MF-1

The Impact of YSC Participation

on the Frequency and

Seriousness of Police Contacts

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I. Introduction

The analysis of the arrest records of the YSC clients is one of the more critical components of the evaluation of this program. YSC is an alleged delinquency prevention program and, consequently, program participation should result in both fewer and less serious crimes. This report investigates the extent to which YSC was effective in reducing the number of police contacts of their clients.

This report is divided into five sections. Section II describes the contacts that the YSC youth had with the Philadelphia police. Section III is a pre and post analysis which examines the number and seriousness of offenses which occurred prior to, during, and after YSC participation for each YSC client. Section IV compares the crime recidivism patterns of a small sample of YSC youths to the crime recidivism patterns of a group of juveniles who did not receive treatment from YSC. The youths were matched on age, race, the presence of a prior police record, and the type of offense on which the youths were initially compared. The comparison youths, while well matched to the YSC youths, were selected randomly from a larger group of delinquents in the Philadelphia court system. Previous analysis of these two groups of juveniles found that YSC participation did not beneficially affect the seriousness of the court's disposition on its clients' cases or the extent to which YSC clients penetrated into the juvenile justice system. Section V summarizes and concludes.

II. Description of YSC's Clients' Police Contacts

The arrest records of the 302 youths who were clients of the Youth Services Center (YSC) between February 1975 and July 1978 were obtained from the Philadelphia Police Department. Of the 302 youths, 151 had official police records indicating contacts with the Philadelphia police for non-status offenses. Thus, the figure of 151 youths does not include the total number of youths who had contacts with the police for offenses such as truancy, running away from home, or incorrigible behavior. This report focuses exclusively on the youths who had contacts with the police for non-status offenses.

Of the 151 youths who had contact with the police for non-status (indexed) offenses, 99 youths (66%) had multiple contacts with the police. The average number of contacts with the police among these 151 youths was 4.24. This figure was much lower, however, among the total YSC population averaging 2.12 police contacts per person. The distribution of the number of contacts with the police for non-status offenses is found in Table 1.

The youths in the YSC crime prevention program were living primarily in police districts one and four at the time they enrolled, although a number of the youths eventually moved away from these neighborhoods. As can be seen on the map on the next page, over eighty-nine percent of police contacts (a total of 572 contacts) occurred in districts one and four and the adjoining districts, three, twelve and seventeen. Seventy-eight percent of the police contacts actually occurred in police districts one and four, indicating that many of the crimes were probably committed in the youths' own neighborhoods.

The types of crimes for which the youths came into contact with the police were classified according to two systems. The first system classified an

Table 1: Frequency of Contacts With the Philadelphia Police for Non-Status Offenses

Total Number of Contacts	Total Number of Youths	Percent	Cumulative Percent
One	52	34.43	34.43
Two	26	17.22	51.65
Three	10	6.62	58.27
Four	14	9.27	67.54
Five	13	8.61	76.15
Six	3	1.99	78.14
Seven	6	3.97	82.11
Eight	8	5.30	87.41
Nine	2	1.32	88.73
Ten	5	3.31	92.04
Eleven	2	1.32	93.36
Twelve	3	1.99	95.35
Thirteen	1	.66	96.01
Fourteen	1	.66	96.67
Fifteen	1	.66	97.33
Sixteen	1	.66	97.99

Nineteen	1	.66	98.65

Twenty-Five	1	.66	99.31

Thirty-Four	1	.66	99.97
TOTAL	151		100.00

PHILADELPHIA POLICE DISTRICT BOUNDARIES
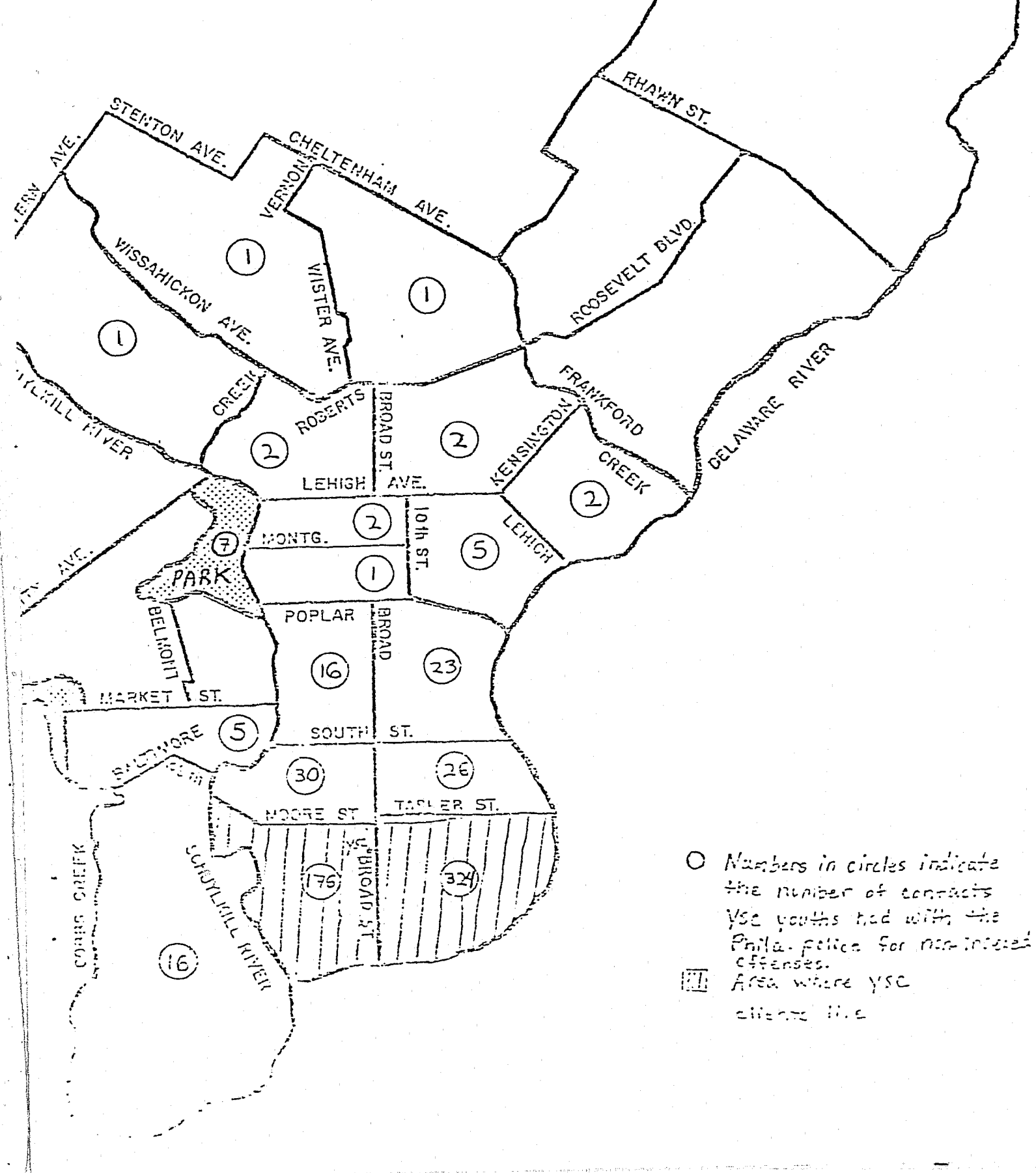
○ Numbers in circles indicate the number of contacts YSC youths had with the Phila. Police for non-status offenses.

▦ Area where YSC clients live

offense as either property theft, property damage, bodily injury, drug/ alcohol or other. The numbers of police contacts which fell into each of these categories are found in Table 2.

Table 2: Number of Contacts With the Philadelphia Police for the Following Types of Offenses

Type of Offense	Total Number of Offenses	Percent
Property theft	295	46.0
Property damage	47	7.3
Bodily injury	95	14.8
Drug/alcohol	33	5.2
Other	171	26.7
TOTAL	641	100.0

As can be seen in this table, more than half of the offenses for which the youths came into contact with the police were for property theft. The types of goods which were stolen are classified in Table 3.

Table 3: Frequency of Types of Goods Stolen (Percentages = Type of Good Stolen/Total Number of Police Contacts for Property Thefts)

Type of Good Stolen	Frequency of Thefts	Percentages
Currency and Bonds	56	18.98
T.V., Radio, Stereo	23	7.8
Office Equipment	10	3.39
Jewelry, Precious Metals	14	4.75
Large Household Items	2	.68
Consumer Items	25	8.47
Automobile	35	11.86
Clothing	18	6.10
Firearms	6	2.03
Miscellaneous	91	30.84
Data Missing	15	5.08
TOTAL	295	100.0

Emphasis in these thefts was on items which could easily be transformed into cash. For example, there was a greater number of thefts of currency, bonds, and automobiles (91) than there was of large household items (2). This seems to indicate that a fairly large percent of the police contacts were for offenses that could be directly linked to an economic motive. The average value of these thefts was $288. The average value of the property recovered in the 155 cases where some of the property was recovered was $249.95. Empirical evidence of this nature lends support to the hypotheses of Becker (1968) and Ehrlich (1973), who postulate that youths will resort to crime when the perceived benefits exceed the expected costs.

There were also 47 arrests for property damage. The total value of the damage to the property was known in only 15 cases. In these cases, the average value of the damage was $170.67. However, there is great variation in the value of the property damaged by these youths. See Table 4.

Table 4: Value of Property Damage

Value of Damage	Number of Cases	Percent of Cases
$5.	5	10.6
10.	1	2.1
20.	1	2.1
25.	2	4.3
155.	1	2.1
200.	1	2.1
300.	2	4.3
700.	1	2.1
800.	1	2.1
Unknown	32	68.1
TOTAL	47	100.0

There were also 95 arrests for bodily injury. However, more than one person or type of injury may have been incurred for any given offense. Consequently, in this sample, 95 individuals incurred some type of bodily injury, even though the information is missing on the number and types of bodily injuries incurred in a number of police contacts. See Table 5.

Table 5: Frequency of Different Types of Bodily Injury

Injury Type	Frequency of Persons Sustaining Injuries	Percent of Total Injuries
Minor harm	64	62.1
Treated and discharged	18	18.9
Hospitalized	10	10.5
Killed	1	1.1
Forcible rapes	2	2.1
TOTAL	95	100.0

Although there were 95 individuals who incurred bodily harm, in a total of 90 or fewer incidents, there were only 50 known contacts with the police in which the youths alledgedly intimated their victim. (The data is missing for 87 police contacts.) That is, there were at least 50 incidents in which one or more victims was threatened with bodily harm or some other serious consequences for the purpose of forcing the victims to obey the requests of the offenders to give up something of value, to assist in an event that leads to someone's bodily injury and/or to property theft, damage, or destruction or to witness such an act. In 7 of these cases the victim was threatened verbally. There was physical intimidation, the use of strong arm tactics, threats with fists, menacing gestures, physical restraint by pinioning arms, etc., in 37 cases. In six cases, a victim was intimidated by a weapon, such as a knife, gun, or blunt object.

The crimes for which the 151 youths came in contact with the police were also classified according to a detailed classification system which describes the first five (most serious) offenses with which these youths were charged. See Table 6.

For every police contact, up to five charges were coded. The most serious charges generally precede lesser offenses. Consequently, if a youth was charged with three offenses for one police contact: robbery, possession of stolen property and conspiracy, the most serious of these offenses, robbery, would be coded prior to possession of stolen property, which would be coded prior to conspiracy. Note that there was a total of 1,501 charges. Also, the YSC youths were most frequently charged with conspiracy (244 charges), which is not usually the primary reason for the police contact. The charge of conspiracy in all but 2 cases was in addition to one or more serious offenses. The second and third most frequent charges against the YSC youth were for receiving, buying and the possession of stolen property (209 charges) and malicious mischief and vandalism including trespassing and damage to city property (150 charges). Aggravated assault, including assault and battery, was the fourth most frequent charge (135 charges).

Table 6: Frequencies With Which the Youths Were Charged With Various Offenses

Type of Charge	Frequency on 1st Charge	%	Frequency on 2nd Charge	%	Frequency on 3rd Charge	%	Frequency on 4th Charge	%	Frequency on 5th Charge	%	Frequency on Charges 1-5	%
1. Willful killing, murder, & non-negligent manslaughter	1	.16	0		0		0		0		1	.07
2. Rape, attempted rape, & indecent assault	3	.47	0		1	.37	1	.69	0		5	.33
3. Robbery: highway & miscellaneous (no gun)	22	3.40	0		0		0		0		22	1.5
4. Robbery: highway & commercial house (w/gun)	4	.62	0		0		0		0		4	.27
5. Robbery: purse-snatching, from under $5 to over $50	12	1.9	0		0		0		0		12	.80
6. Robbery: purse-snatching, attempt	4	.62	0		0		0		0		4	.27
7. Robbery: miscellaneous, attempt	5	.78	0		0		0		0		5	.33
8. Aggravated assault w/intent to kill	1	.16	2	.54	0		0		0		3	.20
9. Aggravated assault & battery on police officer and/or others; assault & battery on police officer and/or others; resisting arrest	58	9.00	43	11.70	17	6.30	12	8.30	5	6.5	135	9.0
10. Burglary: any premise, day or night	114	17.80	2	.54	2	.74	0		0		118	7.9
11. Burglary: attempt, day or night	16	2.50	0		0		0		0		16	1.1
12. Larceny: purse-snatching, shoplifting, auto accessories, & all others, $50 and over	42	6.60	57	15.40	6	2.20	0		0		105	7.0
13. Burglary: vehicle & non-vehicle accessories, over $50	3	.47	0		0		0		0		3	.20
14. Larceny: all types (see #12), $5-$50	34	5.30	23	6.20	5	1.90	0		0		62	4.1
15. Burglary: vehicle, non-accessory, $5-$50	1	.16	0		0		0		0		1	.07
16. Larceny: all types under $5, include attempts	43	6.70	20	5.40	6	2.20	4	2.80	0		73	4.9
17. Burglary: vehicle accessories & non-accessories, under $5, include attempts	8	1.20	0		0		0		0		8	.53
18. Auto theft: all types, include attempts	29	4.50	2	.54	3	1.10	0		0		34	2.3
19. Forgery	0		1	.27	0		0		0		1	.07
20. Receiving, buying and/or possessing stolen property	3	.47	100	27.10	78	28.90	18	12.50	10	13.0	209	13.9
21. Carrying and/or possessing firearms and/or weapons	16	2.5	9	2.4	9	3.3	9	6.3	2	2.6	45	3.0
22. Solicitation for immoral purposes; sodomy, buggery, pandering	3	.47	1	.27	0		0		0		4	.27
23. Possession of narcotic drug	34	5.3	3	.81	1	.37	0		0		38	2.5
24. Disorderly conduct; unlawful assemblies	55	8.6	4	1.1	2	.74	1		1		61	4.1
25. Motor vehicle law violations; driving without consent of the owner	0		3	.81	17	6.3	3	2.1	3	3.9	26	1.7
26. Violations of ordinances; curfew, false reports or requests for police services	14	2.2	1	.27	1	.37	0		0		16	1.1
27. Threats: forcible entry, threatening letters and phonecalls, threats to do bodily harm	5	.78	3	.81	1	.37	1	.69	3	3.9	13	.87
28. Damage to city property; trespassing; malicious mischief and vandalism; loitering and prowling	64	10.0	39	10.6	11	4.1	32	22.2	4	5.2	150	10.0
29. False alarm of fire, failure to pay transportation fee	3	.47	0		1	.37	0		0		4	.27
30. Investigation, projection, medical examination	4	.62	0		0		0		0		4	.27
31. Prison; escaped prisoner; offenses other than those specified	30	4.7	4	1.1	4	1.5	10	6.9	3	10.4	56	3.7
32. Conspiracy	2	.31	46	12.5	101	37.4	54	37.5	41	53.2	244	16.3
33. Possession of burglar tools	0		4	1.1	3	1.1	0		1	1.3	8	.53
34. Riots; inciting to riot	0		2	.54	1	.37	0		0		3	.20
35. Illegal possession of liquor; intoxicated minor	8	1.2	0		0		0		0		8	.53
Totals	641	100	369	100	270	100	144	100	77	100	1501	100

The type of youths who had the most frequent contacts with the Philadelphia police are described in terms of their race, sex and ages in Charts 1 - 5. For example, Chart 1 displays a normally distributed age distribution of police contacts which is negatively skewed. The modal value, the value for which the most frequent number of police contacts occurred, would appear, by inspection, to fall between the ages of fifteen and sixteen. The marked decrease in police contacts at age seventeen and eighteen (despite the smallish sample sizes) may be attributed to maturation effects and/or the fact that repeat juvenile offenders may be reclassified by the courts as adults at age seventee. As an adult, the punishments for offenses are much more severe than they would be for a juvenile. Such a sharp decrease in the average number of police contacts at this age would lend support to the hypothesis that youths respond _rationally_ to their perceived benefits and costs given an opportunity set. Thus, as the perceived costs of criminal behavior increase (sharply at ages seventeen and eighteen), fewer individuals engage in this behavior. The rational choice model of criminal behavior looks particularly appealing in light of this data particularly in the absence of a cohesive and non-conflicting literature on the relationship between age, levels of maturation and deviant behavior.*

The age distribution of police contacts is also broken out separately for females and males, in charts 2 and 3 respectively. Inspection of the data reveals that at every age, the frequency of police contacts incurred by the females on an annual basis is less than the comparable frequency for the males in the YSC population. Also, the sharp decrease in delinquent behavior at ages seventeen is more pronounced in the male distribution of police contacts than

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* See Deborah Denno, "Moral Development and Treatment Potential of Youths Under age Eighteen," MBSC Working Paper, LEAA Report, April 1973.

CHART 1:   FREQUENCY OF POLICE CONTACTS BY AGE FOR THE YSC POPULATION
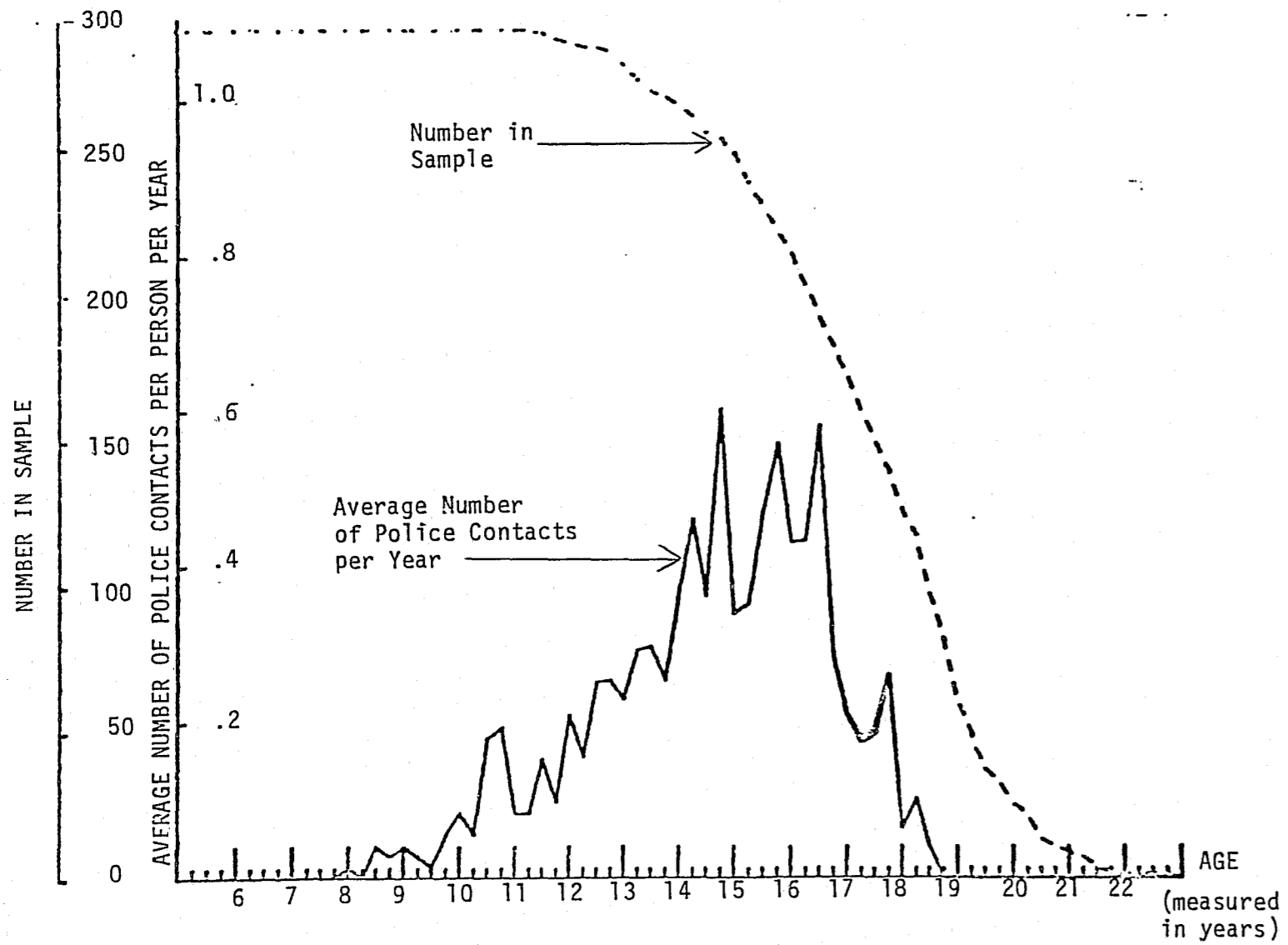
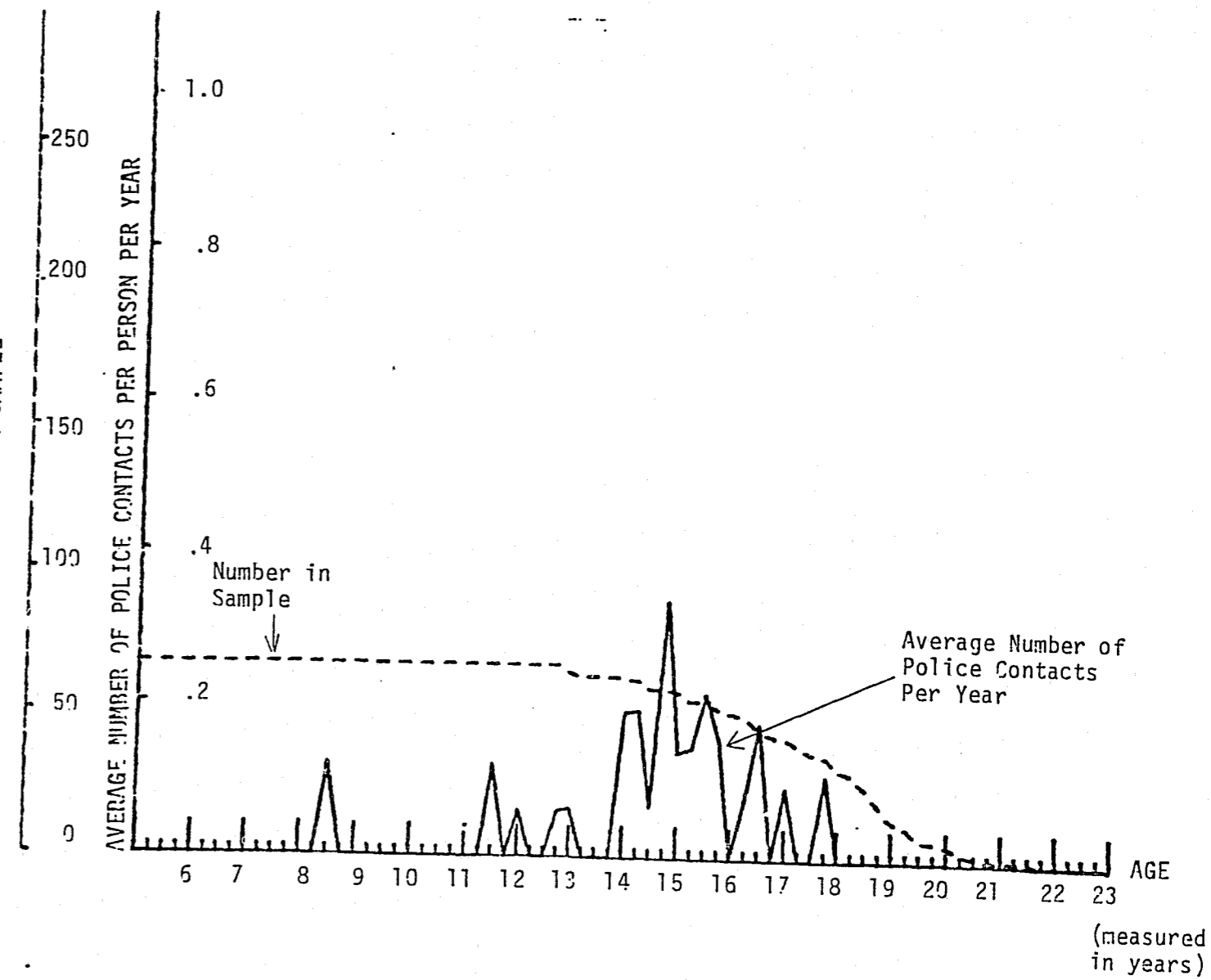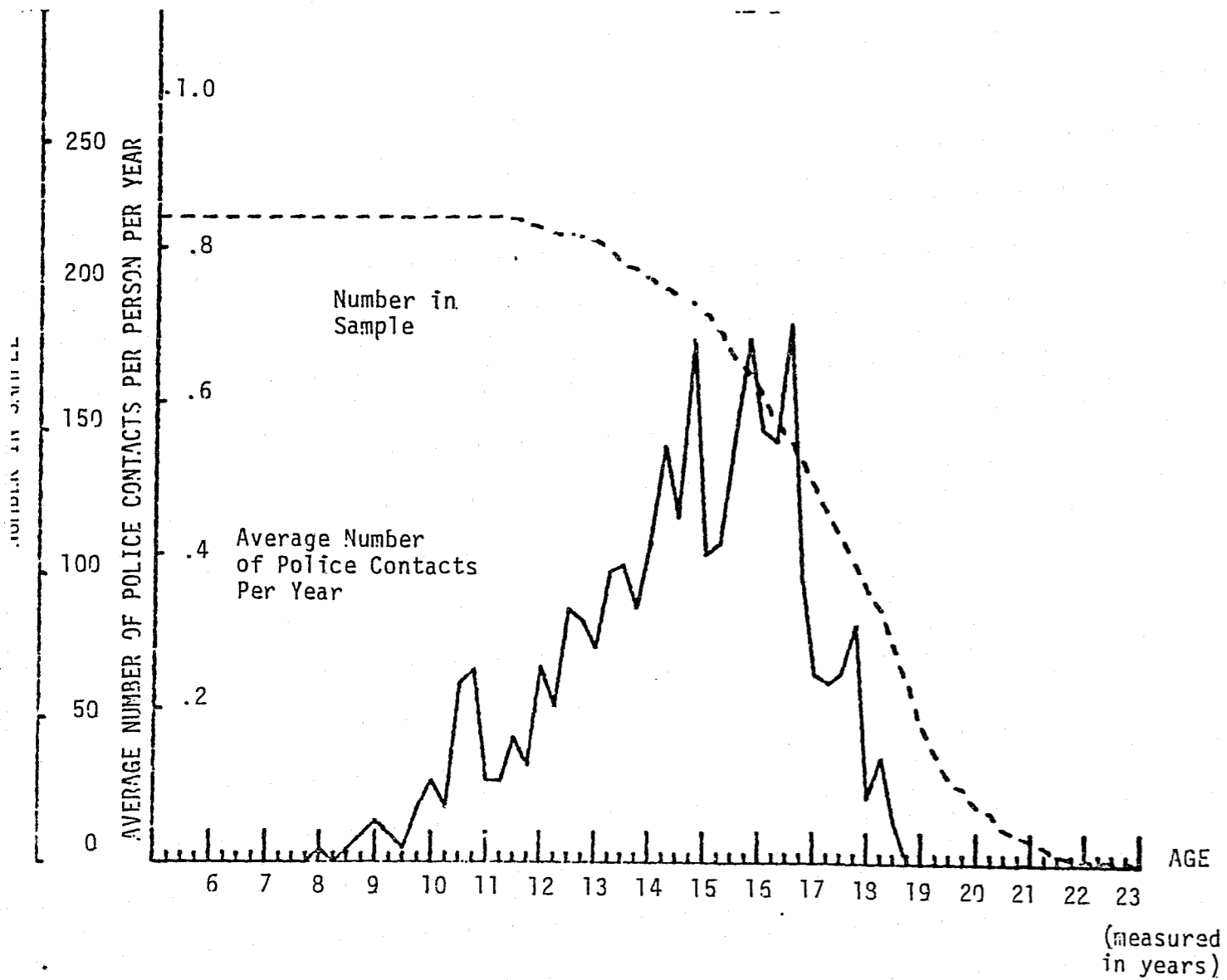CHART 2:   FREQUENCY OF POLICE CONTACTS BY AGE FOR THE FEMALES IN THE YSC POPULATION

CHART 3: FREQUENCY OF POLICE CONTACTS OF AGE FOR THE MALES IN THE
YSC POPULATION

in the general YSC population, while the converse is true for the females. However, great reliability cannot be placed in the representativeness of the age distribution of police contacts for the females at age seventeen for the total female delinquent population as the sample size is quite small, approximately thirty youths.

Charts 4 and 5 display the age distributions of police contacts for the nonwhites and white in the YSC population respectively. The frequency of police contacts for the nonwhites are almost everywhere greater than the frequency of these contacts for the YSC white population. Again, there is a sharp decrease in police contacts at ages seventeen and eighteen although this occurrence is more pronounced in the black population, a result of their more frequent criminal behavior at ages fifteen and sixteen (a reversion to trend) and perhaps their higher expected value of the costs of criminal behavior if caught.

CHART 4: FREQUENCY OF POLICE CONTACTS BY AGE FOR THE NON-WHITES IN THE YSC POPULATION
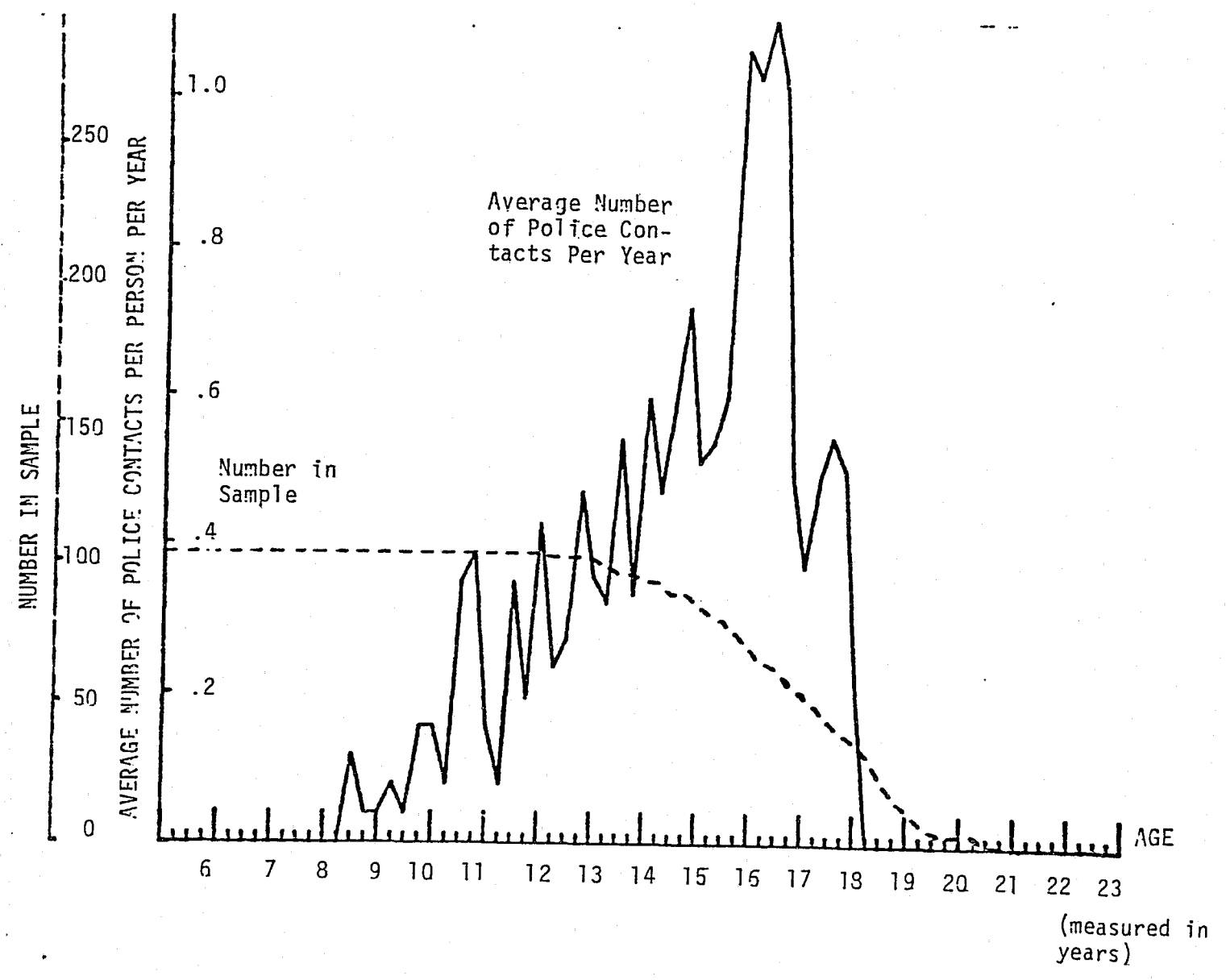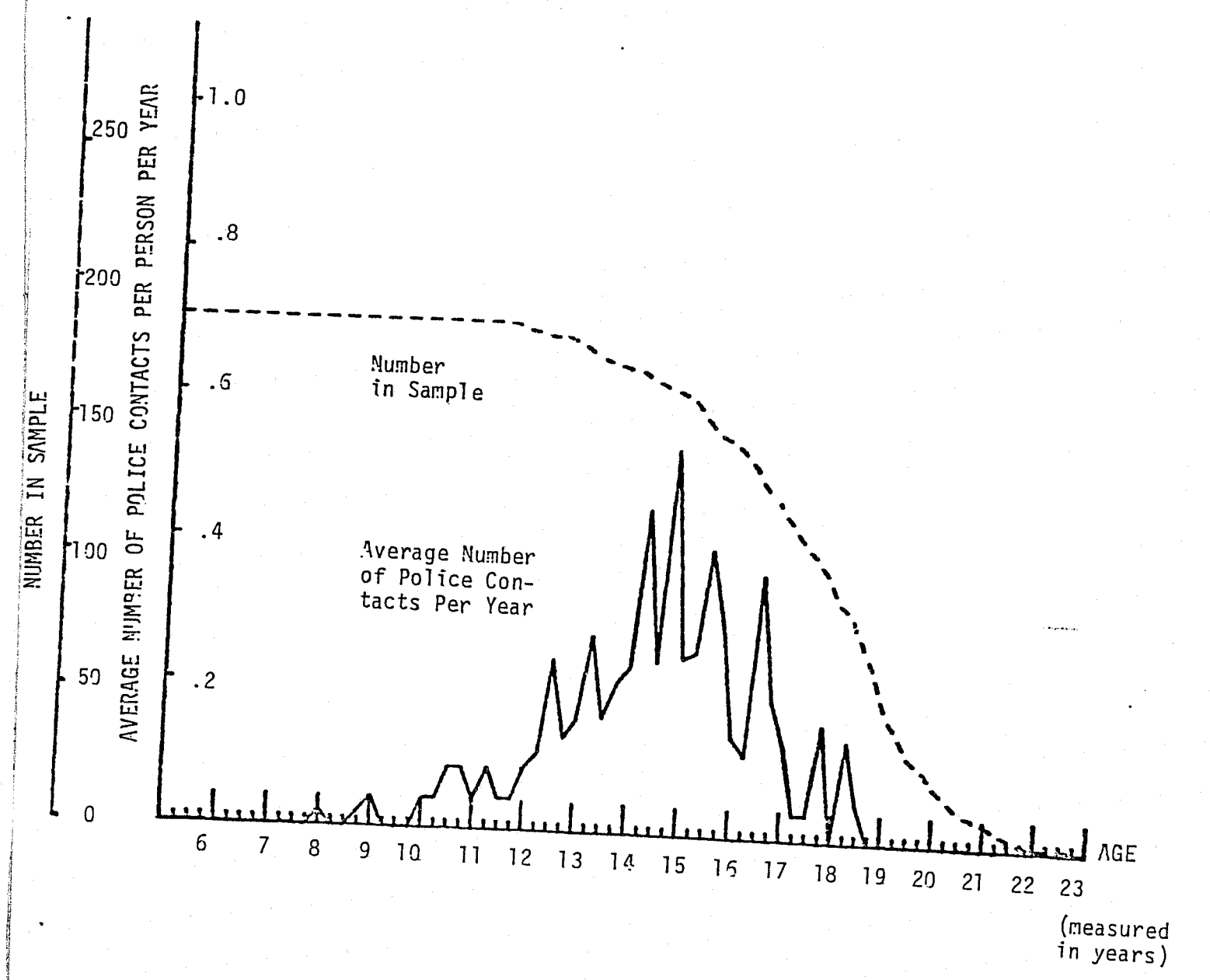
CHART 5: FREQUENCY OF POLICE CONTACTS BY AGE FOR THE WHITES IN THE YSC POPULATION

Chart 4 — NUMBER IN SAMPLE / AVERAGE NUMBER OF POLICE CONTACTS PER PERSON PER YEAR. Average Number of Police Contacts Per Year. Number in Sample. AGE (measured in years)

Chart 5 — NUMBER IN SAMPLE / AVERAGE NUMBER OF POLICE CONTACTS PER PERSON PER YEAR. Number in Sample. Average Number of Police Contacts Per Year. AGE (measured in years)

III. A Pre and Post Analysis of the Effectiveness of YSC to Reduce the
Frequency and Seriousness of YSC Clients' Police Contacts

This section is an analysis of the YSC clients' contacts with the

Philadelphia police. It examines the extent to which the frequency and

seriousness of police contacts prior to intake, during treatment and after

termination differ significantly from each other. The analysis tests

crudely the supposition that treatment at YSC reduces delinquent behaviors

which would be reflected in fewer and less serious police contacts. The

a priori expectation is that police contacts will be less frequent and

serious after termination from YSC than prior to or during the treatment

periods if there is a beneficial treatment effect associated with YSC par-

ticipation.

Unfortunately, the one-group pretest-posttest design, unlike the matched

sample study which follows, does not control for changes such as maturation

effects which may systematically occur within the clients and may systematic-

ally affect delinquent behaviors independent of YSC treatment effects. In

other words, over different developmental phases youths may tend to become

more or less criminally inclined. If the youths tend to become more criminal-

ly inclined, the YSC treatment effect would be underestimated in the one

group pretest-posttest design. If the maturation process reduces criminal

inclinations, the one group pretest-posttest design will overestimate any

YSC treatment effect. Unfortunate also is the lack of a cohesive literature

which relates age to maturation effects and deviant behavior. Also, changes

in the criteria used by the police to charge youths with offenses would pose

a problem similar to the one potentially introduced by maturation effects.

Consequently, caution should be exercised in the interpretation of the fol-

lowing analysis.

The YSC clients had the same monthly average number of contacts
with the Philadelphia police for non-status offenses during the
12 month period to intake (12 Pi) as they did during the 12 month
period after termination (12 AT).

The YSC clients had the same monthly average number of contacts
with the Philadelphia police for non-status offenses during the
12 month period prior to intake (12 Pi) as they did within the
24 month period after termination (24 AT).

The second hypothesis was tested because beneficial treatment effects may

sometimes decline with time after treatment has been terminated. The results

of the second hypothesis in conjunction with the results of the first hypothesis

would capture this effect if it exists. However, because a full one or two

years of data after termination did not exist in many cases, tests using all

of the available data within a one or two year period were also calculated.

In these cases, the data was adjusted so as to reflect the average monthly

number of police contacts over a variable length period as opposed to the total

number of contacts over a fixed one or two year period. As a consequence, all

of the data is presented in average monthly figures to maintain uniformity of

the analysis thereby providing easier comparisons between the statistical tests.

In the following charts, all of the variable abbreviations remain the same in

the analyses using variable time periods within a one or two year range except

that they are signified by the presence of an asterisk (*) in the left hand

columns where the variables being compared are denoted.

The third and fourth hypotheses related the frequency of client-police in-

teractions during program participation to client-police interactions after

termination from YSC. If YSC treatment has beneficial effects on clients, this

should be reflected in fewer police contacts after termination although the

treatment effects may diminish over time. It should be noted however, that

hypotheses three and four are somewhat less well defined than hypotheses one and

two due to the wide variation in the length of treatment periods. Therefore, these hypotheses are structured so as to compare the average monthly frequency of police contacts during program participation to the average monthly figures over the one and within the two year periods following termination. Tests using variable length time periods after termination are also calculated and again identifiable by an asterisk in the left hand column of the charts. The null hypotheses are stated as follows:

> The YSC clients had the same average number of contacts with the Philadelphia police for non-status offenses per monthly while on caseload at YSC (OC) as they did over the 12 month period after termination from the program (12 AT).

> The YSC clients had the same average number of contacts with the Philadelphia police for non-status offenses while on caseload at YSC (OC) as they did within the 24 month period after their termination from the program (24 AT).

Three statistical tests, the non-parametric sign and Wilcoxin tests as well as the parametric t-tests for matched samples were calculated. While none of the assumptions of the sign test were violated, it should be noted that it is not a particularly powerful test. Consequently, the Wilcoxin and t-tests were calculated although all of the assumptions underlying these tests were not met in either case. The large number of ties occurring in this data reduces the reliability of the Wilcoxin test while the normality assumption inherent in the t-test is violated. Therefore, greater confidence should be placed in results of these tests only when there is a consensus among the results concerning the significance or non-significance of the relationships being tested.

Table 7 displays the results of the statistical tests for hypotheses one through four. The results of table 7 are conflicting. Many of the relationships were not statistically significant at the .20 level indicating no significant reduction in the number of police contacts incurred by the YSC youth after their termination from the program as compared to their pretreatment or during treatment frequencies of interactions with the police. In six cases,

TABLE 7: SIGNIFICANCE OF RELATIONSHIPS IN
HYPOTHESES 1-4) (TWO TAIL TESTS)

	SIGN TEST	WILCOXIN TEST	T-TEST
H1: 12PI v 12AT	nu + differences = 17 nu - differences = 19 N = 156 Not significant .20 level	sum + ranks = 215 sum - ranks = 435 nu nonzero differences = 36, N = 156 Significantly more police contacts 12 mo. after termination .10 level	t = -1.874 D.F. = 155 Significantly more police contacts 12 mo. after termination .10 level
12PI v 12AT*	nu + differences = 34 nu - differences = 25 N = 235 Not significant .20 level	sum + ranks = 798 sum - ranks = 958 nu nonzero differences = 59, N = 235 Not significant .20 level	t = -.935 d.f. = 234 Not significant .20 level
H2: 12PI v 24AT	nu + differences = 2 nu - differences = 6 N = 48 Not significant .20 level	sum + ranks = 9 sum - ranks = 26 nu nonzero differences = 8, N = 48 Not significant .20 level	t = -1.310 d.f. = 47 Significantly more police contacts 24 mo. after termination .20 level
12PI v 24AT*	nu + differences = 24 nu - differences = 11 N = 156 Significantly fewer police contacts after termination .10 level	sum + ranks = 489 sum - ranks = 124 nu nonzero differences = 35, N = 156 Significantly fewer police contacts after termination .01 level	t = 2.960 d.f. = 155 Significantly fewer police contacts 24 mo. after termination .005 level
H3: OC v 12AT	nu + differences = 11 nu - differences = 18 N = 156 Not significant .20 level	sum + rank = 135 sum - ranks = 300 nu nonzero differences = 29, N = 156 Significantly more police contacts 12 mo. after termination .10 level	t = -1.888 d.f. = 155 Significantly more crimes 12 mo. after termination .10 level
OC v 12AT*	nu + differences = 26 nu - differences = 24 N = 235 Not significant .20 level	sum + ranks - 532 sum - ranks = 743 nu nonzero differences - 50, N = 235 Not significant .20 level	t = -1.248 d.f. = 234 Not significant .20 level
H4: OC v 24AT	nu + differences = 2 nu - differences = 7 N = 48 Significantly more crimes after termination .20 level	sum + ranks = 16 sum - ranks = 29 nu nonzero differences = 9, N = 48 Not significant .20 level	t = -.398 d.f. = 47 Not significant .20 level
OC v 24AT*	nu + differences = 17 nu - differences = 12 N = 156 Not significant .20 level	sum + ranks = 333 sum - ranks = 97 nu nonzero differences = 29, N = 156 Significantly fewer police contacts 234 mo. after termination .01 level	t = 2.548 d.f. = 155 Significantly fewer police contacts 24 mo. after termination .02 level

the statistical tests "reveal" significantly more police contacts after program termination indicating that there is either a negative treatment affect associated with YSC participation or that there is a variable such as maturation, confounded with police contacts, that has not been accounted for in this analysis. Finally, in five instances, all of which occur when the incomplete data on police contacts within the one and two year intervals is used, the results of the statistical tests indicate that significantly fewer police contacts occurred after program termination than before or during program participation. Because of the conflicting results of these statistical tests, there is a paucity of reliable information of the effectiveness of this program to reduce the number of client/police interactions. What can be said is that there is not a strong and consistant pattern of behavior on the part of YSC clients which can either support or negate the existence of a beneficial treatment effect associated with participation in the YSC crime prevention program.

In an attempt to further explore the nature of the delinquent behavior of YSC clients prior to, during and after termination from the treatment program, four additional hypotheses concerning the seriousness of the police contacts over these periods were tested.* The same statistical tests, the sign test, the Wilcoxin and the t-test, were utilized although the qualifications concerning the violation of the underlying assumptions of the Wilcoxin test are no longer applicable.

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* The Sellin-Wolfgang seriousness of offense index was used. See Sellin and Wolfgang in The Criminal in Society, 1971.

The hypotheses tested, are stated as follows:

H5: The average total seriousness of the YSC clients' contracts with the Philadelphia police for non status offenses per month over the 12 month period prior to intake (S12 Pi) is the same as the average total seriousness scores per month for the 12 month period after the client terminated from YSC (S12 AT)

H6: The average total seriousness of the YSC clients' contacts with the Philadelphia police for non-status offenses per month over the 12 month period prior to intake (S12 Pi) is the same as the average total seriousness scores per month for the 24 month period after the client terminated the program (S24 AT).

H7: The average total seriousness of the YSC clients' contacts with the Philadelphia police for non-status offenses per month over the period in which they were enrolled in the program (SOC) is the same as the average total seriousness scores per month over the 12 month period after the client terminated the program (S12 AT).

H8: The average total seriousness of the YSC clients' contacts with the Philadelphia police for non-status offenses pe month over the period in which they were enrolled in the program (SOC) is the same as the average total seriousness scores per month over the 24 month period after the client terminated the program (S24 AT).

The sixth and eighth hypotheses were tested in order to capture any decrease in a treatment effect if one exists. Again, each hypothesis was tested twice. The first test of each hypothesis includes only those cases where all of the data on police contacts was available within the full one or two year period after termination. The second tests of each hypothesis, denoted by an asterisk in table 8, includes all of the cases with any data falling within a one or two year period after termination. All of the data is presented in a monthly average form.

The results of hypotheses four through eight are displayed in table 8. The results of the statistical tests of Table 8 are again mixed although the tests which indicate that significantly more serious police contacts resulted after termination are both (2 cases) based on very small sample size. In

TABLE 8: SIGNIFICANCE OF RELATIONSHIPS IN HYPOTHESES 5-8
(TWO TAIL TESTS)

	SIGN TEST	WILCOXIN TEST	T-TEST
H5: S12PI v S12AT	nu + differences = 19 nu - differences = 11 N = 156 Not significant .20 level	sum + ranks = 270 sum - ranks = 193 nu nonzero differences = 30, N = 156 Not significant .20 level	t = -.746 d.f. = 155 Not significant .20 level
S12PI v S12AT*	nu + differences = 36 nu - differences = 14 N = 235 Significantly less serious police contacts 12 mo. after termination .01 level	sum + ranks = 845 sum - ranks = 425 nu nonzero differences = 50, N = 235 Significantly less serious police contacts 12 mo. after termination .10 level	t = .365 d.f. = 234 Not significant .20 level
H6: S12PI v S24AT	nu + differences = 1 nu - differences = 4 N = 48 Not significant .20 level	sum + ranks = 4 sum - ranks = 11 nu nonzero differences = 5, N = 48 Not significant .20 level	t = -.336 d.f. = 47 Not significant .20 level
S12PI v S24AT	nu + differences = 21 nu - differences = 9 N = 156 Significantly less serious police contacts 24 mo. after termination .05 level	sum + ranks = 387 sum - ranks = 72 nu nonzero differences = 50, N = 156 Significantly less serious police contacts 24 mo. after termination .01 level	t = 2.728 d.f. = 155 Significantly less serious police contacts 24 mo. af- ter termination .01 level
H7: SOC v S12AT	nu + differences = 8 nu - differences = 11 N = 156 Not significant .20 level	sum + ranks = 77 sum - ranks = 113 nu nonzero differences = 19, N = 156 Not significant .20 level	t = -.774 d.f. = 155 Not significant .20 level
SOC v S12AT*	nu + differences = 23 nu - differences = 13 N = 235 Significantly less serious crimes 12 mo. after termina- tion .20 level	sum + ranks = 403 sum - ranks = 263 nu nonzero differences = 36, N = 235 Not significant .20 level	t = .318 d.f. = 234 Not significant .20 level
H8: SOC v S24AT (*The nu of non- zero differ- ences in this test (4) is very small & thus is only marginally significant) SOC v S24AT*	nu + differences = 0 nu - differences = 4 N = 48 Significantly more serious police contacts 24 mo. after termination .20 level	sum + ranks = 0 sum - ranks = 10 nu nonzero differences = 4, N = 48, Significantly more serious police contacts 24 mo. after termination .20 level.*	t = -1.258 d.f. = 47 Not significant .20 level
	nu + differences = 10 nu - differences = 9 N = 156 Not significant .20 level	sum + ranks = 135 sum - ranks = 52 nu nonzero differences = 19, Significantly less serious police contacts 24 mo. af- ter termination .20 level	t = 1.865 d.f. = 155 Significantly less serious police contacts 24 mo. af- ter termination .10 level

both of these cases the total number of non zero differences between the seriousness of contacts occuring while on caseload and the seriousness of contact 24 months after program termination (using the cases where only the full 24 month period of data was available) was four. This is an extremely small sample size on which to base any conclusions on the effectiveness of the YSC program. Nevertheless, the total sample size in these two cases was 48 indicating that either 1) no police contacts were initiated by many of the youths in this sample while on caseload and after program termination, or 2) that contacts of equal seriousness were initiated while on caseload and after program termination, or 3) that some of the police contacts had seriousness scores of zero as calculated by the Sellin-Wolfgang method. This could have occurred in either a systematic or nonsystematic way while the youths were either on caseload or after termination from the program. These police contacts would be "washed" out of the statistical analysis as they would result in zero differences in the monthly average seriousness of police contacts regardless of when they occurred.

With the exception of two of the remaining statistical tests with a total of five non-zero differences each, neither of which were insignificant at the .20 level, all of the remaining tests are based on sample sizes large enough for reliable statistical inferences. The relevant sample sizes of the remaining tests range between 19 and 234. Many of these tests, particularly all of these tests based on the cases where only the full one or two years of data after program termination exist, are insignificant at the .20 level. This indicates that the police contacts initiated before and during the program participation were no more or less serious than the police contacts which occurred after termination from YSC. However, eight of

the twelve statistical tests based on client data which may not have fully
covered a one or two year period indicate that significantly less serious
police contacts were initaited by YSC clients after termination from the
YSC program. If this result occurred on a more systematic basis throughout
the twenty-four tests calculated for this analysis, this would indicate
that YSC may have a beneficial treatment effect in reducing the seriousness
of their clients' police contacts if this entire analysis is not confounded
with age or maturation effects, uncontrolled for in this study, which could
also lead to this result.

The upshot of all of the preceding analysis in this section is stated
as follows. A strong systematic relationship between the frequency and
seriousness of police contacts occurring prior to, during and after program
participation does not seem to exist. However, the ambiguity of this
conslusion led to the eventual plotting of the raw data in an effort to
observe, in a non-statistical way, any possible trends obscured by the manipu-
lations involved in the hypothesis testing. The results were obtained in
Charts 6 through 8. Chart 6 provides much more detailed information than either
charts 7 or 8 but consequently may be somewhat more difficult to interpret.
The dotted line in chart 6 shows that full arrest record data was available
on all the YSC youths prior to intake at YSC. The solid black line shows
that the frequency of police contacts increased sharply before intake into
YSC. This is explained by either a few youths who may have had substantially
more police contacts one or two months prior to intake or many of the eventu-
al YSC clients (about 20%) having one police contact prior to intake. The
latter hypothesis is more tenable. Also, this line indicates that there
was a trend for the frequency of police contacts line to increase, the

longer youths remained on caseload. It is doubtful however, that the
very sharp peak at the end of the solid black line indicates that the
YSC tended to drop their most delinquent clients bacause the sample
size at that point is extremely low (about 10).

The solid green line in Chart 6 indicates the number of individuals
for whom monthly average police contacts were calculated who were no
longer on caseload X months where X = 1, 2, 3, . . .39 months, after pro-
gram intake for whom the relevant police data was available. The lack
of availability of police data explains why the green line forms a uni-
modal distribution rather than takes the shape of a cumulative density
function. The solid red line indicates the average number of police con-
tacts per month for the youths who were no longer on caseload X months
after intake and for whom police data was available. While this line is
almost everywhere beneath the frequency of contacts line while on case-
load, it does not appear to differ significantly from the frequency of
police contacts line prior to intake with the exception of the peak which
occurs one-two months before intake and is most likely a result of the
way in which YSC "recruits" a large number of clients. (YSC often sends
letters offering services to the youths in their catchment area who have
been taken by the police to the Philadelphia Youth Services Center, the area
delinquent detention center.

Chart 7 shows the average monthly number of police contacts for YSC
youth one year prior to program termination and up to three years after
termination from YSC. The data on both sides of the termination date are
remarkably similar. There does not appear to exist any marked change in
behavior (either for the better or worse) soon after program termination.
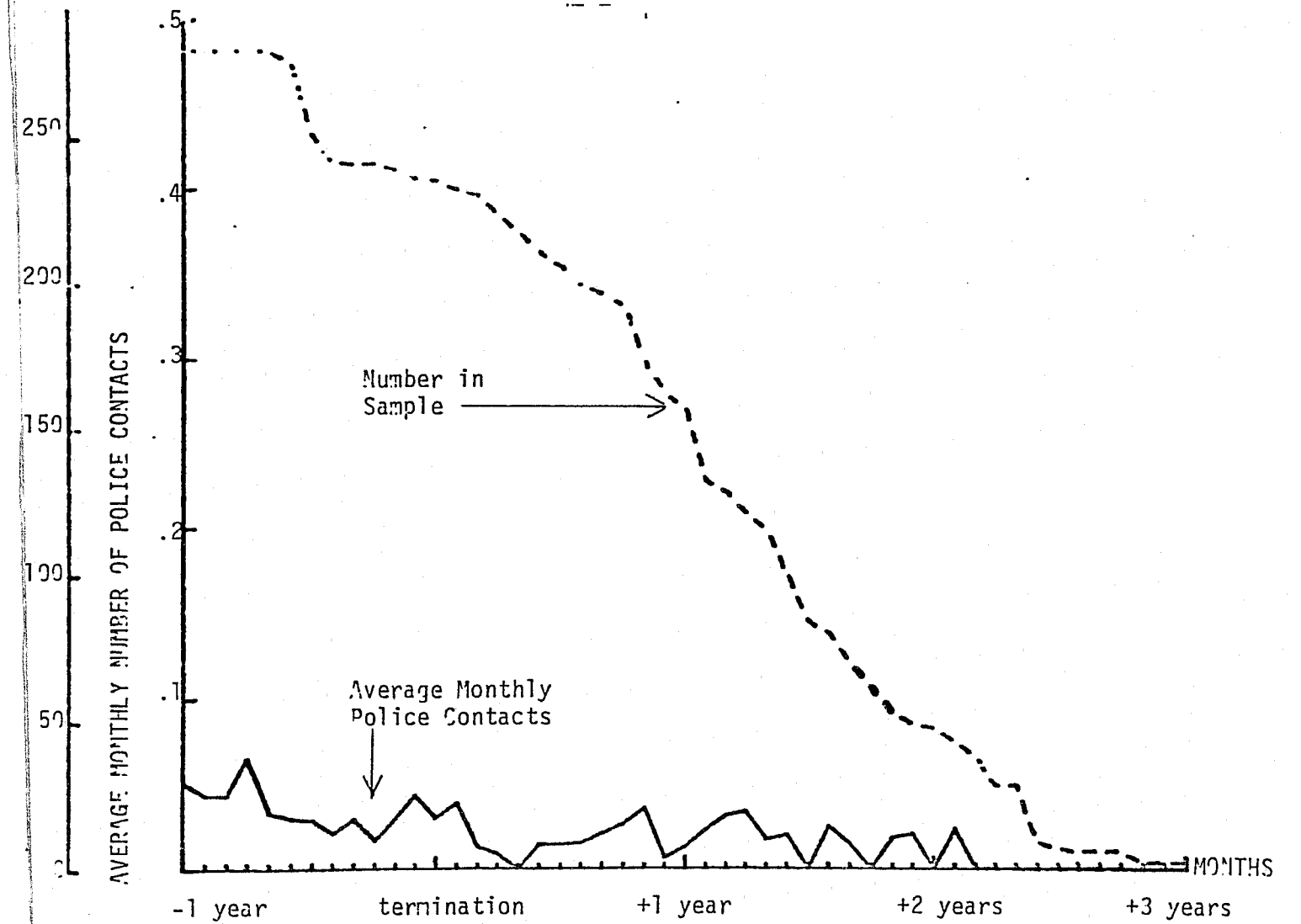
_____ Average number of police contacts per month prior to and during program participation.

. . . . . . Number of individuals for whom monthly average police contacts were calculated before intake & during program participation.

▬▬▬▬ Average number of police contacts per month of the youths no longer on caseload X months after intake.

────── Number of individuals for whom monthly average police contacts were calculated who were no longer on caseload X months after program intake for whom the the relevant police data was available. (The lack of availability of police data explains why the green lines form a unimodal distribution rather than takes the shape of a cumulative density function.

Finally, Chart 8 shows the average monthly number of police contacts once year prior to intake and up to three years after program termination. Again the peak in the frequency of contacts line, one to two months prior to intake at YSC is evident, reflective of a crisis intervention strategy. However, aside from this peak which is a result of the YSC selection process, there does not appear to be any major difference in the frequency of contacts line between the before intake and after termination dates. While in and of itself, this is not reflective of the ineffectiveness of the YSC program to reduce police contacts, it certainly is not supportive of any beneficial treatment effect associated with participation at YSC. The hypothetical chart number 9 would indicate a beneficial treatment effect if the analysis were not confounded with unknown explanatory variables. However, chart number 8 does not even approximate this shape, particularly noticeable is the lack of any sharp difference at the before intake and after termination cutoffs.(The true experimental question is what would have been the frequency of contacts in the absence of any treatment relative to the frequency given YSC treatment.)

Consequently, this graphic analysis supports the statistical analysis in that there is not a strong systematic relationship between the frequency of police contacts before, during or after program participation that supports the hypothesis that YSC has a beneficial treatment effect. This should not however be interpreted as a statement to the effect that there is no beneficial treatment effect associated with participation at YSC but rather that this data and research design, both subject to many weaknesses, do not find evidence supportive of a benficial treatment effect. Fortunately, however, the methodological problems associated with the pretest-posttest analyses are eliminated in the more rigorous matched sample study which follows.

CHART 8: AVERAGE MONTHLY POLICE CONTACTS (N OF CASES) TWO YEARS PRIOR TO INTAKE AND TWO YEARS AFTER TERMINATION
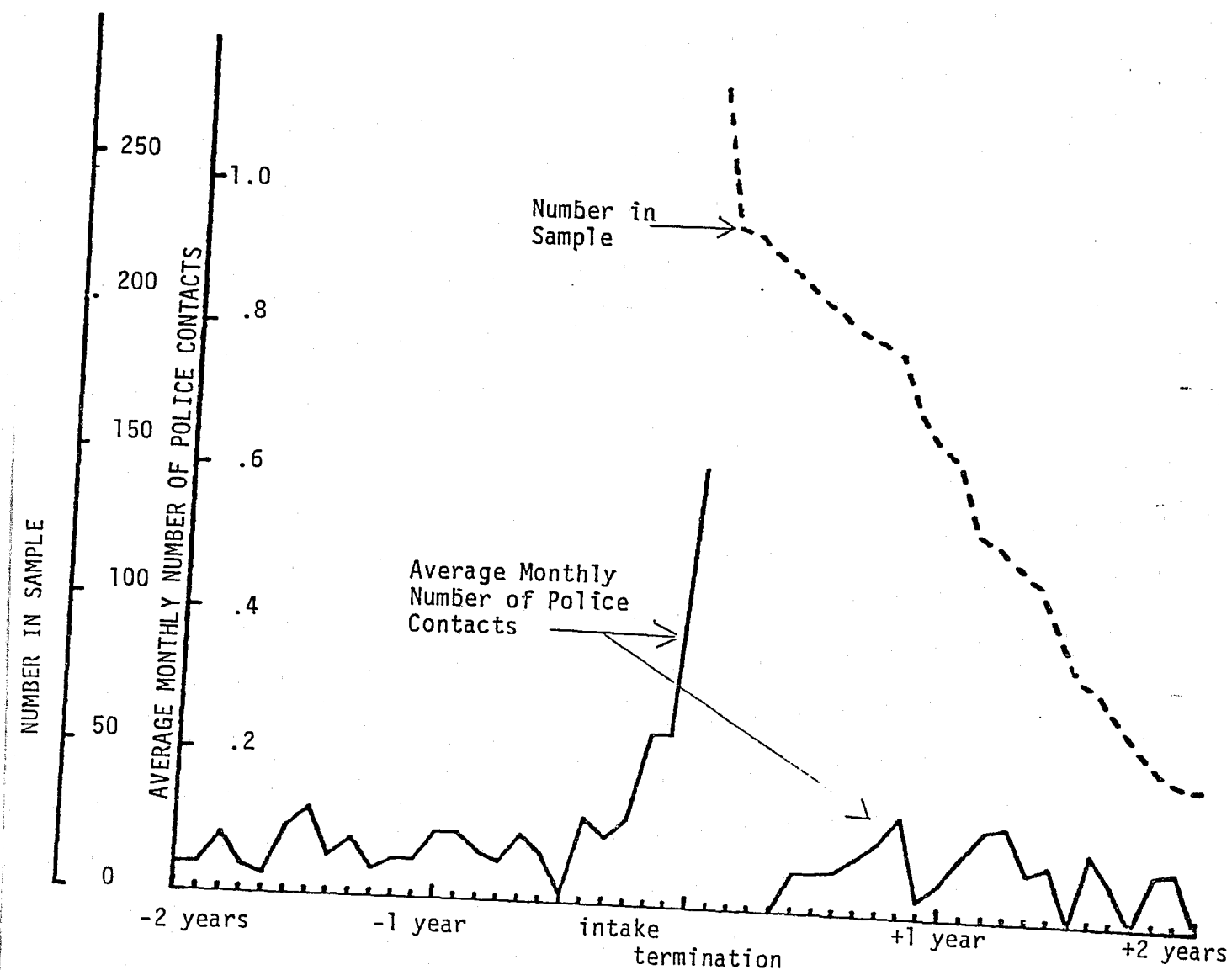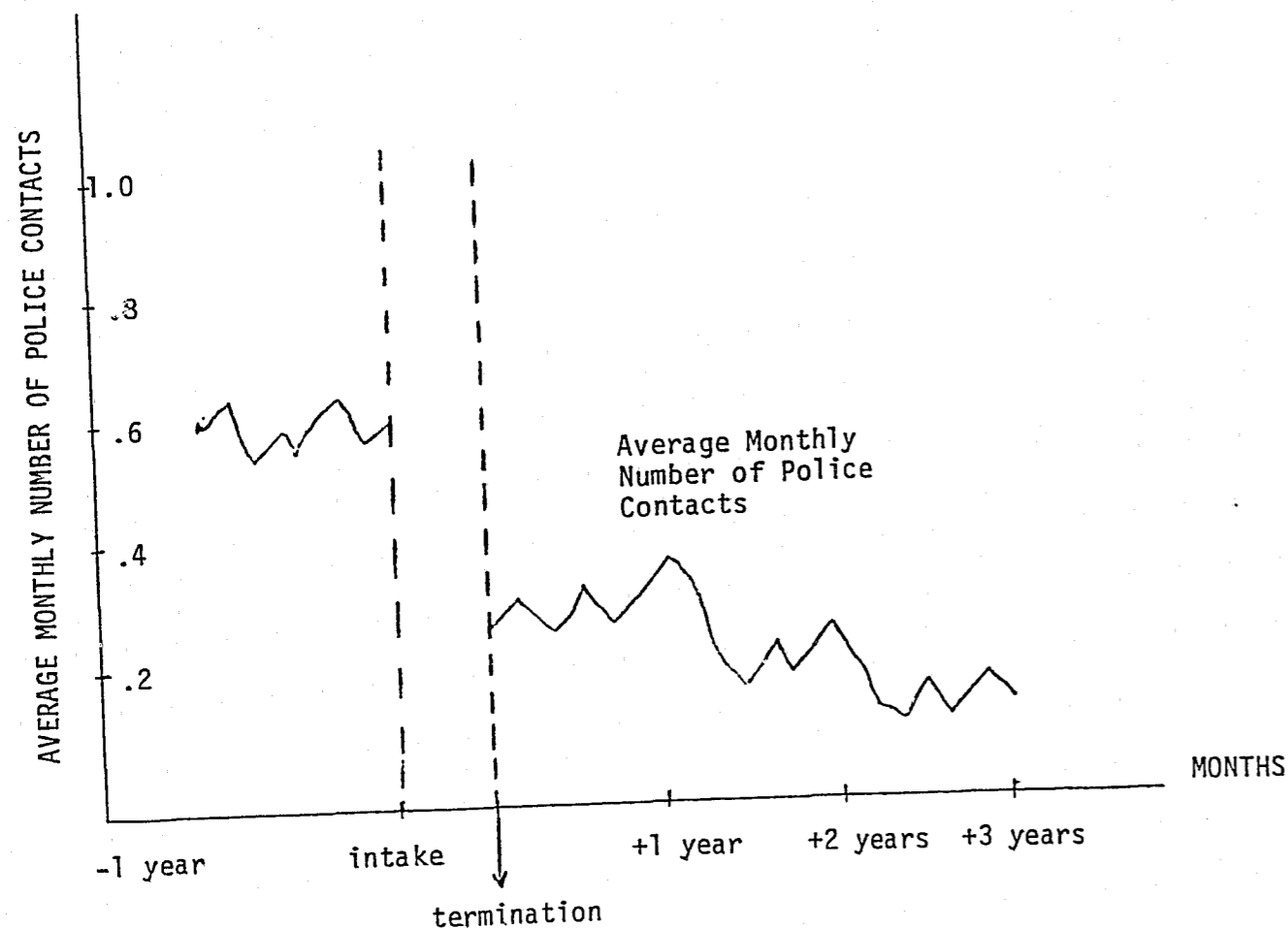
CHART 9: HYPOTHETICAL GRAPH POSSIBLY INDICATING
BENEFICIAL TREATMENT EFFECTS

IV. **A Matched Sample Study of the Effectiveness of YSC to Reduce The Frequency and Seriousness of Police Contacts**

In September of 1977, a study comparing a group of 42 YSC clients to 42 non-treatment youths identified through the court system was conducted. The object of the study was to determine whether or not participation in the YSC program resulted in clients penetrating less deeply into the juvenile justice system and receiving less socially controlling dispositions than similar youths who were not on caseload. All 42 of the YSC clients had been accepted for treatment by YSC after an arrest, but prior to a preliminary hearing. Furthermore, the following characteristics were used to match the experimental and comparison group subjects.

1) Race (white or non-white)

2) Age (less than 15 years at time of arrest or greater than or equal to age 15)

3) Number of prior arrests (no prior arrests or at least 1 prior arrest)

4) Type of offense for current arrest (crimes against persons, crimes against property, other offenses)

The two groups were nearly identical with respect to these four characteristics. Additionally, the study was restricted to all males. The results of the study did not support the hypotheses that YSC clients either receive less socially controling dispositions or spend less time being involved within the court system.

Because YSC has another primary goal, the reduction of a youth's delinquent behavior, this study puruses the question of whether or not the YSC youths were, after intake into the program, less delinquent than the non-caseload youths with similar characteristics. The definition of delinquent behavior used for this study was the number of contacts with the police these youths had (after their comparison arrest) for non-status offenses.

While the variable, contacts with the police, has frequently been criti-
cized by researchers as an index of delinquent behavior, many of the criti-
cisms would not apply to this study. While contacts with the police does
capture the richness of the concept of delinquent behavior, biases would
be introduced into this study only if, one of the groups of youths which
is well matched to the second group, was more adept at avoiding police con-
tacts. I did not feel that this type of systematic bias would be possible
in two well matched groups of youths living in the same neighborhoods.

Additionally, this study asks whether or not subsequent contacts with
the Philadelphia Police by the YSC youths after intake into the program
were for more or less serious charges than those incurred by the youths
in the comparison group after the date of the comparison arrest. The
Sellin-Wolfgang seriousness of crime index was used.* The police contact
histories of the two groups of individuals were compared over both a one
and a two year period.

This study uses 24 of the 42 court comparison youths in the original
study. Twenty youths were eliminated for one of three reasons. Either
their arrest records had been destroyed because of their age or they had
never been charged with an offense which was not deleted from their records
or records of comparable YSC youths were not available. Twenty four com-
parable YSC youths were identified by examining the original YSC experi-
mental group and by adding to the group from the total YSC population. Again
all of the experimental youths entered the YSC program after an arrest but

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* See Sellin/Wolfgan in The Criminal in Society, 1971.

before a preliminary hearing. Again the study was restricted to an all
male sample and the youths were very closely matched on the characteris-
tics used for the diversion study. However, as in the predecessor of this

TABLE 9: CHARACTERISTICS MATCHES OF THE 48 YOUTHS IN THIS STUDY

		YSC YOUTH	COURT YOUTH
RACE:	White	14	15
	Non-White	10.	9
AGE:	15	12	15
	15	12	9
PRIORS:	None	9	9
	At Least 1	15	15
TYPE OF OFFENSE:	Persons	4	6
	Property	14	11
	Other	6	7

study, an identical matching for each of the court comparison youths could
not be made. Also the existance of prior contacts with the Philadelphia
policy was, in this study, restricted to the existance of prior contacts
with the police for non-status offenses.

The first null hypothesis which was tested was stated as follows:

The youths in the experimental group had the same frequency of
contacts with the Philadelphia police department for non-status
offenses as did the youths in the comparison group.

The YSC staff would contend that the youths undergoing treatment through
their program would, after intake into the program, become less delinquent
than the youths who were not treated at YSC. Therefore, program effective-

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* This amount is subsequently called the comparison arrest. The nature
of this offense and the youths characteristics, age, and existence of any
prior offenses at the time of this offense were critical to the matching pro-
cedure for the   in the experimental and comparison groups.

ness would be indicated by a significantly lower number of contacts with the Philadelphia police for the experimental youths. This hypothesis was tested over both a one year and a two year period after the dates of the crimes on which the YSC and court youths were compared.*

Three statistical tests were conduced for both the one year and two year comparisons. The non-parametric sign and Wilcoxin tests which make no assumptions concerning the distribution of offenses were calculated. Although the Wilcoxin test is more powerful than the sign test, both were calculated because there were a large number of ties in the data which limits the effectiveness of the Wilcoxin test. That is, in a large number of cases, the different between the number of crimes committed by the YSC and court youths over the test period was either one or two crimes. There were no assumptions concerning the sign tests which could have been violated. The parametric t-test for matched sample studies was also calculated. This test assumes the normality of the distribution of differences in the number of offenses for the two groups. The normality assumption is violated in this study. However, because of the problem with the large number of ties in the Wilcoxin test, it was felt that the stronger parametric analogue should be calculated and the results of the three tests compared for their uniformity.**

None of the statistical tests were significant at the .20 level in the one or two year comparisons. That is, the youths who did not receive treatment from YSC did not have subsequent criminal histories that differed significantly from the YSC youths in terms of the frequency of police contacts for non-status offenses over either the one or two year period! If the sample

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* In the few cases where data was not available for the complete one or two year periods for either the YSC or the court youths, the data compared for the matched youths was over a comparable time period.

** For a discussion, see Hays, Stastistics for the Social Sciences, p. 409-410.

means of these two groups are in fact reflective of the population means (there is no strong a priori reason to believe that they are not reflective of the populations means) and if the reduction of delinquent behavior is truly measured by the frequency of police contacts for non-status offenses, then the results of these tests indicate that there was no significant treatment effect from YSC participation in terms of the reduction of delinquent behavior.

However, a further argument might be made on behalf of the YSC program that while the number of police contacts of the treatment youths were no reduced, the police contacts of the YSC youths were for less serious offenses. Consequently, the following hypothesis was tested:
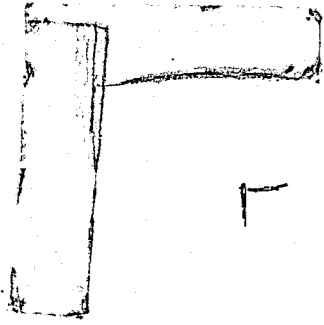
> The youths in the experimental group had the same seriousness of policy contacts with the Philadelphia police department for non-status offenses as did the youths in the comparison group.

The sign and the Wilcoxin tests for matched samples were calculated. Although the problems with ties in the data did not occur with the seriousness oc crime scores, the t-test was nevertheless calculated. The results of all of the statistical tests indicated that there were no significant differences in the seriousness of police contacts after the comparisons contacts between the experimental or court comparison groups, i.e., no significant beneficial treatment effect.

Therefore, none of the results of the matched sample studies conducted on the frequency and seriousness of police contacts, the penetration of YSC clients into the juvenile justice system, and degree of the socially controlling dispositions received by YSC youths through the courts indicate any beneficial treatment effects along these dimensions. Although no one piece of evaluative research can be definitative, the consistency of the pretest-posttest study in addition to the matched sample studies is difficult to dismiss as a chance occurrence.

V. Conclusion

Two analyses of the impact of YSC on clients' police contacts were conducted in this paper. Although the pre-post study is flawed because of the weakness of its research design, its findings are consistent with the more methodologically rigorous matched sample study. Neither analysis found any statistical or graphic evidence to support the hypotheses that YSC participation results in fewer and less serious police contacts. This finding is consistent with two earlier studies one of which found that YSC participation did not affect the penetration of its clients into the juvenile justice system or the degree of socially controlling dispositions received by its clients. A second study found no evidence that the initiation of the YSC program had any impact on the number of crimes committed in its catchment area. Therefore, while the conclusiveness of any one study may be questionable, the consistency of several studies to find no positive effects, community or individual, may in fact be indicative of a true lack of program effectiveness in these areas.

END