the regression coefficients (lower part of the table). The analysis of the bivariate relationships into their causal and spurious components is given in Table 11. In Table 12 are reported the coefficients of determination calculated on the restricted model and on the full model, as well as the chi-square values indicating the model's goodness-of-fit.

Table 9

Means and Standard Deviations for Three Marginal Subgroups

Group	Occup. Marginal[a]		Women on Welfare[b]		Educ. Marginal[c]	
Var	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Sex	1.75	.430	2.00	.0	1.75	.435
Age	27.95	7.557	28.13	7.473	28.48	7.455
School	11.45	1.237	11.51	1.286	10.13	.941
D1	.19	.398	–	–	.11	.325
D2	.53	.500	.47	.500	.38	.488
Literacy	150.99	44.529	159.81	43.831	129.64	42.960
Occ	3.61	.486	3.99	.644	3.52	.590
TTIP	20.11	6.224	21.72	6.153	20.16	6.434
TPTW	1.26	.214	1.30	.203	1.24	.232
Math	67.40	22.928	71.40	22.475	58.20	21.349
Read	83.58	25.705	88.41	24.926	71.44	24.492
TIP	443.18	274.276	509.51	285.002	447.67	285.706
PTW	3.61	.867	3.75	.789	3.56	1.004

[a]$\underline{n}$ = 218.

[b]$\underline{n}$ = 172.

[c]$\underline{n}$ = 84.

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Personal
attributes:
sex & age

Social
welfare
status

Schooling

Occupation

Time in
program

Literacy

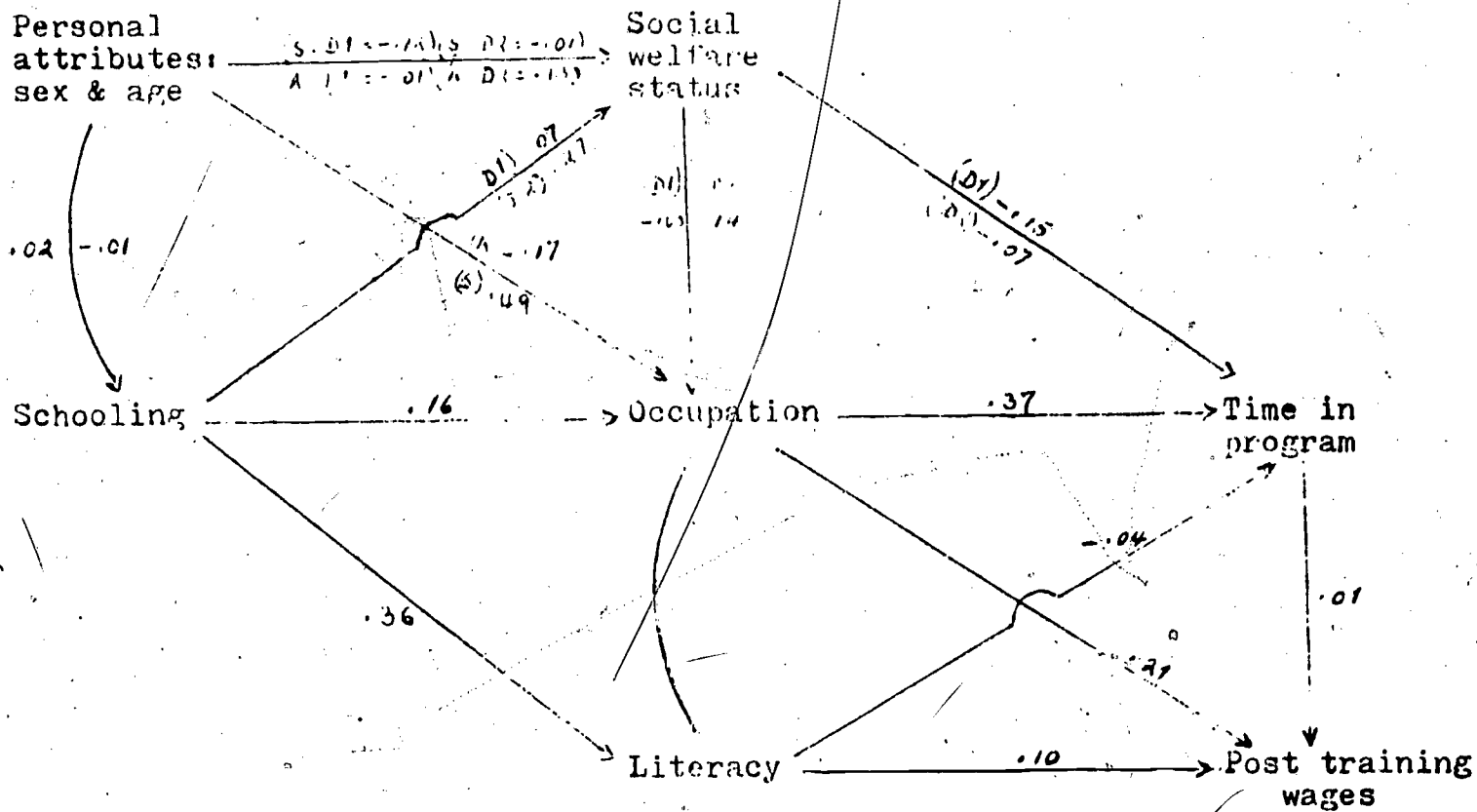Post training
wages

.02   -.01

.16

.36

.37

.10

.01

Figure 5 - Path diagrams and Values obtained for the Occupationally
Marginal Group.

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The only variable with a direct significant impact
on posttraining wages is occupational choice (beta = .21).
As with the total sample, the direct relationship between
time in program and wages is minute (.01); that between
literacy and wages reaches .10, but is not significant
either. Through vocational choice, a number of other
exogenous variables influence modestly posttraining wages.
For schooling, the indirect effect is equal .04. Although
this represents only 57% of the covariation between the two
variables, the 43% balance is well accounted for by the
other paths, specially the one involving literacy.
Similarly, D1 has only a small indirect path to post-
training wages, but it is comparable (in absolute value)
to the zero-order correlation between the two variables.
Quite different is the situation with D2. The simple r
is seven times larger than the indirect effect coefficient.
Since there is no hypothesized direct path, most of that
covariation must be considered as noncausal.

Of the four variables used to explain time in program,
only two turn out to be significant: vocational choice
takes on a weight of .37, and D1 one of -.15. The value
of the indirect path through vocational choice adds up
another -.02, and brings the total causal effect of that
variable to -.19. Recall that with the total sample, the
impact of that variable was not significant; only that of
D2 was. In the present case, the value of $\overline{D2}$ is almost

three times smaller: its indirect path through vocational
choice is only .05. Another variable with even a greater
number of links to time in program is schooling. Three
of the paths, however, are not significant; the only one
that is above the critical F-test value involves also
occupational choice, and is equal to .05.

So, both directly and indirectly, occupational choice
depends on schooling. Eighty-one percent (.16/.20) of
that dependence is direct. The indirect influence is at
work mainly through D2. This contribution of .04 makes
the total causal impact of schooling on vocational choice
stronger than the estimate given by the zero-order corre-
lation. Another determinant of vocational choice is
welfare participation (D1); the regression coefficient
for that relationship is -.05. However, because D1 is
not significantly related to schooling, in this subsample
no indirect path can be developed, through it, between
schooling and occupational choice.

As for the personal attributes, sex and age, the
first one does not show any significant impact on either
schooling or labor force participation. Age, on the other
hand, while unrelated to schooling, has a regression weight
of .13 on D2. As a result, it has a modest impact on
vocational choice.

One may observe, in Table 11, that many of the non-
causal elements are rather large (above .10). The overall

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chi-square is only 7.076. It is not significant, indicating the model's adequacy.

Female W.lfare Participant

The second marginality condition refers to a number of "ascriptive" characteristics. Sex is only one of them. Since many of the female trainees were on welfare before their coming to program, the focus of this section is on that particular group, making the discussion more pertinent for the counselor in the manpower setting. With a total of 172 subjects, this subgroup represents the largest segment of the trainee population.

Results

The means and standard deviations on all nine variables are reported in Table 9. Table 13 presents both the zero-order correlations (upper half of the table) and the regression coefficients (lower part of the table). The analysis of the bivariate relationships into their causal and noncausal components is given in Table 14. In Table 15 are reported the coefficients of determination as calculated from the restricted model and from the full model, as well as the chi-square values indicating the model's goodness-of-fit.

The highest bivariate coefficient for this subgroup is for the schooling-literacy relationship (beta = .38).
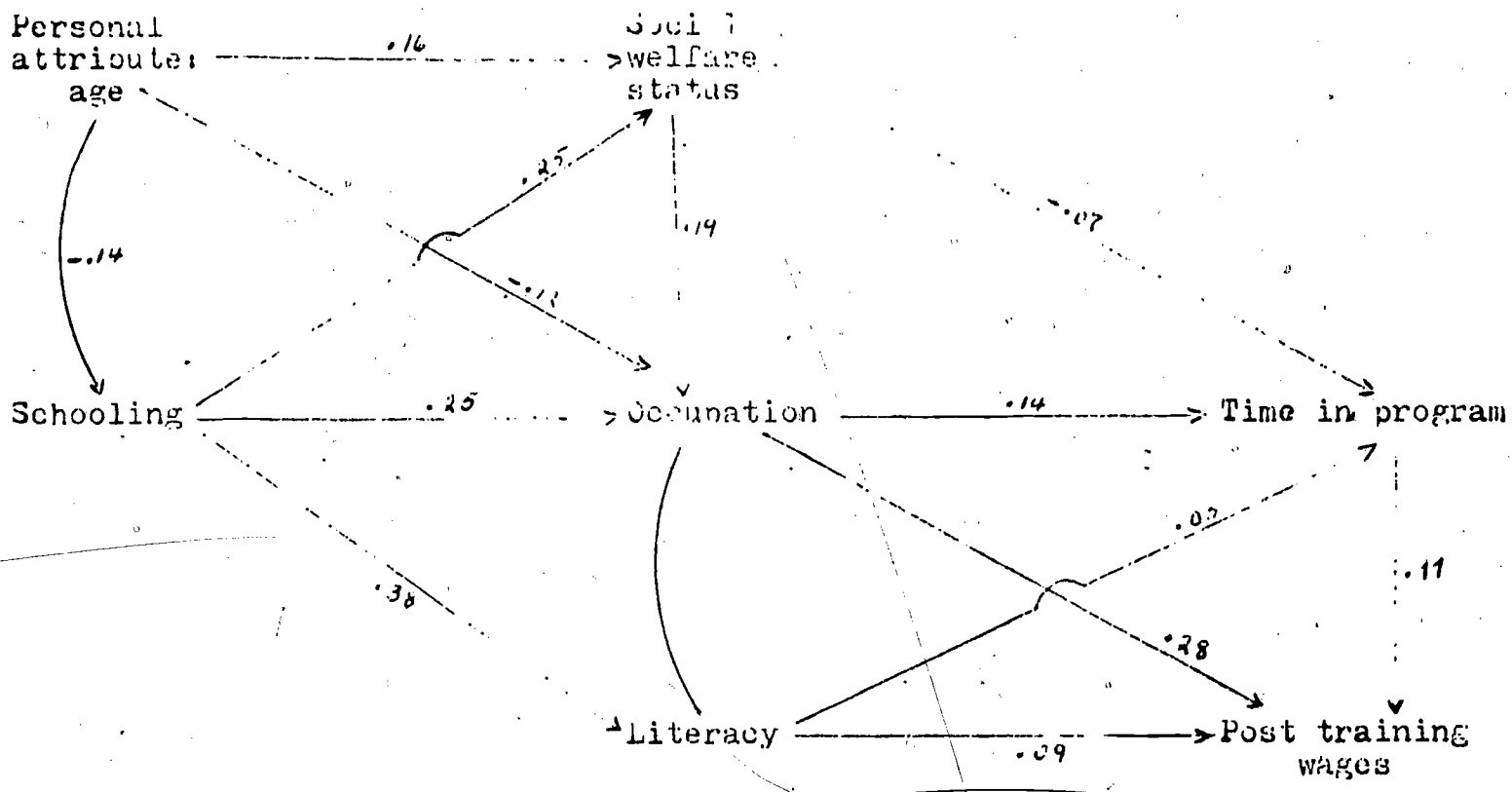
Figure 6 - Path diagrams and Values obtained for a group of
Female Welfare Participants.

However, vocational choice retains the key role in the entire model for at least two reasons:

1. It relates quite well to all, but one, of the exogenous variables. Indeed, 76% (.19/.25) of the covariance between labor force participation and vocational choice is accounted for by the direct path between the two variables. The totality of the relationship between schooling and vocational choice is explained by its direct link and its indirect link through the variable labor force participation. The direct path from age is worth -.127, and explains more than 92% of the correlation between the two variables.

2. On the other hand, occupational choice is the only variable with a direct, significant effect on post-training wages (beta = .28). This direct impact represents no less than 80% of the correlation between the two variables. Without it, no other exogenous variable would influence wages. Vocational choice helps explain 45% (.07/.16) of the relationship between this group's educational level and earning after training. Its role as in intermediary between labor force participation (D2) and posttraining wages is small (.05/.25) but significant.

The remaining intervening variables affect significantly neither wages nor time in program. In the case of literacy, for example, the zero-order correlation is .26, but the regression coefficient is below .10; its link to

time in program is minute (.03), so it cannot support any indirect path. Although the latter variable tends to become more important in this subgroup (beta = .11), it does not reach significance.

In view of the fact that six of the 12 paths evaluated do not reach significance level in this subgroup, it becomes imperative to study the goodness-of-fit of the model. Because the variable D1 was, in that particular case, constrained to be null, the chi-square test for this group involved six rather than seven variables. As can be seen from the results in Table 15, not once is the test significant. For the total model, the chi-square is 6.88, which is below the critical value of 12.592 expected for six degrees of freedom and a .05 significance level. So, though the model's accuracy can be improved, it meets the minimal criterion of adequacy.

Incomplete Secondary Education

Of the 306 subjects in the total sample, 84 do not have a high school diploma. They represent less than 28% of the group, but their case is worth investigating, because it carries a number of theoretical implications. In previous studies of people with such a limited education, the relationship of schooling, or that of literacy, to wages has been negligible (Hause, 1972). So, if the

model is going to lack goodness-of-fit, it is expected
to be with this subgroup.

Results

The means and standard deviations on all nine vari-
ables are reported in Table 9. Table 16 presents both
the zero-order correlations (upper half of the table) and
the regression coefficients (lower part of the table).
The analysis of the bivariate relationships into their
causal and noncausal components is given in Table 17. In
Table 18 are reported the coefficients of determination as
calculated for the restricted model and for the full model,
as well as the chi-square values indicating the goodness-
of-fit of the model.

It can be seen, from Table 16, that none of the inter-
vening variables has a direct significant impact on this
group's posttraining earning. As was previously observed,
the beta for time in program is the smallest (.03). The
one for occupational status is three times larger (.09),
but its F-value is less than 1. The results for literacy
follow a similar pattern (beta = .11). Consequently,
none of the prior exogenous variables can have a signifi-
cant indirect connection to posttraining wages.

The covariation between these first-order variables
and wages is, nevertheless, well accounted for, in most
of the cases. Indeed, schooling turns out to be inde-
pendent not only of posttraining earning (r = .00) but

also of literacy (beta = r = -.01). The variable D1 has
only a .02 correlation with posttraining wages, which is
entirely explained by the two indirect paths through occu-
pational choice and time in program. The other component
of social welfare status, D2, as well as the personal
attributes, sex and age, relate well to vocational choice
(beta equals .27, -.25, and .45, respectively), but their
influence cannot be transmitted to posttraining earnings.

The regression weights are of greater magnitude for
the variable occupational choice, but the pattern of
relationships is quite unexpected in many aspects. The
relationship to schooling is not only smaller than what
it is in the total group, but it is also negative (-.16).
Similarly, the path from D1 is a negative .18. While the
first relationship is completely explained by the model,
the second yields a spurious element of .04, because the
regression weight is larger than the simple r.

Of the four variables used to explain time in program,
three show a significant direct impact: the regression
weight corresponding to vocational choice is .21; that
for labor force participation is -.23; the total literacy
measure is below significance, but reading achievement
taken alone relates .20 to time in program. However, for
most of the relationships involving the latter variable,
the spurious element is quite large. In the case of
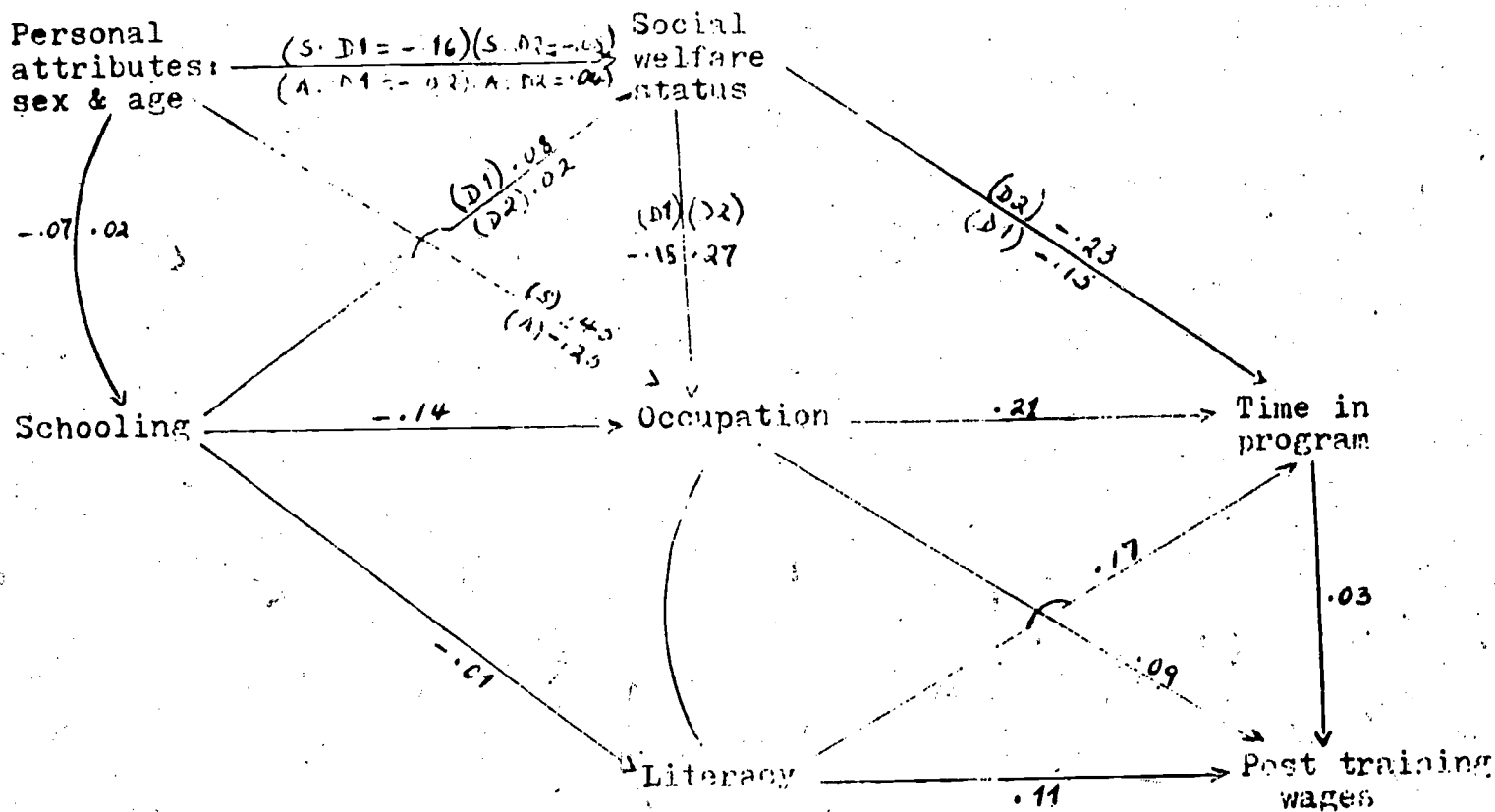schooling, the model can account for only 45% of the

Personal attributes: sex & age

(S. D1 = -.16)(S. D2=-.)
(A. D1 =- .0?) A. D2=.) Social welfare status

(D1) .08
(D2) .02

(D1)(D2)
-.15 .27

(D2) -.23
(D1) -.13

-.07 .02

(S) .
(A) -.

Schooling   -.14   Occupation   .21   Time in program

.17

.03

-.01   .09

Literacy   .11   Post training wages

Figure 7 - Path diagrams and Values obtained for the Educationally
Marginal Group.

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covariation. In the case of the variable sex, the indirect paths can explain just over a third of the correlation. As for age, less than 15% of the correlation can be properly attributed, based on the model.

Discussion

When the information gathered from the various analyses is combined, a deeper understanding is obtained of the employability process for the disadvantaged. Among the various conclusions, the following take the greatest significance for program development.

1. The significance of education for posttraining wages is a function of occupation and ability, as was noted by several other researchers (Duncan, 1968; Jencks et al., 1972). But it must be added that this relationship is contingent upon certain factors of marginality. Indeed the latter variables have the effect of cancelling out one or both of the indirect paths from schooling to posttraining wages. Cognitive skills, for example, seem to become important only for the least-disadvantaged persons. In other words, when marginality factors are at work--limiting occupational or social welfare status-- literacy has no influence on wages. Under conditions of educational marginality, neither literacy nor occupation contributes significantly to the determination of earnings.

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2. When faced with limited occupational oppor-
tunities, the individuals with the higher social welfare
status tend to opt for the lower-status trades, which
require less training time. Their strategy seemingly is
to use the program as a job-brokerage firm, a placement
rather than a training agency, in order to maintain a
continuous presence in the labor market. Their primary
concern is not with occupational advancement but the
maintenance of a cash flow. It is not the first time that
a negative correlation is found between what is commonly
perceived as an asset, a strength, and the occupational
aspirations of the disadvantaged. Gurin and Katz (1966)
had noted that, even among Black college students, those
who believed in internal control tended to express lower
occupational aspirations than those with external control
beliefs. Interpretation of such behaviors has usually
been done in reference to the concept of self-esteem.
But a psychological explanation, that would avoid internal
inconsistencies, may have to postulate that the under-
privileged individual develops a coping, or even a
"hustling" orientation toward life and work, in order to
overcome the limitations of his/her environment.

3. Of all the marginality factors, the one with
the most perturbing influence seems to be educational mar-
ginality. It neutralizes the impact of all the inter-
vening variables on posttraining earning. To explain that

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finding, one may first conjecture that employers routinely assign non-high school graduates to the bottom of the salary grid. The evidence would not support this interpretation, however. The mean wage for people in this subgroup is not far below that of the remaining subjects, and it is still above the official minimum wage. An alternative explanation may postulate that non-high school graduates limit themselves to the lower-status occupations. That reason is more plausible. Looking at the mean and standard deviation of the occupational variable, one may infer that almost 84% of the non-high school graduates are in food services. The negative regression coefficient between schooling and vocational choice actually indicates that those who came close to the 12th grade tend to prefer the latter occupation, while those with a lower education may enroll into a higher-status trade. Thus, the influence of schooling on post-training wages, had it been significant, would have been negative. This negative weight could not have been balanced by the other path through literacy, since that one is negligible. The latter relationship had been properly described by Hause (1972) who noted that, among people with less than a high school education, ability was of no importance for explaining wage differentials. This conclusion can now be explicited, as one notes that the amount of schooling claimed by the educationally

marginal does not match at all the functional level of his/her cognitive skills (beta = -.01).

4. The pattern of relationships outlined above sheds some light on the screening hypothesis. The screening hypothesis, as discussed by Layard and Psacharopoulos (1974), suggests that the dimension in education responsible for economic returns is educational level rather than the number of years strictly: in other words, employers reward the possession of a diploma, not the amount of schooling. The fact that schooling has an indirect significant impact on wages, in the total group, but has none in the nongraduate group, confirms that an education beyond the 12th grade is a good asset, when entering the job market. However, it should be kept in mind that, even in the total group, the impact of schooling on wages is indirect. Consequently, it cannot be tied up to some kind of employers' intervention. If educational screening is taking place, it most likely occurs before the applicant reaches the personnel office. Indeed, by simply comparing the pattern of relationships between schooling and the major intervening variables, one sees that it is quite different for the nongraduates and for the total group. This clearly reflects a difference in the opportunity structure. Taking the paths one by one, one easily realizes that, among the non-high school graduates, (a) the amount of schooling is insufficient

to determine one's social welfare status; (b) the access
to the labor market is not easier for males than it is
for females; (c) an education-occupation mismatch is more
likely to occur in this group.