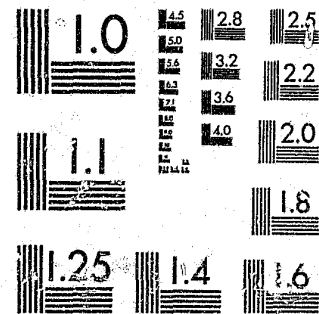


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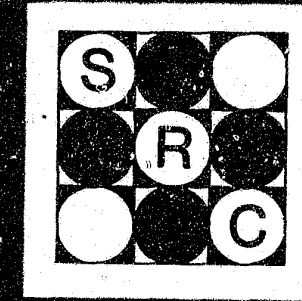
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A Study of Post-Release Outcomes for Participants in Prison Training Programs

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② A STUDY OF POST-RELEASE OUTCOMES FOR PARTICIPANTS IN PRISON TRAINING PROGRAMS

Robert Mason, Alexander Seidler and Helen M. Lowry^{1/}

Summary and Recommendations

This study explores some effects associated with participation in prison vocational training and education programs on post-release behavior. An attempt was made to follow a random sample of 200 male clients three years after their release (between July 1, 1974 and December 31, 1974) from Oregon correctional facilities and to describe their success or failure. A set of indicators and characteristics of the individuals sampled was developed and the association of these indicators with measures of success was tested statistically.

A total of 122 individuals eventually was located and interviewed, resulting in an adjusted response rate of 68%. A comparison of characteristics of respondents and non-respondents showed no significant differences for characteristics or variables for which data were available. These characteristics include basic attributes of the individual, such as age, IQ, educational attainment; participation in prison training; type and institution of release; and criminal background and history. A slightly higher percent of those returned to prison after their release were interviewed compared to those for whom there was no evidence that they had recidivated.

The results suggest that participation in prison training is associated with post-release success for certain groups of ex-offenders who possess

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specific characteristics. The ex-inmate who has a relatively large number of persons who depend on him for his or her livelihood and who received training in prison tends to have more stable work patterns and stays out of prison longer than a person who does not have this combination of attributes, for example.

The results also suggest that participation, in combination with large frequencies of adult convictions or trust violations, is associated with poor work records and early return to prison. Inmates who have no trust violations, however, have superior work records if they also have completed a prison education program.

The variables related to post-release outcomes suggest that the momentum for success or failure is established before a client is incarcerated and that participation in prison education can have an impact on this momentum. The individual who volunteers to participate does so for motives of his own and many take advantage of these programs to enhance post-release success. A few others appear to use these opportunities in such a way that likelihood of success is not increased. Trust violators, for example, may be the "manipulators" in the sample who use prison treatment opportunities to manipulate others into believing they are being rehabilitated. From 80% to 85% of the participants in prison education have criminal histories in which completion of prison education is associated with post-release success, however.

Both participants and non-participants agree that prison training teaches a skill and provides an opportunity to acquire practical knowledge. Respondents in both groups also agree that training kills time and keeps one occupied while in prison. Participants, however, said that many of the programs are not relevant, are too outdated or do not help one on the outside.

Vocational training did not have any clear effects and the difficulty is that so few respondents who were sampled had completed training that no effect could be found. The total sample of VI participants was low. Furthermore, our analysis showed that much larger samples of VI graduates had to be selected in order to detect significant effects. There was evidence that frequent non-completion of VI was produced by early release for parole and work.

When all the results of the study are brought together the following recommendations can be made:

1. Inmates who have stable family backgrounds or dependents waiting for them should be encouraged to participate in prison training. Voluntary participation does not select people with these attributes and the data show that inmates with dependents who complete their education in prison have greater post-release success than the typical releasee.
2. Analysis of the causes of program drop-outs or non-completions should be undertaken. The effect of early-release opportunities on the drop-out rate among participants should be scrutinized in particular and coordination among rehabilitation programs planned if the data show that one program is interfering with the success of the others.
3. Examine the curriculum and teaching of training programs for their relevance to apprenticeship or jobs outside the prison. Efforts to coordinate successful training to jobs after release should be encouraged and expanded.
4. A system of tracing graduates of vocational training should be established so Corrections will have up-to-date information of the post-release outcomes of participants.

Introduction

This study is an exploration of some effects associated with participation in prison vocational training and education programs. The study is not an evaluation of effectiveness of these programs because a design for evaluation would require, ideally, random pre-assignment of subjects to these programs, some control over the opportunity for actual achievement to occur and control over the release and supervision of these people to the community. Much can be learned, however, from systematically studying participants in prison treatment programs and relating treatment and other attributes of the individual to post-release behavior.

A random sample of 200 male clients was followed three years after their release (between July 1 and December 31, 1974) from Oregon correctional facilities and an effort made to describe their success or failure. A set of indicators and characteristics of the individuals sampled was developed and the association of these indicators with measures of success or failure was tested statistically.

One premise underlying this work is that prison treatment programs, such as vocational training and education, are likely to persist irrespective of their post-release effects and we hope, through this research, to produce evidence that spells out how these programs may be made more effective.

A second premise which guided this study is that one is naive to expect that these treatment programs -- or any kind of prison treatment for that matter -- can systematically bring about positive, long-lasting, basic changes in the individual. A far more realistic expectation is that some

people, who are motivated to change, can take advantage of these offerings to facilitate positive change. At the same time, others who are not so motivated may well take advantage of these programs for activities of their own. The literature concerning the activities of professional career criminals suggests that positive effects are not likely to occur within this group, for example.

The results we have accumulated suggest that participation in prison treatment programs is associated with positive outcomes for certain groups of ex-felons who possess specific characteristics. Furthermore, the results show that participation is associated with negative outcomes for groups with other characteristics and we believe it is possible to use this knowledge to improve prison treatment programs.

This report is divided into two sections: the results of statistical analysis of the data and the interpretation of these results. Appendices which explain technical matters, such as response rates and bias as well as other statistical information, are included.

Results

The results are of four types. One is a summary of how the respondents said they spent their time or acquired money during the three years after release and, of those working for pay, the type and kinds of jobs they held. A second type of result is an exploration into some of the variables related to participation in prison vocational training and education programs. A third result is a summary of respondents' evaluations of prison training programs. Fourth, and finally, results are presented of the regression models employed to test the outcomes of participation in prison treatment programs.

How respondents spent their time after release.

The results indicate that respondents spent their time or acquired money in many ways. The majority said they worked for pay. Some were back in jail, some were on welfare, a few said they were in school while others simply were living with (or off) other people. There were miscellaneous other activities which included time in hospitals or in outpatient drug rehabilitation programs, continued illegal activities and simply doing nothing or bumming around. The frequencies of many of these activities varied with the number of months after release and the results are shown in Figure 1.

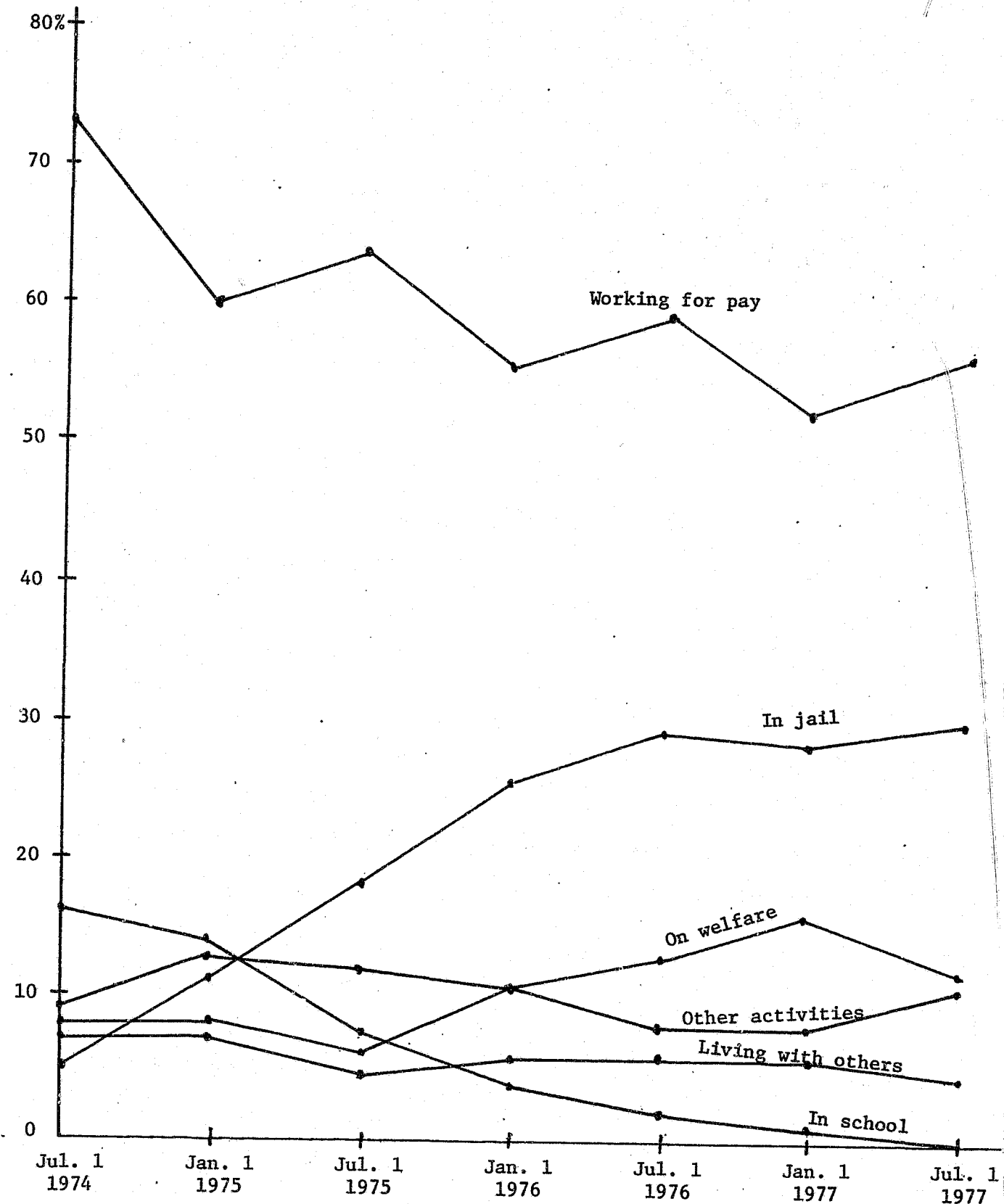


Figure 1. Activities of respondents after release in 1974.

Working for pay was an activity reported by three-fourths of the respondents immediately upon release but had dropped to around 55% three years later. Returning to jail (either in Oregon or elsewhere) increased steadily from 5% upon release to 30% three years later. Staying on welfare rose slightly from 8% in 1974 to 12% in 1977. Attending school dropped sharply about a year after release -- from 16% in 1974 to 7% in 1975 and to 0% in 1977. Living with others remained about constant (from 5% to 7%) throughout the three years after release as did participation in other activities (drug rehabilitation, illegal activities or doing nothing).

These activities are not mutually exclusive, since some respondents reported more than one type of activity in a single time period. Some worked for pay and attended school during the same time segment, for example. Thus, the percentages at any one time will total more than 100%. The variability noted may well be accounted for by a number of conditions, and the regression models presented in the last section of this chapter are an effort to explain the variability one can see in the trend lines in Figure 1.

Of those respondents who said they worked for pay, approximately 30% were in skilled, semi-skilled or unskilled occupations each -- totalling 90% of those working. The remainder were in clerical jobs while a few were self-employed. About a third of those working were in retail business or services, 20% were in manufacturing and processing, 15% in agriculture, forestry and wood products, 12% in construction, and the remainder in other industries, such as transportation, commercial fishing and government service.

Who participates in prison treatment programs?

A comparison of the attributes of those who participate and who do not participate in prison treatment (education and vocational training) programs is important for two reasons. First, one would like to learn something about the kind of people who volunteer and enter these programs. A simple description of how these people differ should provide some information on who is being reached or not reached in the prison population. A second reason is we suspect that people with certain attributes volunteer to participate and the attributes which are associated with participation may be the same as those associated strongly with post-release success. One would then need to include measures of these attributes in any statistical tests of post-release success, along with measures of participation in treatment programs, in order to learn if there is a net contribution or effect of treatment. What may well be the case is that participation in a treatment program is highly correlated with the same attribute that also is associated with post-release success. Any gross effect of prison treatment on post-release success may be just an artifact because a more basic attribute of the individual is the primary reason for success anyway. In this case, prison treatment would have no real effect.

The sample was divided into three groups in order to examine more clearly who participates in these programs. These groups were: those who did not participate, those who participated but did not complete the program and those who completed the program. Two treatment programs studied were vocational training and education. Accomplishment in vocational training was a record of completion of the number of hours allocated for a particular VT program. Accomplishment in education was measured in three ways: the

awarding of a GED certificate, number of credit hours earned, or a difference in at least one grade level which was measured before and after a client entered a program.

Vocational Training. Scoring of accomplishment in vocational training was available for 15 of the 24 individuals sampled who were recorded as having participated in vocational training prior to their release in 1974. Of these 15 individuals, four had completed and 11 have participated but had not completed a program. The training of five was interrupted for release on parole and six were placed on work or educational release. Thus, we see that the effects of two programs -- parole and early release -- apparently interfere with the efforts of a third program -- vocational training. The number of completions found was so low that no statistical effect could be established.

Further examination of participation and completion of vocational training shows that 6 out of 143 (4%) of releasees sampled from Oregon State Penitentiary (OSP) had participated in vocational training and that two had completed the program. Nine of 57 (16%) of releasees from Oregon State Correctional Institution (OSCI) had participated in vocational training and two persons had completed the program. These numbers are too low for testing of treatment effects with adequate precision. Estimates of sample sizes necessary for the detection of treatment effects can be made from these data and the results are described in Appendix B, page 46. These estimates show that, given the variability among treatment groups, one would need to sample all participants in order to effectively evaluate prison vocational training.

Notwithstanding the low numbers of VT participants sampled, the data point to the possibility of interrupted training for a large proportion of participants and the magnitude of potential lapses in training merit study and analysis.

Education. A large number of successful participants was found for prison education programs. They vary somewhat by the type of measure employed (award of a GED, credits earned or tested grade difference) but the attributes of participants are the same. For that reason, only the data describing participation in a GED program are given. A total of 33 received a certificate while in prison prior to their release in 1974, 28 had participated but had not received a certificate and 139 had not participated. The group mean values for the attributes associated with participation are presented in Table 1 and the overall mean differences are significant statistically.

Table 1. Mean values for attributes associated with participation in a prison GED program

Attributes	Received a GED certificate (N = 33)	Participated, had not received a certificate (N = 28)	Had not participated (N = 139)
Tested grade level (years)	8.3	7.7	8.8
Intelligence Quotient (IQ)	95.6	89.8	99.8
Age (years)	26.3	26.2	34.1
No. adult arrests	4.2	4.6	9.1
No. adult convictions	3.0	3.0	5.5
No. adult commitments	1.4	1.3	1.8
No. property crimes	5.1	5.9	9.6
No. violations of trust	1.3	1.2	2.0

We see that there is some selectivity in who participates and completes a prison education program. Attributes associated with selectivity include tested grade level (i.e., tested upon entering the institution), IQ, age, number of adult arrests and convictions and criminal history. Compared to those who had not participated, those who received a GED tested about the same grade level, had slightly lower IQ's, were younger, had fewer adult arrests, convictions and commitments and had fewer property crimes and violations of trust (i.e., arrests and convictions for flight to avoid prosecution or escape). Those who had participated but who had not received a GED had lower tested grade scores, lower IQ's, were younger, had fewer adult arrests and convictions and had fewer property crimes and violations of trust, compared to those who had not participated. Participants who had received a GED differed from participants who had not received one by tested grade level and IQ.

Seventeen percent of those sampled who were released from OSP had participated in an educational program and 63% of those released from OSCI had participated in one. Compared to vocational training, the "success" rate for participants was considerably higher at both institutions. Of those participating in an education program at OSP, 48% received a GED, 44% earned college credits and 52% showed an improvement in tested grade level. Of those participating in an educational program at OSCI, 58% received a GED, 25% earned college credits and 64% showed an improvement in tested grade level.

All the variables in Table 1 may well be associated with post-release success and, if they are shown to be related, they should be included in any statistical model that also includes participation in a prison educational program.

Evaluation of prison treatment programs.

Respondents were asked two questions concerning the value of prison treatment programs and a variety of answers was given. These answers were grouped into categories and since some persons gave answers that were grouped into more than one category, the total number of responses are greater than 100%.

The first question concerned the value of educational or vocational training:

"What do you think education or vocational training in prison is good for?"

Responses are summarized in Table 2 for participants and non-participants.

Table 2. Responses to value of prison education or vocational training

Response category	Participants	Non-participants	Total
	%	%	%
Learn a skill; learn to think; practical knowledge; get a GED.....	51	45	48
Kills time; keeps you occupied something to do; impress parole board.....	36	33	34
Learn about yourself; improve yourself; builds confidence.	4	16	11
Programs not relevant; too outdated; doesn't help on outside.....	13	8	10
Teaches responsibility; organization; good habits.....	4	4	4
Doesn't teach anything; just pass you through; teachers not helpful; doesn't prepare you for a job.....	4	4	4
Don't get programs you want..	2	1	2
Don't know.....	2	15	11
Total	116	126	124
(N)	(47)	(75)	(122)

Participants and non-participants provided about the same number of total responses to the question and responses were grouped about equally in 5 of the 7 categories. Both participants and non-participants agreed strongly that training enables one to learn a skill or practical knowledge and kills time while in prison. Fewer participants thought that prison programs provide any real insight into themselves and more participants thought that some of the programs were not relevant, were outdated and did not help one when released. A few in both groups thought that the programs teach responsibility and about the same proportion said the programs do not teach anything or were not helpful.

Respondents also were asked if they thought vocational training in prison really trained men to do skilled work or not. Seventy-one percent said that it did, 25% said that it did not and 4% replied "don't know." Then, they were asked:

"Can you think of anything else prisons should do to help men get good jobs after release?"

Again, the responses were coded and grouped as in Table 2 and the results are summarized in Table 3.

Table 3. Responses concerning how prisons should help men get good jobs after release

Response group	Participants	Non-participants	Total
	%	%	%
Have jobs waiting on release; have list of places to go; have job interviews; work release.....	30	31	30
Improve types of VT and schools; get into apprenticeship programs; have advanced courses...	19	19	19
Can't do anything else; doing all they can; satisfied.....	13	12	12
Psychological and sociological preparation for release with inmates and family; teach how to look for work.....	11	12	11
More halfway houses; places to go on release while looking for jobs; more money on release; public service jobs while looking.....	6	13	11
Improve relations with community and employer; keep PO from employers.....	4	13	10
Don't know.....	17	16	16
Total	100	116	109
(N)	(47)	(75)	(122)

Participants and non-participants gave responses that were coded about equally for four of the six response groups. The two types of responses which occurred most frequently concerned having a job when released or having a list of viable job opportunities available upon release. Improving types of vocational and education training so one will be accepted into apprenticeship programs also was cited frequently. Participants cited halfway houses and improved relations with a community or employer less frequently than non-participants.

Relationship between prison treatment programs and post-release success.

Results of regression analysis. Eight statistical models, each representing a facet of post-release success, were developed in which the effect of participation in prison treatment programs was tested. Measures of post-release success, which were the dependent variables in the models, were:

1. Total amount of money earned working for pay after release in 1974.
2. Total amount of money acquired from welfare or disability after release in 1974.
3. Total amount of money acquired from working for pay and from welfare or disability (summing of scores for variables 1 and 2).
4. Number of weeks at work for pay after release in 1974.
5. Number of weeks free after 1974 release.
6. Reincarceration any time after 1974 release.
7. Number of weeks at work for pay divided by the number of weeks free after 1974 release.
8. Number of weeks in school after release in 1974.

A number of independent variables was selected to account for variability in post-release success. They include, of course, participation in prison treatment programs^{1/} and the variables found significantly related to selectivity in participation (Table 1). They also include numerous variables associated with criminal background and history that were found significant by simple two-way analysis. Since our basic theoretical position concerned the joint effect of participation in training and other attributes strongly associated with success, their effect also was tested as a statistical interaction term. Means and standard deviations for variables in the models are given in Appendix Table C1, page 49.

One other source of variation was controlled statistically in these models. The data show that post-release success is associated with release (parole or discharge) as well as institution of release (OSCI or OSP). Since the models were constructed to be of use primarily to those in charge of prison treatment programs (and not other types of rehabilitation efforts) the effects of these two important variables were controlled statistically by forcing them into the analysis first. This in effect removed the direct effect associated with type of release and institution of release before the other independent variables were allowed to enter. It is important to remember that when assessing the effects of the independent variables that they are conditioned on type of release and institution of release and these latter two variables should not be employed in the interpretation of results.

^{1/} Completion of vocational training or accomplishment in an educational program was scored as "2", participation but no completion or accomplishment was scored as "1" and no participation was scored as "0".

Multiple regression analysis was employed to test the effects of the independent variables in the models of post-release success. Variables were entered into the model by a stepwise routine which selected the strongest predictor or the variable with the strongest statistical influence first (after type and institution of release were adjusted for). Additional variables were allowed to enter the model on the basis of their relative importance when considered in combination with those already entered in the model. The 5% significance level was employed as the cutoff point for retaining variables in the model. The results of this analysis suggest that participation in prison treatment programs is significantly related to post-release success but in different patterns of outcomes.

These data are summarized in Tables 4 to 11.

Table 4. Effects of variables accounting for amount of money earned working for pay after release in 1974

Step entered	Effect	Standardized regression coefficient	p	R ²
1	Number of dependents	.356	.001	.18
2	Tested grade difference	-.261	.004	.23

The strongest variable associated with money earned is the number of persons -- both adults and children -- who depend on the respondent for his or her support. The association is positive which indicates that those who had several dependents earned more than those who had only themselves to

support. Those who had two or more dependents (other than themselves), for example, earned an average of \$2,441 dollars more in the three year period than did those who had an average number (0.7) dependents. The analysis also shows that those who had improved their education (as measured by tested grade difference) earned fewer dollars by working than did those who had not participated. There is further discussion of this relationship in the next chapter.

Table 5. Effects of variables accounting for amount of money acquired from welfare or disability after release in 1974

Step entered		Standardized regression coefficient	p	R ²
1	VT x violation of trust	.263	.003	.07
2	Age	.251	.01	.13

Two variables are associated with acquiring money from welfare or disability insurance and both are of roughly equal magnitude. They are an interaction or joint effect of participation in vocation training and the number of previous trust violations. The second is a person's age. Both effects are positively associated with acquiring money from welfare. Considering the age variable, for example, if a person is over 40 years of age, he acquired an average of \$571 more from welfare than did those who are average age (31 years).

The role of participation in vocational training should be viewed with much caution, for only two participants had committed two or more trust violations while only 7 participants had committed none or one violation. These numbers are too few on which to base an evaluation of prison training. A further discussion of sample sizes required for comparisons of vocational training participants is given in Appendix B, page 46.

Table 6. Effect of variables accounting for total money earned or acquired after release in 1974

Step entered	Effect	Standardized regression coefficient	p	R ²
1	Number of dependents	.453	.001	.22
2	Tested grade difference	-.256	.004	.30
3	No. of weapons offenses	-.233	.003	.35

Number of dependents and tested grade difference entered the model, in Table 6, in the same order and direction as they had in Table 4. An individual's criminal background played a role, as measured by the number of previous weapons offenses he had committed. The sign of the coefficient is negative, which indicates that those with fewer weapons offenses earned or acquired more money upon release than did those with a great number of offenses. The negative effect of tested grade difference will be discussed in the next chapter.

Table 7. Effect of variables accounting for number of weeks at work for pay after release in 1974

Step number	Effect	Standardized regression coefficient	p	R ²
1	Number of dependents	.440	.001	.29
2	No. of weapons offenses	-.234	.001	.33
3	IQ	.206	.006	.38
4	No. credits earned x No. violations of trust	-.283	.001	.41
5	Completed GED	.205	.027	.43
6	No. months in prison prior to '74 release	-.152	.038	.45

The first and strongest variable entering this model was again the number of persons who depend on the respondent for his or her support, as shown in Table 7. The sign of the coefficient is positive indicating that those with a greater number of dependents worked for pay longer than did those who had to look only after themselves. Number of previous weapons offenses entered the model next and this variable is about equally important in accounting for number of weeks at work as is a number of college credits by number of trust violations interaction term. The sign of both coefficients is negative, indicating that those with a large number of previous weapons offenses worked fewer weeks after release than those who had fewer weapons offenses. Interpretation of the coefficient for the college credits by trust violation interaction is less straightforward. Additional analysis (shown in Appendix C) suggests that work stability is greater for those who had no trust violations and who had received college credits while in prison. However, the data also suggest that work stability was poorer for those respondents who had many trust violations and who had earned college credits in prison.

A person's IQ and completion of a GED also accounted for time spent working after release and are of roughly the same magnitude. A positive sign of the coefficients tells us that those with higher IQ's and those who had completed a GED in prison worked more weeks than those with lower IQ's or those who had not completed a GED. Number of months in prison prior to release in 1974 is negatively related to number of weeks at work after release, showing that those who are incarcerated for long periods of time work less upon release. For example, respondents who had been incarcerated three or more years prior to their '74 release worked an average of 8 weeks less than did those who were incarcerated an average of 20 months.

Table 8. Effect of variables accounting for number of weeks free after release in 1974

Step number	Effect	Standardized regression coefficient	P	R ²
1	Number of dependents	.434	.001	.27
2	Number of property offenses	-.297	.001	.34
3	Number of drug offenses	-.216	.004	.39
4	GED x No. of adult convictions	-.189	.01	.42

Number of persons who depend on a respondent for his or her livelihood is the strongest variable and a positive sign again shows that those with a relatively large number of dependents stay free longer. The other variables concern the criminal history of an individual and signs of the coefficient are all negative, which indicates that those who have a large number of previous convictions of property and drug-related crimes stay out less than those who have no convictions of these types. An interaction effect between GED completion and total number of previous convictions shows that the joint occurrence of a GED and a relatively large number of total convictions are associated with fewer weeks free.

The nature of this interaction effect is described more completely in the next section.

Table 9. Effect of variables accounting for return to prison after 1974 release

Step number	Effect	Standardized regression coefficient	P	R ²
1	Number of dependents	-.336	.001	.22
2	Number of property offenses	.299	.001	.32
3	GED x No. of adult convictions	.211	.007	.36

Again, the number of persons who depend on the respondent for his or her livelihood is the strongest variable associated with non-recidivism. As well, an individual's previous criminal history also is related; those with the greatest number of property crimes recidivate more often than those with few or no property offenses. The joint effect of GED by number of adult convictions also is significant, showing that persons with a large number of total adult convictions who also had completed a GED recidivated more often than those who do not have this combination of attributes.

Table 10. Effect of variables accounting for number of weeks at work for pay divided by number of weeks free

Step number	Effect	Standardized regression coefficient	p	R ²
1	Number of dependents	.290	.001	.17
2	Number of weapons offenses	-.247	.002	.22
3	IQ	.169	.038	.26
4	Number of credits earned x No. of trust violations	-.207	.014	.28
5	No. months served prior to '74 release	-.175	.034	.31
6	GED x No. dependents	.175	.067	.33

All the variables associated with post-release success or failure that were related to the proportion of time free that a person worked for pay also have appeared in other tables. Moreover, the signs of the coefficients in this table are the same as with previous ones. There is one notable addition in this table, however. The joint effect of completion of a GED and number of dependents is positively related to success. This indicates that individuals who have completed a GED and who have a relatively large number of persons depending on a respondent for his or her livelihood also tend to spend a larger proportion of their time free working for pay, compared to those who did not receive a GED and who have no dependents. This effect is significant (at $p = .067$) even after the contribution of number of dependents already has entered and shows the relative importance of this interaction effect. Implications of this interaction effect are discussed more fully in the next section.

Table 11. Effect of variables accounting for number of weeks in school after release in 1974

Step entered	Effect	Standardized regression coefficient	p	R ²
1	GED x No. of drug offenses	.257	.005	.07

Only one variable, attainment of a GED certificate and number of previous drug offenses, accounts for number of weeks in school after release. This is an interaction or joint effect and, since the sign of the coefficient is positive, suggests that those who had received a GED certificate and who had a large number (3 or more) previous drug convictions stayed in school longer after release.

There is one other analysis that was completed. We were surprised in our 1976 study (Mason and Seidler) to learn there was no relationship between working for pay and non-recidivism. In fact, people who reported earning no money recidivated just as often as those who were earning an income. This relationship held true regardless of the amount of money earned. We speculated at the time that a two-year follow-up was not sufficient for many respondents to settle down and that a three year follow-up might show different results.

A simple correlation between amount earned by working for pay and number of weeks free was indeed positive and highly significant statistically with the present three-year follow-up sample. The observed correlation was 0.35. Moreover, the correlation between amount of money earned by working for pay and non-recidivism is 0.26, also significant, and indicates that working for pay is indeed related to and may contribute positively to a person staying

out of jail. Thus, our earlier speculation that a two-year period is not sufficient for many releasees to settle into a regularly employable life seems to be supported.

Correlations between other variables may be of interest and they are shown in Appendix Table C2, page 50.

The meaning of interaction terms. The detection of significant interaction effects may be new for measures of post-release success of ex-inmates. The meaning of these effects is not really apparent by studying the signs of the regression coefficients in Tables 5 to 11. One should review the trend line for each level of participation (no participation, participation but no completion and completion) where the level of criminal history identified (number of adult convictions, for example) is plotted against the measure of success (number of weeks at work, for example). Once these trend lines are plotted, some of the subtle differences in prison treatment become more apparent.

The appropriate trend lines are plotted for four of the interaction effects found in the analysis. The first set is for the interaction of number of college credits earned and the number of trust violations on the post-release measure of number of weeks at work. These joint effects are shown in Figure 2.

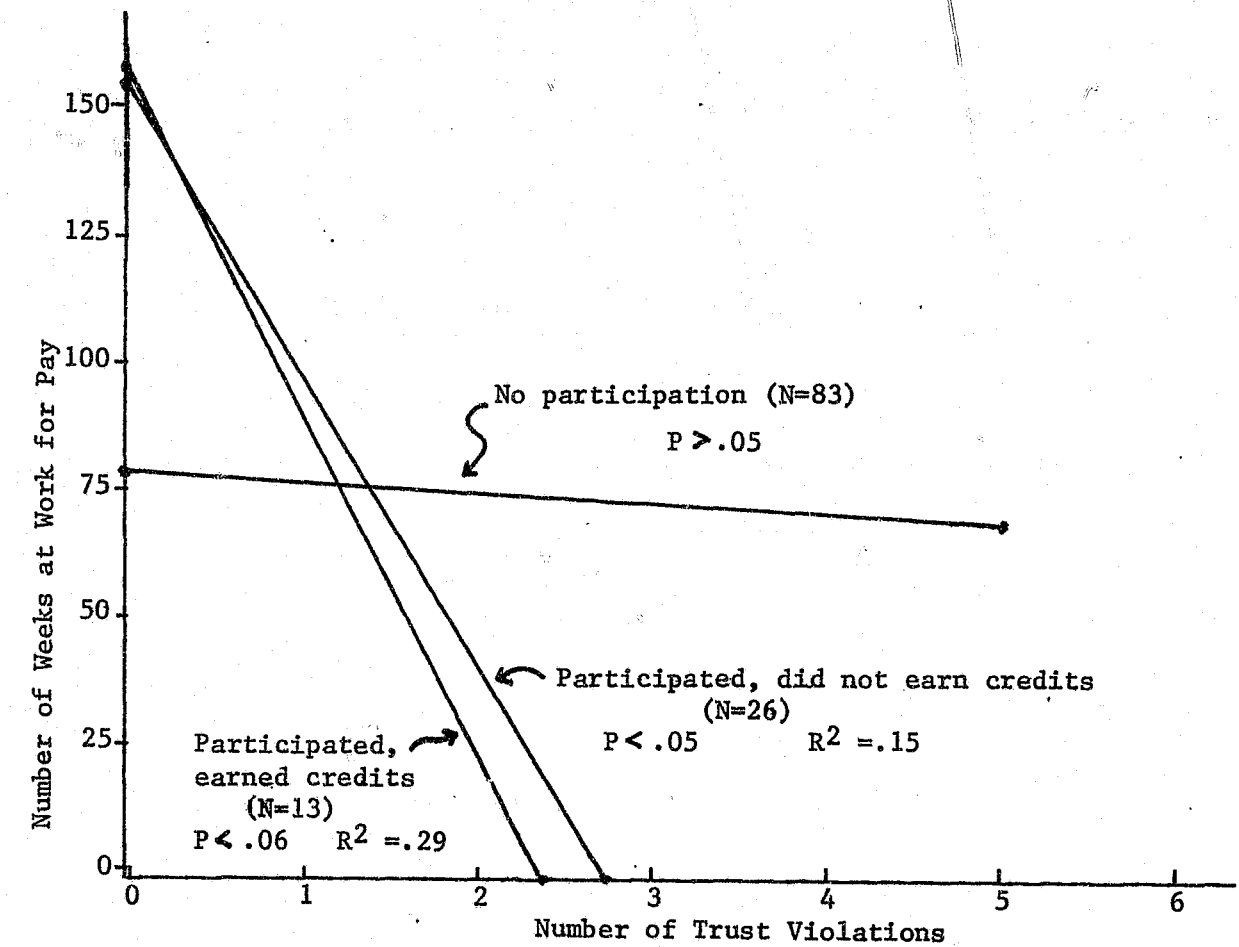


Figure 2. Trend lines for participation in college by number of trust violations.

Trend lines show that the number of trust violations for non-participants was unrelated to post-release work for pay but was strongly related for participants -- both those who had completed and had not completed college credit work. The data show that persons who had been arrested or convicted for two or more trust violations and who had participated simply did not work for pay after release. Note, however, that the work record for participants who had no trust violations was superior to that of non-participants.

Attainment of a GED interacted with number of adult convictions when related to number of weeks free after release in 1974. These results are shown in Figure 3.

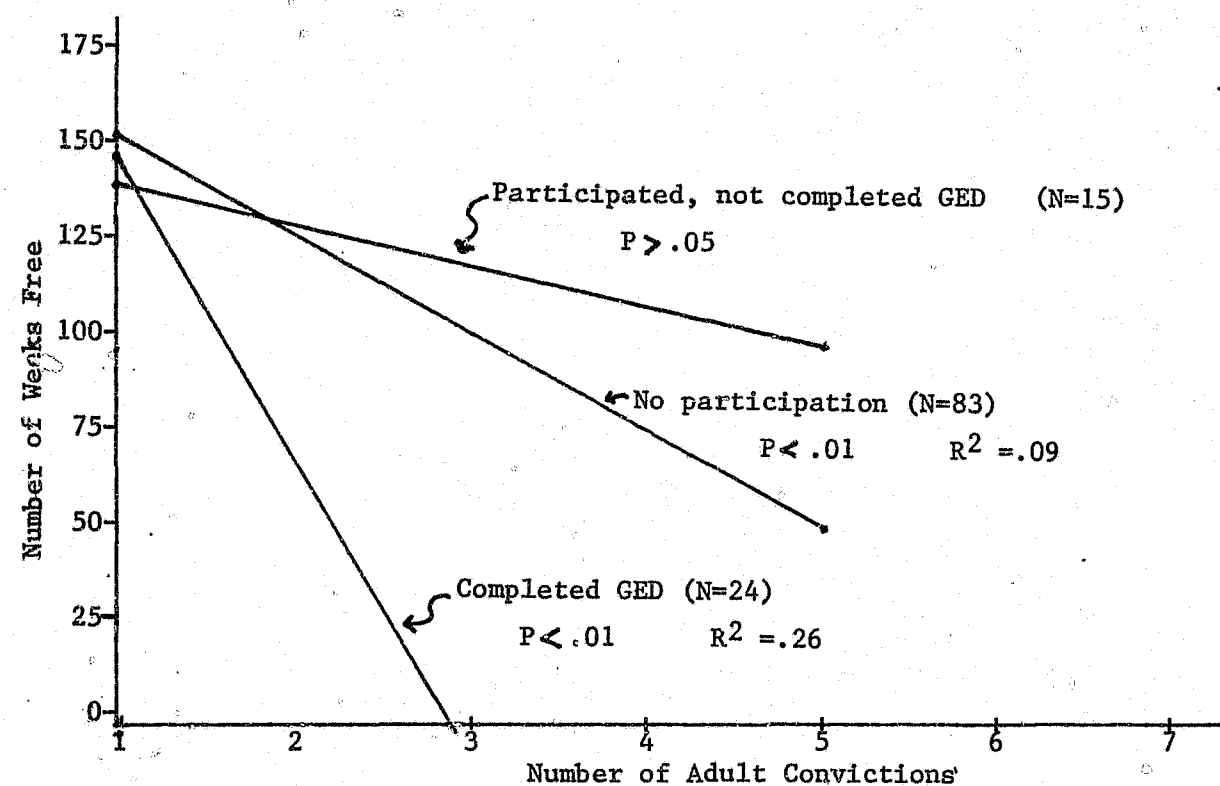


Figure 3. Trend lines for participation in GED by number of adult convictions.

The trend line for number of adult convictions was unrelated to the number of weeks free for participants who had not completed a GED. It was related, however, for non-participants and for participants who had completed a GED. Those who had received a GED and who had three or more convictions recidivated more frequently than any group studied.

The attainment of a GED had a far different effect in combination with the number of dependents on post-release work stability (the number of weeks at work for pay divided by the number of weeks free), as shown in Figure 4.

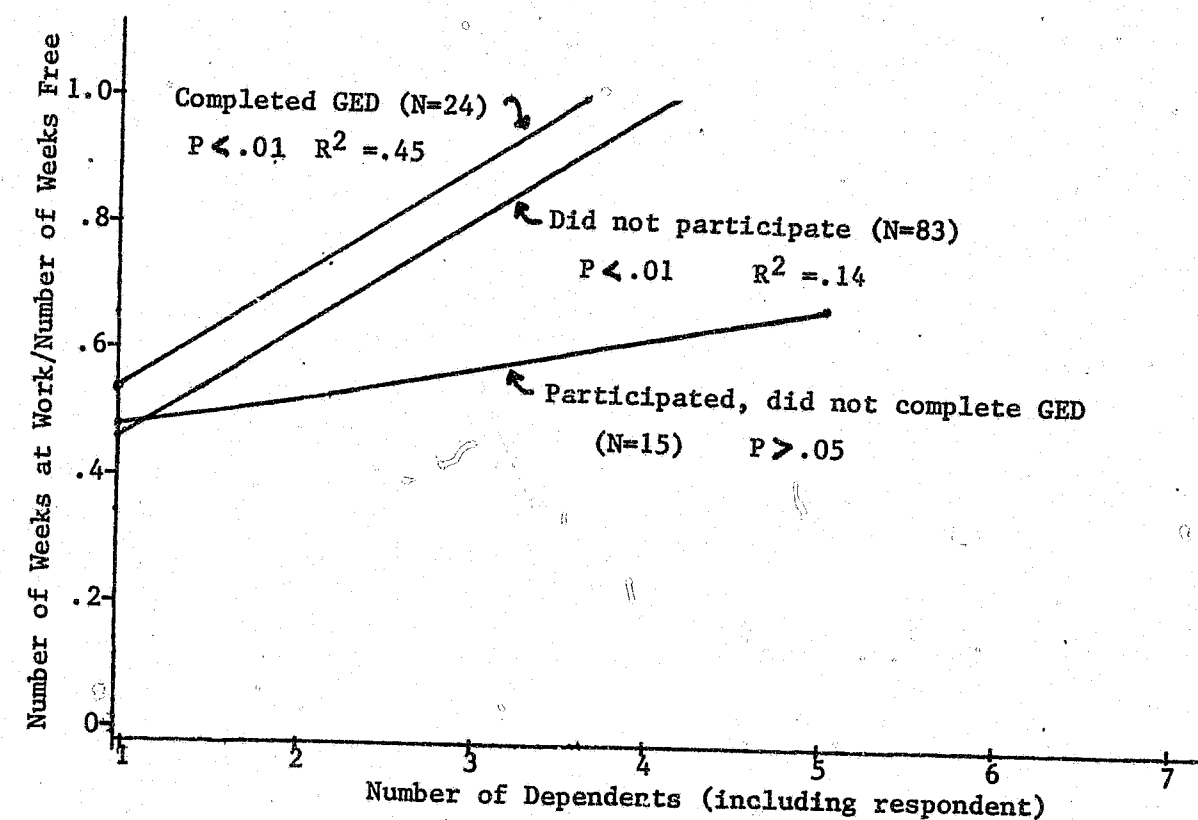


Figure 4. Trend lines for participation in GED by number of dependents.

Work stability was greatest for those who had completed a GED and who had persons depending on the releasee for their support. Number of dependents was unrelated to work stability for those who had participated but who had not completed a GED.

Completion of college credits in prison, in combination with the number of trust violations, also was related to post-release work stability, as shown in Figure 5.

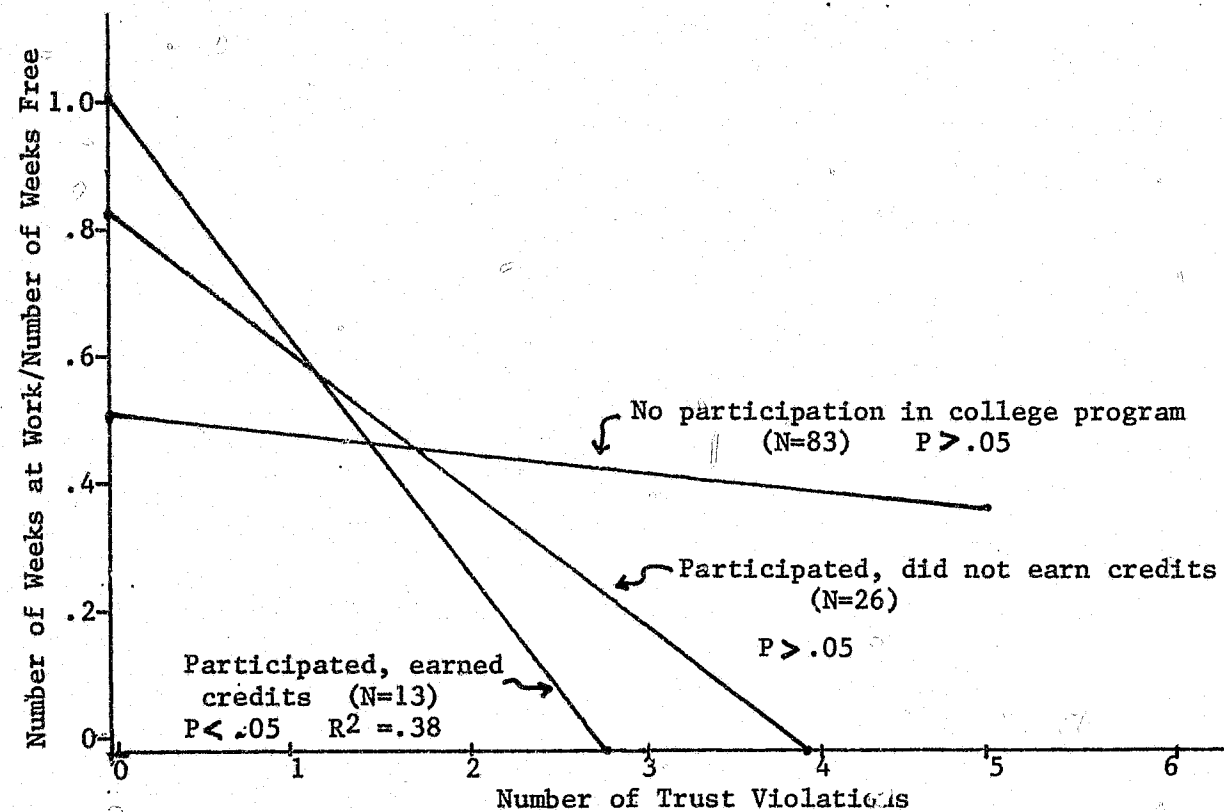


Figure 5 Trend lines for participation in college by number of trust violations.

The trend lines show that the number of trust violations was statistically significant only for participants who had earned college credits while in prison. It was not related to other groups studied, as shown in Figure 5. Work stability was superior for those with no trust violations who also had received college credit.

When reviewing these results one should keep in mind that relatively few of the participants in prison education had large frequencies of trust violations or adult convictions. Only 15% to 20% of all participants had more than the average number of these offenses. Participants who volunteered to enter education programs tend to be among those who had fewer convictions,

as shown in Table 1, page 11. The post-release outcomes of the relatively few participants who also had large numbers of convictions or trust violations were so strong and consistent, however, that statistically significant interaction effects were detected with these data.

One also should note that considerable error is associated with these trend lines and, while the information is of value for assessing post-release success or failure of clients as a group, it is not sufficiently precise to make accurate judgments or predictions about individual cases.

Interpretation of Results

Results were presented in the previous section which showed that certain attributes or conditions are related to post-release success. The discussion in this section focuses on a further elaboration of the results and suggests how prison programs may be improved to enhance the likelihood of success in the future.

The measures of success are primarily of three types: 1) measures of legitimate financial resources. These are money earned from employment, money obtained from welfare or other public sources and a summary measure of money obtained from all legitimate sources. 2) measures of employment stability. These include the total number of weeks employed and the ratio of the number of weeks employed to the number of weeks free in the community. 3) measures of recidivism or, the number of weeks free in the community and a simple recidivism/no recidivism variable. One additional outcome measure, time spent in school, also was employed.

Effects of basic attributes of the individual.

Three measures of individual attributes were sufficiently strong to suggest they were associated with post-release success. These were an individual's age, IQ and average number of dependents he reported he had after release.

Age showed no effect on recidivism measures and this was a surprise, since previous work has shown that criminal careers tend to "burn out" with advancing age. Such an effect was observed in our study last year. A strong age effect probably should not have been expected, since institution of release (OSP vs. OSCI) was employed as a statistical control in the regression

models. Institution of release is a partial control for age since older clients tend to be released from OSP, and confirmed criminals and recidivists are at OSP. The fact remains that the simple correlation between age and recidivism was not significant and the data do not indicate that criminal careers tend to "burn out" with advancing age.

What the data do show is that older felons are no more likely to seek and hold employment than are their younger colleagues. They are more likely than the average to have access to some form of public assistance, however.

Intelligence appears to be an important attribute associated with successful adjustment to the community. As measured by IQ, intelligence appears in the equation for the measure of work stability. The term does not appear in either the equation for money earned from employment or in funds received from welfare. Other variables related to IQ do appear in these equations; namely, participation in prison education programs, which is negatively related to IQ. Those who participate but do not complete had even lower IQ's than successful participants and suggest that a more elaborate form of modeling might bring out a link between IQ, successful participation and post-release success.

One of the strongest variables associated with post-release success is the number of persons who are dependent on the releasee for their livelihood. Men who have dependents earn more than the average, work more steadily and recidivate less often. Apart from the fact that this variable is the most powerful in the equations, we have little systematic information about dependents. An impression from our interviews indicates that it is unlikely

that some were dependents while these men were in prison. Number of dependents acquired after release is unrelated to any of the independent variables tested, including attributes of the individual (age, IQ, educational level), criminal histories or participation in prison training programs. We are not sure if the acquisition of dependents upon release is the expression of some basic trait that is associated with post-release success or if these dependents brought out the best in them, so to speak, after release. A convict who has a genuine set of dependents waiting for him on release, has a work skill or otherwise shows evidence of employment and has few felony convictions probably is a good candidate for post-release success. Additional study is required to identify men still in prison who are likely to acquire dependents upon release.

Effects of criminal histories.

Four types of criminal histories were identified that are associated with post-release failure. In all cases, those with a large number of convictions either had poor work records or recidivated more often. A fifth type of criminal -- drug offenders -- attended school more frequently upon release than did other types of criminals.

The types of criminal histories identified were number of adult convictions and number of arrests and convictions for property, trust and weapons offenses. Many of these types of histories interacted jointly with participation in training programs.

Those with a large number of adult convictions had poorer work records than others, earned less money and recidivated more often. Those who had 10 or more previous convictions earned, on the average, \$1,015 less than

those who had an average of 5 convictions and they were free an average of 8 1/2 weeks less than the average respondent.

Releasees with three or more weapons offenses acquired \$1,612 less money legitimately (working for pay or welfare) than did the average releasee who had 0.5 weapons offenses. Moreover, they worked for pay an average of 13 weeks less than did the average releasee.

Persons with high frequencies of property arrests and convictions recidivated more frequently than did other releasees. Those with 14 or more offenses stayed free 13 weeks less than the average releasee and the probability of recidivating was higher (0.65) than for the average releasee (0.50).

Escapees and other violators of trust appeared in joint or interaction terms with participation in prison training programs.

Frequency of adult convictions does seem to suggest that the best predictor of future behavior is past behavior. By the time a man has run up 10 or more felony convictions the data suggest that the chance for post-release success is quite low. He will earn less money and remain free for shorter lengths of time. He appears to be the typical "career" criminal in which there is little hope for rehabilitation. Those with a high frequency of adult convictions who also completed a GED in prison appeared jointly in the recidivism equations. On the surface this suggests that a man with a long record is more likely to recidivate if he had a GED as well. The meaning of interaction effects, however, is not apparent until one plots the trend lines for these measures, as was done in Figure 3 (page 28). The results show that training is not related to recidivism for those with few adult convictions. Additional elaboration is given in the discussion of treatment effects, page 37.

The behavior of weapons offenders on release is more perplexing. These offenders work less frequently than the average and earn less money from legitimate sources. Yet, they do not recidivate any more frequently than the average, although this does not necessarily mean they are not committing crimes. What may be happening is that these men are more hostile and aggressive and work harder at not getting caught. They may be the "heavies" in the analysis.

Property offenders are notoriously wont to return to further property crime. In spite of the high risk of rearrest over time, each separate offense may be perceived as a low risk activity. Property offenders typically commit hundreds of crimes before they are arrested; hence, one gets the impression that property crime is really a rational economic enterprise. During the interviews, for example, several respondents spoke freely of the many property crimes they had committed before they were arrested for the crime of which they were convicted.

Number of escapes or trust violations appear several times in the equations and always in interaction with some vocational or education program. The joint effect is negative in the recidivism equations but positive in the equation for acquiring money from welfare. This effect suggests that we may have isolated the manipulators in our sample. These men may have manipulated themselves into positions of trust in the penitentiary, have likely used prison programs with the intention of manipulating the parole board and others, work less than the average releasee and are more likely to receive public assistance upon release than the average ex-convict.

Drug offenders seem to be treated differently from other released felons. Many are released to various drug rehabilitation programs that are present in the community. IQ scores of drug offenders average higher than those with

other criminal histories and it should be of no surprise to find that drug offenders frequently attend school after release. Nonetheless it is surprising to find a joint effect between number of drug offenses and GED as the only variable associated with post-release school attendance. School attendance may well be a condition of release more often for these types of offenders, compared to other types, and evidence of attainment of a high-school equivalency may be a condition for educational release. Or, educational activity may be an integral part of some drug rehabilitation programs. We have no evidence to support or refute these conjectures, however. Whatever the reasons, drug offenders have fewer weeks free than the average ex-convict and recidivate just as often.

Effects of prison treatment.

Prison education is associated with post-release success and in combination with criminal histories of respondents. Those with no trust violations and who complete college work have superior post-release work histories compared to those with numerous trust violations. Yet, those who had three or more trust violations and who had completed college credits had the poorest work records. As noted earlier, trust violators may be the "manipulators" in the sample who also may use prison treatment opportunities to manipulate others into believing they are being rehabilitated.

Completion of a GED had positive effects, but only in conjunction with the number of dependents a client had after release. Individuals with two or more dependents who had completed a GED had more stable work histories than those in other treatment groups. In conjunction with large frequencies of adult convictions, however, GED "graduates" had poorer work histories.

The variables related to post-release outcomes in this study suggest that the momentum for success or failure is established before a client is incarcerated and that participation in prison training can have an impact on this momentum. One should be most careful in specifying these effects, however. The individual who volunteers to participate does so for motives of his own and many take advantage of these programs to enhance post-release success. A few others appear to use these opportunities in such a way that success is not enhanced. This is not to say that prison training "causes" greater or less post-release success. It simply means that given specific conditions or circumstances of clients, the experience of prison education will have different effects -- an outcome not inconsistent with basic views of education.

The possibility exists that a different approach to prison education for clients with frequent convictions or trust violations will show more positive outcomes. We are not aware of education specially designed for so-called "hard core" inmates and the recent work of Yochelson and Samenow (1976) suggests that little will be accomplished without basic changes in thinking patterns of these criminals. Our own data show that clients with trust violations tend to be older and have greater numbers of adult arrests, convictions and commitments than the average respondent. They also have committed more property crimes and have been convicted of more alcohol and traffic violations than the typical respondent. The outlook for post-release success does not appear promising for respondents with this background and there is little evidence in our data to suggest that prison training will help.

From 80 to 85% of the participants in prison education tend to have far different backgrounds than the one just described and the analysis shows that prison education is associated with post-release success for many who do participate.

Vocational training does not have any clear effects and the difficulty is that so few respondents who were sampled completed training that no effect could be found. The sample of VT participants was low and, given the variability in post-release measures, effects could not be detected statistically. Sufficient data were acquired for one to plan sample sizes more objectively and this analysis is presented in Appendix B. Even with low sample sizes, the frequency of non-completions suggests that early release for parole and work may interfere with completion of vocational training. A monitoring effort designed to establish the level and causes of non-completion is required to provide more accurate information and should be considered. Moreover, steps to embed vocational training in real-life job situations should be encouraged for all VT programs at both institutions. As well, involvement of the various trades in these programs seems to be a positive step, one that already has been accomplished for welding and business machine repair at OSP. Finally, a system of post-release tracing of all who complete vocational training should be established to learn how well graduates succeed after release and how one might improve or upgrade the curricula.

An aid to more complete tracing is access of FBI records for arrests and incarcerations in other states and in the federal system. Glaser (1960) noted that such systematic information was once available but was terminated

in 1950. Reinstatement of this service would greatly enhance the ability of Corrections to learn how effective they had been with some of their former inmates.

One variable, the number of persons who depend on a respondent for his or her social and economic livelihood after release, emerged as a strong predictor of post-release success. This variable was unrelated to any independent variable tested -- demographic characteristics, IQ, criminal histories or participation in prison treatment. Yet, the relationship found suggests that inmates with strong family ties that include dependents should be encouraged to participate in prison treatment. The "natural" selection of participants already includes many of the attributes also related to post-release success -- few adult convictions and trust violations, for example. The success rate for inmates with genuine dependents waiting for them may well be improved by their participation in prison education or, perhaps, vocational training. Approximately 42% of those interviewed reported they had one or more dependents. Some respondents, however, acquired dependents after their release in 1974.

Suggested additional research.

Throughout the analysis and interpretation of results we have been careful not to suggest that any of the variables is related causally to participation in prison training or to post-release success. Yet, the nature of the variables found to be statistically significant do suggest that an underlying causal process is operating that may explain some post-release behavior. A far different type of modelling than the one employed is required before a causal interpretation can be made of the data. The impact of basic background

characteristics, such as IQ level and family stability, on criminal behavior deserves more theoretical attention. The joint role of past criminal behavior and participation in prison training on subsequent post-release success or failure certainly is deserving of additional work. One optimistic prospect for success is men with dependents; however, the entire area of family support and stability in which the inmate plays a key role requires more study. Moreover, the notion that the momentum for post-release success or failure is established before an inmate is incarcerated should be elaborated more fully and the impact of prison training on this momentum should be specified and justified more completely. Finally, the scientific rigor of any models developed would be enhanced by shifting from post hoc analysis, as we have done, to an analysis based on theoretically-derived hypotheses.

References

Daniel Glaser, The Effectiveness of a Prison and Parole System, (Abridged Ed.) New York: The Bobbs-Merrill Co., Inc., 1969.

Robert Mason and Alexander Seidler, Effects of Prison Vocational Training and Education Programs on Employment Success and Recidivism, Survey Research Center, Oregon State University, 1976.

Samuel Yochelson and Stanton E. Samenow, The Criminal Personality, Vol. 1, New York: Jason Aronson, 1976.

APPENDIX A: EVALUATION OF RESPONSE RATES AND BIAS

A total of 200 men who had been released from Oregon correctional facilities was sampled randomly from a population of 548 persons. The sample was adjusted so that half were selected as having participated in prison vocational training or educational programs for the term prior to their release. The sample was drawn from all persons who were released between July 1 and December 31, 1974.

An effort was made to locate and interview each of the 200 persons sampled, following the procedures employed in our two-year follow-up in 1976.

The outcome of the latest effort was:

Located and interviewed.....	122
Unable to locate.....	50
Escaped, absconded or otherwise sought by the police.....	12
Located but refused interview.....	8
Deceased or mentally incompetent.....	5
File closed ^{*/}	<u>3</u>
Total	200

An adjusted response rate of 67.7% is calculated as follows:

$$\frac{122}{200 - (12 + 5 + 3)} \times 100 = 67.7\%$$

^{*/} Respondent had been granted immunity and released elsewhere for serving as a government witness.

An effort was made to determine if serious bias may have occurred from non-response, or, from our inability to locate and interview all who were sampled. Information was gathered from the Corrections Division concerning many attributes of the individuals sampled and the values for respondents and non-respondents were compared. Variables on which comparisons were made include:

Attributes of the individuals: Level of formal education when entering prison for the term from which respondent was released in 1974; chronological age at release and tested intelligence quotient (IQ).

Participation in training: Scores for level of participation in prison vocational training or educational programs.

Type and institution of release: Release on parole or discharge; release from Oregon State Penitentiary or Oregon State Correctional Institution and number of months incarcerated prior to release in 1974.

Criminal background: Recorded number of juvenile and adult arrests, convictions and commitments.

Criminal history: Number of adult arrests and convictions for the following types offenses: sex, violence, property, weapons, drugs, alcohol, traffic, trust violations and other statutory crimes.

A comparison of means or frequencies for respondents and non-respondents showed no significant differences for any of these variables except one. There was a significantly higher response rate among those who were returned to prison after their 1974 release. We were able to locate and interview 73% of the respondents in this group compared to 53% for whom there was no evidence that they had returned to prison. This latter difference suggests there might be some bias favoring post-release recidivists insofar as Oregon police

records indicate; otherwise, any other type of bias seems to be negligible, at least for the variables employed for comparison purposes.

APPENDIX B: SUFFICIENT SAMPLING FOR DETECTION OF
EFFECTS OF PRISON VOCATIONAL TRAINING

In order to assess the unconfounded effect of prison vocational training (VT) on post-release success, it would be necessary to interview a larger sample of men who had received vocational training and who had not also received educational training, than were included in this survey. Of the 122 respondents interviewed only 9 fell in the "VT only" category; 5 had started a VT course but had not finished, while 4 had completed a course. Samples of 4 and 5 individuals do not permit the estimation of the means of the variables associated with post-release success with sufficient precision to detect differences between groups.

Table B.1 shows the differences between group means which could be detected using various sample sizes. Each line in the table refers to a particular measure of post-release success. The mean of each variable, as estimated in this survey for the "VT only" population, is given in parentheses.

As an example, consider the case of the measure "total amount of money earned working for pay". Let us say we want to test whether the mean of this variable for released men who complete a VT course is different from the mean for those who do not. The third column of Table B.1 tells us that if the true difference is at least \$6,976, then 15 interviews in each group would be sufficient to detect that difference. The probability of missing a true difference is 20%. The probability of falsely concluding that a difference exists when it really does not is 5%.

The number of men released from OSP and OSCI between July 1 and December 31, 1974, who had received vocational training and no educational training, was 61. In the sample, 4 out of 15 men in this category had completed a course. Therefore an estimate of the number of men who complete a VT course in a period of 6 months is $4/15 \times 61 = 16$. Therefore about 32 could be expected to do so each year. If the effects of prison vocational training are to be effectively evaluated, data in Table B.1 indicate that it would be advisable to sample all the people who complete a vocational training course. For purposes of comparison, samples of an equal number of people who start and do not complete a course, and of people who receive no vocational training, would also be needed.

Table B.1: Differences Between Group Means Detectable Using Selected Group Sample Sizes (80% Probability of Detection at 5% Significance)

Measure of Post-Release Success (estimated "VT only" mean)	Sample Sizes in Each Group						
	5	10	15	20	25	30	35
Total amount of money earned working for pay (\$8,018)	\$12,107	\$8,579	\$6,976	\$6,094	\$5,452	\$4,971	\$4,570
Total amount of money acquired from welfare or disability (\$923)	\$4,024	\$2,852	\$2,326	\$2,012	\$1,800	\$1,643	\$1,523
Total amount of money acquired from working for pay and from welfare or disability (\$8,941)	\$12,249	\$8,673	\$7,063	\$6,169	\$5,454	\$5,007	\$4,649
Number of weeks at work for pay (80)	97	69	56	49	44	40	37
Number of weeks free (139)	79	55	46	40	36	32	31
Number of weeks at work for pay/ number of weeks free (0.54)	0.58	0.41	0.33	0.29	0.26	0.23	0.22
Number of weeks in school (8.3)	37	26	21	19	17	15	14

APPENDIX C: STATISTICAL TABLES

Appendix Table C1. Means and standard deviations for variables in the regression models (N = 122)

Variable	Mean	Standard deviation
<u>Dependent variables:</u>		
Total dollars earned working for pay	\$8,018.48	\$6,856.39
Total dollars acquired from welfare	922.71	2,274.29
Total dollars from all legitimate sources	8,941.19	6,919.91
No. weeks at work for pay after release	79.53	54.95
No. weeks free after release	138.72	44.59
Reincarceration any time after release .....	.50	.50
No. weeks at work for pay/No. weeks free .....	.54	.33
No. weeks in school	8.30	21.03
<u>Independent variables:</u>		
(Simple effects)		
Age at release (years)	31.00	9.08
IQ	98.44	12.51
No. dependents (including respondent)	1.68	1.29
No. adult convictions	4.67	5.32
No. property offenses	7.55	6.09
No. trust violations	1.61	1.82
No. weapons offenses .....	.52	1.05
No. drug offenses	1.31	2.33
No. months in prison prior to release in 1974.....	19.72	14.31
OSCI/OSP release .....	.28	.45
Discharge/parole release .....	.33	.47
GED score .....	.52	.81
Tested grade difference score .....	.50	.78
(Interaction effects)		
VT x trust violations .....	.13	.79
No. credits earned x trust violations .....	.48	1.46
GED x No. adult convictions	1.58	3.05
GED x No. dependents .....	.76	1.55
GED x No. drug offenses .....	.61	2.80

Appendix Table C2. Simple correlations between selected independent and dependent variables (N = 122)^{a/}

	\$ earned working for pay	No. weeks at work for pay	Weeks free	Weeks at work/ weeks free
Age	-.03	-.13	-.02	-.11
IQ .....	.17	.20	.10	.18
Number of dependents .....	.41	.44	.46	.36
Number of adult convictions	-.17	-.24	-.29	-.18
Number of property offenses	-.14	-.27	-.32	-.20
Number of trust violations	-.02	-.26	-.27	-.11
Number of weapons offenses	-.23	-.22	-.09	-.22
Number of drug offenses	-.10	-.11	-.20	-.04
OSCI/OSP, release .....	.09	.35	.26	.28
Discharge/Parole release	-.16	0	.05	-.03
GED score	-.18	.08	-.06	.06
Tested grade difference score ...	-.20	.05	-.02	.01
No. credits x trust violations ..	-.13	-.20	-.14	-.18
GED x No. adult convictions	-.22	-.11	-.20	-.09
GED x No. dependents .....	.01	.27	.15	.22

^{a/} r = .18, p<.05; r = .23, p<.01.

END