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A Description of the YSC Population and a Statistical Analysis of Screening and Crime Recidivism - Employment Hypotheses

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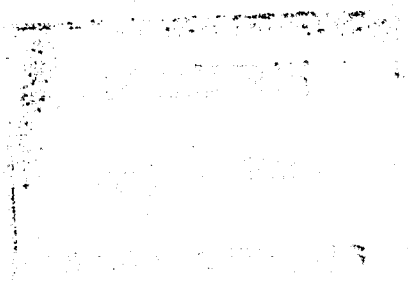


PREFACE

This paper was previously submitted to LEAA under the title "Preliminary Data Analysis: A Description of the YSC Population and Results of a Simple Statistical Analysis." The paper was classified as a preliminary report for two reasons. First, the data on the arrest records of YSC clients was incomplete and the indices constructed from these records were critical to the testing of the hypotheses forwarded in this paper. Additionally, the extent of the analysis was confined to simple statistical tests of the differences in means between variables. Note that while this paper is based on the total arrest record data set, the analysis is still confined to simple statistical tests between the means of variables.

The reanalysis of the screening hypotheses based on the larger arrest record data set differed substantially from the analysis based on the ninety arrest records. In the earlier paper, the arrest variables were frequently significant at the.20 level or lower indicating that different types of intraorganizational screening at YSC was occurring on the basis of clients' arrest records. Analysis based on the complete arrest record data set found no such relationship to exist.

I. Introduction

The following analysis is based on data describing three hundred and two delinquent and pre-delinquent youths who participated in a community based delinquency prevention program located in Philadelphia. This agency is one of the myriad of social service agencies funded by the federal, state or local governments. As with many of these service oriented agencies, such as family counseling agencies, legal aid and manpower programs, each client is assigned a personal caseworker. The main job of this caseworker is to sustain a relationship with the client through maintaining frequent contacts. That is, the caseworker is supposed to be on top of the dynamics of his cases, aware of the presenting problems and underlying causes, and aware of the forces impacting on the client. Although the tasks involved in acting out this job description vary among different types of service agencies, the general job description is applicable to a broad range of groups. Basically, it is a description of a social work para-professional placed in different organizational settings.

Another similarity of diverse social service programs is that there are usually a number of "specialists" to whom caseworkers can refer clients with special needs. These individuals usually provide services which require indepth knowledge of areas such as the law, medicine, psychology, the labor market, the school or court systems. Referrals to specialists are usually made by a caseworker based on his perceptions of the client's needs. In smaller, less formal agencies, the client may also directly request the services of a specialist. This is true in the case of the job specialist in the delinquency prevention program which is the source of the data for this analysis. However, the organization in question is very informal and, at times, there was a lack of clarity concerning the responsibilities of the

job specialist and caseworkers with respect to finding job openings and making referrals. This, combined with the fact that all working adults have some knowledge of the labor market, led to the fact that a large number of youth also received job referrals directly from their caseworkers.

Aside from a description of the population served by this agency, the following analysis addresses three important issues. First, were the clients who received job referrals through this agency significantly different from those individuals who did not receive any such referrals? For example, did the staff of this program systematically select out the least delinquent or the oldest (and perhaps more mature), or did they discriminate between the clients on the basis of race or sex? The second issue relates to the internal organization of the job referral and placement process. For instance, I ask whether or not the youths receiving job referrals, placements or "successful" placements from the job specialist differed substantially from the youths receiving the same services from their caseworkers or from the youths who received these services from both the job specialist and their caseworkers. The determination of the characteristics of the youths receiving job services from the various staff members provides an interesting insight into the internal organization of this agency which cannot ordinarily be obtained from a standard "black-box" evaluation. Nevertheless, it is generally understood that the internal organization of such a program may strongly effect the "outcomes" of its clients. Finally, attention focuses on the differences in the delinquent behavior (after the date of intake into this program) of those youths who obtained successful job placements as opposed to those youths who did not obtain successful job placements. This is an admittedly weak test of the hypothesis that successful participation of a delinquent youth in the labor market will reduce that youth's propensity toward crime resulting

in fewer arrests than would have occurred if the youth had not been able to find a job.

It is important to note that the analysis set forth in this paper is of a preliminary nature. It is classified in this way because the analysis consists of a description of the population served by the delinquency prevention agency and statistical tests of differences in means. This type of analysis necessarily limits the complexity of the hypotheses which can be tested. For example, the simultaneous effects of a number of variables as well as interaction effects cannot be tested. Moreover, one cannot determine whether or not there is a simultaneous relationship between employment and crime from analysis is based solely on these statistical tests. Nevertheless, a necessary understanding of a certain fundamental relationships is obtained from such an analysis.

IIA. Description of the Population: Its Characteristics

The "typical" client served by the delinquency prevention program under consideration is a fourteen year old white male who was enrolled in school at the time he entered the program. The head of this youth's household is most likely his mother (52.3%), a direct result of the high divorce/separation rate of parents in this population (45%). While many of the youth's mothers do not work (61.0%), most of those that do work hold low paying clerical, sales worker, service worker and laborer positions. When they are present at all (and if they are employed), the male household heads tend to fall into somewhat-higher paying categories including craftsmen and and operatives. A high percentage of the youths' families receive welfare payments (45%) and, based on sample data of sixty-seven families, the average yearly family income is estimated to be $6,309. More detailed information on the characteristics of the youths in this sample and their families can be found in Tables I to III.

Table I

Characteristics of the Delinquent Youths

Variables		Number (Percent)
RACE:	White	196 (64.9)
	Black	97 (32.1)
	Spanish	9 (3.0)
SEX:	Male	233 (77.2)
	Female	69 (22.8)
AGE:	Nine	3 (1.0)
	Ten	9 (3.0)
	Eleven	11 (3.6)
	Twleve	31 (10.3)
	Thirteen	37 (12.3)
	Fourteen	44 (14.6)
	Fifteen	56 (18.5)
	Sixteen	55 (18.2)
	Seventeen	42 (13.9)
	Eighteen	7 (2.3)
	Nineteen	1 (.3)
	Missing	6 (2.0)
SCHOOL:	High School	96 (31.8)
	Jr. High School	113 (37.4)
	Elementary	38 (12.6)
	Dropout	39 (12.9)
	Graduated	2 (.7)
	Other	3 (1.0)
	Missing	11 (3.6)

Table II

A Description of the Youths' Family Lives

Parent's Marital Status:		
Married and living together	92	(30.5)
Both dead	15	(5.0)
Father dead	29	(9.6)
Mother dead	3	(1.0)
Divorced/separated	136	(45.0)
Never married each other	10	(3.3)
Missing	17	(5.7)
Youth's Living Arrangements:		
With both parents	92	(30.5)
With mother and stepfather	6	(2.0)
With father and stepmother	1	(.3)
With mother only	158	(52.3)
With father only	11	(3.6)
Home of relatives	10	(3.3)
Foster home	4	(1.3)
Institution/grand-parents	6	(2.0)
Missing	14	(4.7)
Welfare Recipient:		
Yes	136	(45.0)
No	112	(37.1)
Missing	54	(17.9)
Yearly Family Income Group:		
Below $5001	25	(8.3)
$5001 - 7500	21	(7.0)
$7501 - 10,500	14	(4.6)
$10,501 - 14,200	5	(1.7)
$14,201 - 20,000	2	(.7)
Not available	225	(77.3)

Table III

Occupations and Labor Force Status of Youths' Parents

Occupation:	Mother # (%)	Father # (%)
Manager/Administrator	3 (1.0)	9 (3.0)
Professional/Technical Worker	6 (2.0)	7 (2.3)
Craft/Foreman	1 (.3)	35 (11.6)
Sales Worker	7 (2.3)	4 (1.3)
Operative	13 (4.3)	22 (7.3)
Non-Farm Labor	1 (.3)	10 (3.3)
Clerical	16 (5.3)	0 (0)
Service Worker	30 (9.9)	22 (7.3)
Private Home/Service Worker	5 (1.7)	1 (.3)
Unemployed - Seeking a Job	5 (1.7)	3 (1.0)
Unemployed - Not Seeking a Job (includes Housewives)	162 (53.6)	24 (7.9)
Deceased/Disabled/Unknown	17 (5.6)	101 (33.4)
Missing	36 (11.9)	64 (21.2)
Labor Force Status:		
Employed	82 (27.1)	110 (36.4)
Not Employed	184 (61.0)	128 (42.4)
Missing	36 (11.9)	64 (21.2)

IIB. Description of the Population: Arrest Records, Indexed Offenses Only

Of the 302 youths in the experimental population, 125 have been arrested for indexed offenses. An indexed offense is an offense which is regarded as criminal regardless of whether it is commited by a youth or an adult. It excludes such "offenses" as truancy, running away from home and incorrigible behavior. On average, these 302 youths were arrested 1.67 times for indexed offenses. However, this figure is much high, 4.04 arrests, when the average number of arrest for those 125 youths who committed indexed offenses is calculated. However, this figure is lower when two most frequent offenders are excluded from the sample. In total, two brothers have been arrested for 59 indexed offenses. When their records are dropped from this sample, the average number of arrest drops to 1.48 for the 300 youths who comprise this sample and 3.62 for the 123 remaining youths who were arrested.

Of the 505 arrests recorded, 272 (53.9%) were arrests which involved at least two offenders indicating that many of the crimes were not of a solitary nature. However, these offenses cannot be typified as gang crimes since 235 of the 272 crimes involved a total of only two or three individuals.

Of the 505 arrests, 262 were for property theft, 78 were for bodily injury, 41 arrests were for property damage, 35 were drug/alcohol offenses and 89 arrests were for offenses which could not be put into one of these classifications. Consequently, 52 percent of the arrests can be directly linked to an economic motive, the gain of goods and income through property theft. The average value of the property taken in these thefts is estimated to be $316. The types of property stolen are described in Table IV.

Table IV

Frequency of Types of Goods Stolen
(Percentages = Type of Good Stolen/Total Number of Arrests for Property Thefts)

Currency & Bonds	50	(19.1)
T.V.,Radio, Stereo	22	(8.4)
Office Equipment	10	(3.8)
Jewelry, Precious Metals	13	(5.0)
Large Household Items	2	(.8)
Consumer Items	24	(9.2)
Automobile	34	(13.0)
Clothing	14	(5.3)
Firearms	6	(2.3)
Miscellaneous	85	(32.4)
Data Missing	2	(.8)
Total	262	(100.0)

While the arrest statistics appear fairly serious, an average of 1.67 arrests per client, it is interesting to note that only 215 of the 505 arrests occurred prior to the youths' dates of intake into YSC. Thus at the time that these youths entered the YSC program, they looked like a far less serious group of offenders, averaging only .71 arrests per person. More than half of the crimes committed by this population were committed after the youths entered the delinquency prevention program. While this may appear to

be suggestive of a lack of effectiveness on the part of the program, it is essential to note that delinquent behavior is frequently correlated with a youth's maturity (age). Consequently, if the YSC staff took youths into the program who they perceived to have a high potential for future delinquent behavior, program participation may well be effective in reducing the number of arrests which would have occured had the youths not been enrolled in the program.

IIC. Description of the Population: How Many Youths Received Job Counseling and Placement Services through the Youth Services Center (YSC)

One hundred and fifty-two youths (50.3%) were referred to jobs through YSC. Of these individuals, 134 initially obtained employment although only 101 of the original 152 youths obtained "successful" job placements. A successful job placement is defined as a job which (1) lasted at least three weeks unless an earlier termination was specified a priori, and (2) terminated with no negative strings attached. That is, the youth must not have been fired accused of crimes or arrested, and the youth must not have quit under questionable circumstances. Over the period while they were on caseload, 72 youths found jobs without the help of the YSC and 67 of these individuals found a minimum of one successful job placement. In total, 155 youths found one or more jobs and 141 of these youths had at least one successful placement as defined above.

As stated previously, one hundred and fifty-two youths received job referrals through YSC. Some of these youths were referred to jobs by their caseworker, others by the job specialists and a fair number of youths received job referrals through both their caseworkers and the job specialists. Overall, YSC clients made more job-related contacts with caseworkers than with job specialists. However, the job specialists "successfully" placed a higher percentage of their contacts in jobs. This can be explained by the fact that many clients expressed a job related need to their caseworker(s) and were subsequently referred to a job specialist who then made a job referral. Between 41.8 and 46.9 percent of the youth who discussed jobs with their caseworkers were eventually referred to a job specialist. Nevertheless, the

caseworkers successfully placed a higher percentage of the youths whom they referred to jobs. This indicates that the caseworkers either had better job contacts than the job specialists or that the caseworkers referred the youths who were the easiest to place in jobs leaving the more difficult youths to be serviced by the job specialists, (or both). There is evidence to be presented in the next section which supports the second "creaming" hypothesis.

A breakdown of the number of youths referred and placed by caseworkers and the job specialists is presented in Table V. Note that a "successful" placement rate per job referral of 47% is very high in light of the fact that the vast majority of these youths were placed in non-subsidized, private market jobs.

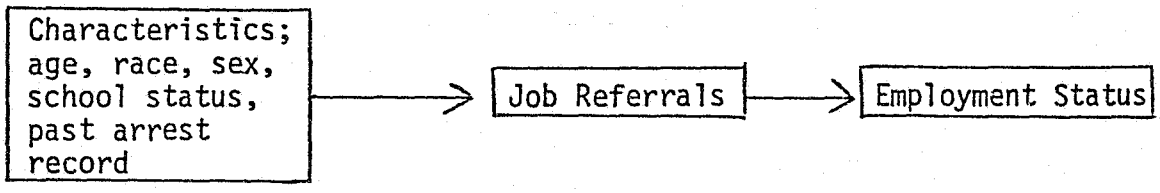
Table V

Organization of YSC Job Related Services

	Job Specialists	Caseworkers	Total
Number of Initial Contacts	158	223	381
Number of Job Referrals	214	136	350
Average Number of Referrals per Initial Contact	1.35	.61	.92
Number of Successful Job Placements	90	74	164
Average Number of Successful Job Placements per Initial Contact	.57	.33	.43
Average Number of Successful Job Placements per Job Referral	.42	.54	.47

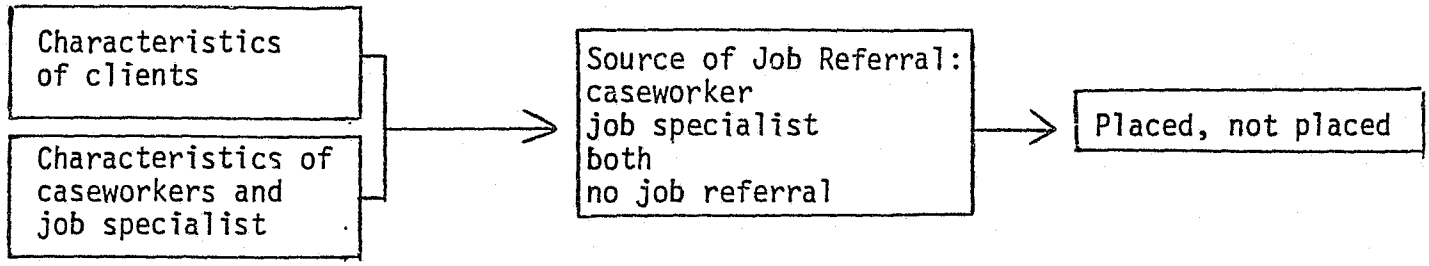
IIIA. Preliminary Statistical Tests of Simple Hypotheses: Comments

The following is a preliminary analysis of the data of the 302 youths who were enrolled in the YSC program between 1975 and 1978. All tests, with the exception of tests on police records, are based on data for the full sample. The hypotheses tested fall into three broad groups. The first group contains the organizational and labor market screening hypotheses that the "best" youths (the least delinquent, in-school, white, etc.) are systematically selected out by the organizational staff members for job referrals and by potential employers for jobs. As it is usually impossible to test organizational screening processes, it will be interesting to determine whether or not the organization screens out youths on the basis of their observable characteristics. For example, are the youths screened on the basis of their past arrest records when individuals within the organization decide who will and who will not receive job referrals? The assumptions being tested are:

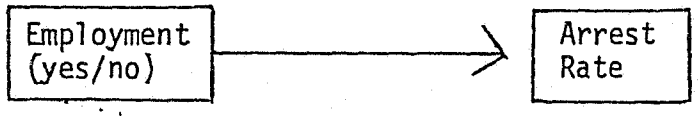


The second set of statistical tests address the importance of the internal organization of the YSC job referral and placement program. Are the youths who are given job services by different organizational members significantly different from each other? For example, were the "best" youths serviced by their caseworkers and the more difficult youths referred to the job specialist for a placement. If the two types of organizational actors have different

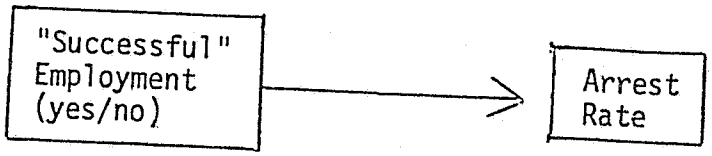
success rates in placing youths, it may be a combined result of the populations serviced and a "true" advantage of receiving a referral through one type of organizational actor. If, let's say, caseworkers have a "true" advantage in finding youths jobs and they choose to place the easiest clients, then the difference in the placement rates for the "good" and "bad" kids may be exacerbated by the organizational screening process. The hypotheses being tested here are delineated in the following chart.



The third set of statistical tests weakly test the hypothesis that arrest rates (a proxy for delinquent behavior) are a function of a youth's employment record. That is, when legitimate avenues of success such as an employment opportunity are made available to a youth, the relative expected return to crime will fall and the youth will participate less in delinquent behavior.



However, one may postulate that a "successful" employment experience is more important in influencing a youth than just any job placement. Consequently, the relationship between "successful" job placements and arrest rates is also examined.



Here, it is important to reiterate that the following tests are a part of a preliminary analysis and are not strong tests of the above hypotheses. Because these tests cannot estimate the simultaneous effects of two or more variables on arrest rates, the hypotheses tested are necessarily much simpler than those which could be tested with stronger methodological tools. For example, one might postulate that arrest rates are also a function of a youth's perception of his future employment opportunities, his home life, school life and interaction effects between variables.

IIIB. Preliminary Statistical Tests of Simple Hypotheses:
The Organizational and Labor Market Screening Hypotheses

The orgnaizational screening hypothesis tested in this analysis is stated as follows:

> The youths who received job referrals through YSC did not differ significantly from the youths who received no job referrals.

Analysis was conducted on ten variables, four of which were significant at the twenty percent level or lower.[1] Results are summarized in Table VI.

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1. The selection of the .20 level, as with any other level is arbitrary. However, it should be noted that many researchers prefer to use the more stringent criteria, the .10, .05, or .01 levels. Nevertheless, this is a preliminary data analysis and it is important to explore all possible relationships. Also, the variables which were not significant at the .20 level were, race, in-school, total number of arrest, total number of arrests for property theft, total number of arrests for property theft before intake, and total number of arrests before intake.

Table VI

The Organizational Screening Hypothesis

Variable Name	Positive Job Referrals Mean	Zero Job Referrals Mean	t Value[2]	Degrees of Freedom	Two Tailed Probability
Age	15.24 N=152	13.67 N=144	7.20	272.29	0
Sex (male=1, female=2)	1.19 N=152	1.26 N=150	1.57	294.95	.12
School Dropout (yes=1, no=2)	.17 N=152	.09 N=150	2.20	279.52	.03
Needs Job at Intake (yes=1, no=2)	.20 N=152	.05 N=150	4.01	237.29	0

First we find that the youths who received job referrals through YSC were significantly older than the youths who did not receive any job referrals.

2. Separate variance estimates of t-tests are presented in all of the charts in this paper. If the variances in the two samples being compared were significantly different from each other (.20 level), then the separate variance approximation of the t-test is the preferred statistic. In cases hwere the equal variance hypothesis could not be rejected at the .20 level, the difference in the standard t-test and the approximation are very small. Consequently, the separate variance estimate of the t-test is presented for all of the variables.

This may be due in part to the fact that the older youths felt that they needed a job and consequently requested job referrals more frequently than did the younger youths. Additionally, the legal working age, sixteen for most jobs, may have imposed a serious constraint on the age distribution of job referrals at YSC. This constraint may have been particularly binding as the vast majority of the job placements received by the YSC clients were private sector jobs where the age restrictions are ususally more strictly enforced. For example, these youths were not generally placed in one of the many federally funded manpower programs which employs youths who are younger than sixteen. Finally, the older youths may have been more mature, easier to place in jobs and consequently "creamed" by the organizational staff members.

Thus, three reasons can be forwarded each of which can explain the non-uniform age distribution of job referrals. To repeat, one of these reasons involves the systematic selection of youth who are more mature and easier to place in jobs. Consequently, because of the high statistical significance of this variable, the hypothesis that the YSC staff "creamed" more mature youths for job referrals cannot be rejected. On the other hand, this hypothesis cannot be accepted because of the existance of two alternative explanations of the age distribution of job referrals in the population. Further testing of this hypothesis using partial correlation or regression analysis is therefore warranted.

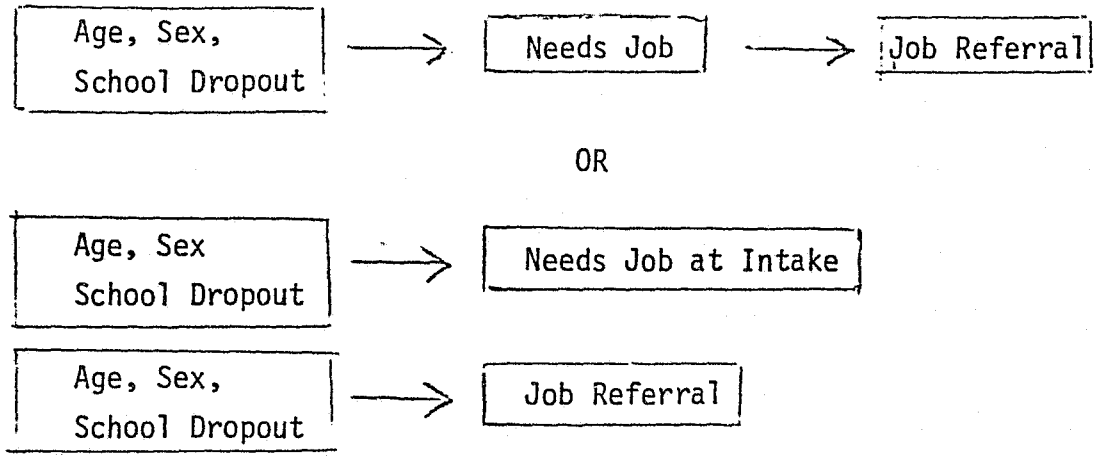
Analysis of the differences in these two groups of individuals also indicates that a youth had a higher probability of receiving a job referral if he was a school dropout. This finding is contrary to the expected direction of

correlation postulated by screening theorists if YSC uses the same screening mechanisms as employers. The signal, school dropout, is negative whereas the signals, school graduate or in-school, are positive. Consequently, signaling theorists would suggest that the individuals with better signals would have higher probabilities of finding employment. Thus, if an organization were to "cream" the "best" youths, we would not expect to find a disproportionately higher percentage of school dropouts in the group of youths who were referred to jobs.

However, an alternative explanation of the relationship between receiving job referrals and being a school dropout is fairly straightforward. The variable "school dropout" is positively and significantly (.01 level) correlated with the variable "needs job at intake." Because these youths were not enrolled in a school, they more frequently needed, requested and obtained job referrals through YSC. However, it is interesting to note that the school dropouts did not obtain a significantly larger number of job placements than did youths who were in school and graduated. Given that a disproportionately larger number of dropouts were referred to jobs, this fact would support the labor market screening hypothesis that employers hire youths with positive (school status) signals. However among the youths who were referred to jobs, school dropouts obtained a significantly higher percentage of "successful" job placements than did other youths. Consequently, while it may be more difficult to obtain employment if you are a school dropout, these individuals (perhaps because of their greater need for employment) are more likely to eventually find a job in which they succeed although it may take several prior bad experiences.

Sex is one of the two remaining variables which was found to differ among the youths who received job referrals and those who did not. It was found that a significantly higher percentage of males received job referrals. This finding is consistent with the labor market screening hypothesis that "male" is a positive and "female" a negative signal. However, as in the case of the variables "age" and "dropout," "male" is strongly correlated with the variable "needs job at intake." Thus, while the creaming hypothesis cannot be rejected, neither can it be accepted as a good alternative explanation of the high "male-receive job referral" relationship exists.

Finally, among the two groups of youths, those who received job referrals and those who did not, it was found that those youths who received job referrals expressed a need for a job (at the time they entered tye YSC program) more frequently than the youths who did not receive any job referrals. Although the varibale "needs job at intake" cannot be considered a screening characteristic in the traditional sense, it was included in this analysis because it is a theoretically important organizational variable. As YSC is a service agency, the expressed needs of its clients should strongly influence the types of services which are provided. However, it is unclear whether the high significance of this variable can be attributed to the agency picking up on and servicing the needs of clients or to the fact that this variable is highly correlated with a number of variables which may truly determine a youth's referral status. That is, using zero order correlations, it is impossible to distinguish between the following models.



Note that none of the arrest record variables were significant at the .20 level indicating that the youths who received job referrals were not significantly more or less delinquent than the youths who did not obtain job referrals from YSC. This finding differs from that when only the first 90 arrest records were examined.

The labor market screening hypothesis, which is also discussed in this section of this paper, is stated as follows:

> Among the youths who received job referrals, those youths who actually obtained jobs did not differ significantly from the youths who did not obtain employment.

That is, did employers act in the way postualted by signaling theorists? Among the youths referred to jobs, did those individuals obtaining employment have a significantly higher percent of positive signals?

Analysis was conducted on ten variables, only one of which was significant at the .20 level or less.[3] The results are summarized in Table VII.

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3. Age, race, sex, in-school, dropout, total number of crimes before intake, total number of arrests for property thefts, total number of arrests for property thefts before intake, and total arrests were not significant at the .20 level. In the previous analysis on 90 cases, the total arrests variable was significant at the .186 level.

Table VII

The Labor Market Screening Hypothesis

Variable Name	Positive Job Placements Mean (N)	Zero Job Placements Mean (N)	t Value*	Degree of Freedom	Two Tailed Probability
Needs Job	.23 (124)	.11 (28)	1.68	51.2	.098

*Separate variance estimates of the t-tests were used.

"Needs job at intake" is the only variable which was significant in this analysis. The youth who found jobs were more like to need jobs. This makes sense as these youths were the most likely to be persistent in their pursuit of employment. The arrest variables in addition to the age, race, sex, in-school and drop variables were statistically insignificant. Consequently, market screening hypothesis was rejected.

Although the labor market screening hypothesis was rejected, the organizational screening hypothesis can neither be accepted or rejected. This is because the variable "needs job at intake" is highly correlated with a number of other variables. More detailed analysis of organizational screening will be discussed in the next section of this paper. For now it will suffice to look at the overall effect of the self-selection, organizational selection and labor market selection processes. The relevant hypothesis to test is:

> The youth who obtained employment were not significantly different from the youth who did not obtain employment.

Results of the statistical tests reveal that four of the ten variables are significant.[4]

Table VIII

The Combined Self-Selection, Organizational Selection and Labor Market Selection Hypothesis

Variable Name	Positive Job Placement Mean (N)	Zero Job Placements Mean (N)	t Value*	Degrees of Freedom	Two Tailed Probability
Age	15.21 (155)	13.68 (141)	6.92	263.20	0
Sex (male=1, female =2)	1.19 (155)	1.27 (147)	1.76	290.16	.08
School Droupout (yes=1, no=2)	.18 (155)	.07 (147)	2.79	273.28	.006
Needs Job At Intake (yes=1, no=2)	.19 (155)	.06 (147)	3.53	256.11	0

* Separate variance estimates of the t-tests were used.

The results of Table VIII are remarkably similar to the results of the organizational screening hypothesis summarized in Table VI. This is probably due to the fact that a large majority of the youths who obtained jobs did so as a result of YSC referrals. Therefore, any screening that occurred when the YSC staff members made job referrals is like to effect the types of youths who eventually obtained employment. In addition, analysis comparing

4. The variable race, in-school, graduate, total arrests for property crimes, total arrests for property crimes before intake, total arrests before intake and total arrests were not significant at the .20 level. In the previous analysis, the total arrest variable was significant at the .153 level and the variable, total arrests before intake, was significant at the .134 level.

the youths who obtained "successful" job placements to the youths who did not receive successful placements is almost identical to that leading to Table VIII. The only difference is that the significant levels of sex and dropout are somewhat larger although all are significant at the .20 level.

The examination of the preceeding three hypotheses gives considerable insight into the extent of the total selection bias of the youths who received job placements. Also, we have some idea of how this total bias was distributed between self-selection, organizational selection and labor market selection biases. The question which must now be asked is whether or not this bias is so severe that it will grossly limit the generalizability of this study.

Although there are significant differences among the youths who did and did not obtain jobs, these differences cannot be attributed to systematic selection of the "better" youths employers. Recall that the labor market screening hypothesis had to be rejected. Consequently, the differences between the youths who obtained employment and those who did not obtain employment must be attributed to either the systematic self-selection of clients, the staff of the YSC program or both.

First, consider the possibility of the systematic self-selection of clients. Recall that the variables, age, sex, and school dropout are all correlated with the variable needs job at intake. Therefore, it is likely that there is a self-selection bias; that the older male youths wanted and therefore obtained jobs more frequently than younger youths or females. It is also easy to understand why school dropouts would want and therefore obtain jobs more frequently than the youths who were in-school. Thus, it is probable that there was a self-selection bias on the part of the YSC clients who obtained jobs.

Secondly, consider the possibility of the systematic selection of youths for job referrals on the part of the YSC staff. This type of screening would occur for one of two reasons. First, the YSC staff may have performed the screening that would ordinarily occur in the market place in an effort to prevent a client from going to job interviews which would probably not result in employment and would simply frustrate the client. Alternatively, the staff may simply have chosen the easiest (with the exception of drop-outs) youths to place in jobs. In either case, the organizational screening would effectively substitute for employer screening (explaining the insignificance of the labor market screening hypothesis).

To conclude, the distribution of biases between the youths who did and did not find jobs cannot be determined within the context of this analysis. However, it is probably not crucial to make this determination as the self-selection of clients would not introduce bias into an analysis of crime and employment. Some youths are always more likely to want employment and the characteristics of the youths in this sample who wanted employment can be reasonably explained. Thus, the generalizability of a comprehensive study would not be impared by the self-selection found in the YSC population. Moreover, if organizational screening took place in lieu of labor market screening, then any youth seeking employment would encounter the same type of screening even if he were not enrolled in a program similar to the YSC program. Thus, the generalizability of a more in-depth study of delinquency and employment will not be severely biased by the fact that the youth in this sample were enrolled in the YSC program.

IIIC. Preliminary Statistical Tests of Simple Hypotheses: The Intraorganizational Screening Hypotheses

The central hypothesis tested in this section is stated as follows:

> The attribute profiles of the youths receiving job services through their caseworkers did not differ significantly from the attribute profiles of the youths receiving job referrals through the job specialist.

However, because some youths received job referrals from both their caseworkers and the job specialists, three distinct groups of youths can be identified and compared. Unfortunately, t-tests on the differences on the means of three groups gives ambiguous results. Consequently, the general hypothesis stated above was decomposed into three less general hypotheses comparing the differences between two groups rather than three.

> Among the youths who received job referrals through the YSC staff, the youths who obtained referrals through caseworkers did not differ significantly from the youth who did not obtain a referral through a caseworker.

> Among the youth who received job referrals through the YSC staff, the youths who obtained referrals through the job specialists did not differ from the youths who did not obtain a referral from a job specialist.

> Among the youths who recieved job referrals through the YSC staff, the youths who only received referrals from their caseworkers did not differ from the youths who only received referrals from a job specialist.

The results of tests based upon these three hypotheses are presented in Tables IX through XI.

Table IX

The Caseworker Selection Hypothesis[5]

Variable Name	Positive Caseworker Referrals Mean (N)	Zero Caseworker Referrals Mean (N)	t Value*	Degrees of Freedom	Two Tailed Probability
School Dropout (yes=1, no=2)	.22 (90)	.096 (62)	2.16	149.80	.032

*Separate variance estimates of the t-test were used.

Table X

The Job Specialist Selection Hypothesis[6]

Variable Name	Positive Caseworker Referrals Mean (N)	Zero Caseworker Referrals Mean (N)	t Value*	Degrees of Freedom	Two Tailed Probability
Sex (male=1, female=2)	1.23 (112)	1.10 (40)	1.98	94.46	.051
In-School (yes=1, no=2)	.83 (112)	.70 (40)	1.60	58.41	.115
School Dropout (yes=1, no=2)	.12 (112)	.30 (40)	2.19	53.94	.03

*Separate variance estimates of the t-tests were used.

5. The variables which were not significant at the .20 level were age, race, sex, in-school, needs job at intake, total arrests, total arrests before intake, total arrests for property theft before intake, and total number of property thefts. In the previous draft of this paper, the variable, total number of property thefts, was significant at the .125 level.

6. The variables which were not significant at the 120 level were age, race, needs job at intake, total arrests, total arrests before intake, total arrests for property theft and total arrests for property theft before intake. All of the arrest variables were significant at the .10 level or lower in the analysis based on the arrest records of 90 youths.

Table XI

The Caseworker vs. Job Specialist Selection Hypothesis[7]

Variable Name	Positive Job Specialist Referrals Mean (N)	Positive Caseworkers Referrals Mean (N)	t Value*	Degrees of Freedom	Two Tailed Probability
Sex (male=1,female=2)	1.21 (62)	1.10 (40)	1.55	98.02	.125
In-School (yes=1, no=2)	.83 (62)	.70 (40)	1.39	72.24	.169
School Dropout (yes=1, no=2)	.10 (62)	.30 (40)	2.46	59.81	.017

*Separate variance estimates of the t-tests were used.

As you can see from Table IX, there was a significantly higher percentage of school dropouts among the caseworker referrals. On the other hand, Table X indicates that the job specialists' referrals contained a significantly higher percent of males and in-school youths. The relationships suggested in Tables IX and X are reinforced by the findings of Table XI, which compares the youth who only received job referrals from their caseworkers to the youths who only received referrals from a job specialist. We find that the job specialist referred a higher percentage of males, in-school youths and few school dropouts. Contrary to the findings in the previous draft of this paper, none of the arrest variables were significant. However, the youths referred to jobs had significantly more arrests than the youths referred to jobs by caseworkers.

7. The variables which were not significant at the .20 level were age, race, needs job at intake and total number of arrests for property thefts before intake, total arrests, total arrests before intake, total arrests for property theft and total arrests for property theft before intake.

Although the preceeding tests are consistant with reasonable a priori expectations, it is doubtful that the characteristics of clients alone determine whether or not they will obtain a job referral from either a job specialist, caseworker or both. Therefore, several preliminary investigative tests were made which compared each youths' caseworkers' perceptions of the amount of responsibility which he felt that each organizational actor did take (and should have taken) for various job related tasks to the job specialist's perceptions of the organizational distribution of these responsibilities. Several role congruence measures were developed from questionnaire data on responsibility charting.

The preliminary tests on these congruence scores found that caseworker-job specialist role congruence was not an important determinant of a caseworker's job referrals. However, the youth who received a referral from the job specialist were also compared to the youth who did not receive a job specialist referral. This time certain t-tests were significant (.097) revealing that the youths receiving job specialist referrals had caseworkers who agreed with the job specialist more strongly on how responsibility was distributed for job related tasks.

The implications of this result are not immediately clear. Thus, additional analysis is being conducted which will divide the client population differently. Among the group of youths who received a job referral, this analysis will compare the youth who were referred to the job specialists by a caseworker to those youths who were self-referred. Additionally, less general role congruence measures will be developed. Finally, the relationship between the caseworker's perceptions of the job specialist's ability and a referral of a youth to that job specialist will be investigated.[8]

8. See "The Effect of Intra-Organizational Relationships on Client Outcomes: The YSC Job Placement Program," MBSC and LEAA Report, July 10, 1979, 60 pp.

IIID. Preliminary Statistical Tests of Simple Hypotheses: The Crime Recidivism-Employment Hypotheses

The hypotheses tested in this section are stated as follows:

> The arrest records (property theft arrest records) after the date of intake into the YSC program of the youths who obtained employment (successful employment) were not significantly different from the youths who did not obtain employment (successful employment).

All four of these hypotheses were rejected based on the .20 significance criteria. Nevertheless, it is unclear whether or not these tests truly test the importance of employment on crime recidivism. For example, one short-lived but successful job may not have an impact on long term delinquent behavior. The type of employment as well as the time sequence of employment and criminal acts are most likely important variables which have not been analyzed within the context of this paper. Thus, further analysis is warranted. Future efforts will focus on testing the effect of employment on arrest rates in the presence of other variables and in a simultaneous model. Other measures of arrests of a less general nature than arrests before and after intake will be constructed and in a limited number of cases, where data permits, the dates of employment will be compared to the dates of arrests.

IV. Summary

In Section II we found that the "typical" YSC client is also typical of delinquent population in general. The largely male population comes from broken families, headed primarily by females. The average annual income is low. However, two things distinguish this group of youths from other delinquent groups. First, there are fewer blacks in this sample than exist in the general delinquent population and though no statistics exist, a much higher percentage of the YSC youth (50%) were probably able to find some employment.

In Section IIB, a variety of hypotheses were tested with simple statistics. Based on these tests we found that the youths who received job referrals through YSC were somewhat different than the youths who did not receive a referral. The cause of these differences was attributed to organizational selection bias and self-selection bias on the part of the youths who obtained jobs. The labor market screening hypothesis had to be rejected. Based on the analysis completed in this section, the conclusion was reached that "the generalizability of a more in-depth study of delinquency and employment will not be severely biased by the fact that the youth in this study were enrolled in the YSC program."

Section IIIC examined several intraorganizational screening hypotheses. Caseworkers referred more school dropouts to jobs and the job specialist creamed the youth on the basis of easily observed characteristics (which did not include arrest records). Role congruence measures were developed and tested but further testing is required before any firm conclusions can be reached.

Finally, the hypotheses which tested the effects of employment and unemployment on crime recidivism were all rejected. However, better measures of these variables and more sophisticated tests must be made before we can reject a causal relationship between employment and crime recidivism.