FINAL EVALUATION REPORT ON THE SPOKANE PROJECT TO DEINSTITUTIONALIZE STATUS OFFENDERS

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Abstract

The Spokane DSO project was implemented in May, 1976, by Youth Alternatives (YA), an independent non-profit organization. The key objectives of the project were to reduce the penetration of status offenders into the juvenile justice system and to reduce the recidivism rate of these youngsters.

Youth Alternatives received an average of 54 status offender referrals, per month, with 85 percent of these from law enforcement agencies or the juvenile court. The juvenile court, however, continued to received 45 status offender referrals, per month, a number consistent with what would have been expected (based on pre-program trends) even if Youth Alternatives had not been operative. Thus, after YA began, there were considerably more status offenders when juveniles at the court and at YA are both counted.

The analysis indicates a possibility that many of the YA referrals were the result of a "net widening" effect produced by an increase in law enforcement referrals and were not cases diverted from the juvenile court. On the other hand, there is some evidence that part of the increase in the number of status offenders was produced by shifts in the classification procedure so that referrals which, in the past, would have been considered delinquents or neglect cases, were classified as status offenders in order to make them eligible for Youth Alternatives.

At this time, Spokane County juvenile court detains only a few status offenders (about 18, per month, of whom most are not eligible for DSO); files petitions on less than two status offender referrals, per month; and since May, 1976 has institutionalized only five status offenders, only one of whom was eligible for the DSO project. The data analysis shows, however, that the number of status offender referrals subject to these processes had been declining for more than two years before YA began and most of the indicators of penetration would have declined to the same low levels even without the federally-funded DSO project.

The three and six month recidivism rates of status offenders referred to Youth Alternatives were not significantly different than youngsters handled exclusively by the court in either the pre or post-YA time periods.

From a federal perspective, it appears as if a community (Spokane County) that was already moving toward the removal of status offenders from processing through the juvenile court applied for and received funds to help continue that effort, but it is likely they would have achieved many of the DSO objectives anyway. With the implementation of House Bill 371 in July, 1978, they are required to remove status offenders entirely from the juvenile court.

Non-judicial services are being provided to more status offenders than before and youths identified as status offenders have a considerably lower probability of being detained, having a petition filed, or being institutionalized than existed before YA began. Whether it is "good" or "bad" to provide services by a non-judicial agency to youngsters who, in the past, probably would not have been referred to the court, is a matter of judgment or of research that was outside the range of this evaluation. And, from both a local and national perspective, it is important to recognize that the community can handle a substantial percentage of its status offenders outside of the juvenile court without incurring an increase in recidivism. But, based on the data in this report, one should not necessarily expect the recidivism rate of status offenders referred to a non-justice agency to be lower than if they had been referred to the court.

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INTRODUCTION

The Spokane status offender deinstitutionalization program was implemented in May, 1976, by Youth Alternatives, a private non-profit organization. The project was funded by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and was a part of the national effort to deinstitutionalize status offenders.

Youth Alternatives (YA) operates a 24 hour crisis intervention service for status offenders (runaways, truants, and incorrigibles/ungovernables) referred by police, court personnel, school authorities, and others. YA has no overnight facilities for status offenders, but instead seeks to resolve the crisis situation and permit the youth to return home, or, if that is not possible, to find alternative shelter for the juveniles. In addition, the crisis counselors assess the service needs (if any) of the status offenders and link them with appropriate non-court community resources.

The objectives of the program were to divert status offenders from the juvenile court, remove status offenders from detention, and reduce the recidivism rate of these youngsters. The philosophy upon which the project was based was that an inappropriate labeling of juvenile status offenders occurred as they penetrated into the juvenile justice system. "Once ... contact, penetration, and labeling takes place," the project proposal noted,

"it seems to lead to a high rate of recidivism and makes it more difficult to break out of that cycle and to enter the less restrictive and stigmatized community."

EVALUATION OF YOUTH ALTERNATIVES

The Spokane project was included in the national evaluation funded by the National Institute of Juvenile Justice and Delinquency Prevention (NIJJDP) and conducted by the University of Southern California. The Institute of Policy Analysis was separately funded, also from NIJJDP, for the purposes of (1) implementing the USC evaluation in Spokane, (2) overseeing the collection of data required for it, and (3) conducting a separate evaluation of the project that would focus on questions of interest to the project that would not be included in the national evaluation. Because the national evaluation was designed to compare the effectiveness of different types of deinstitutionalization strategies, the local evaluation needed to concentrate on the effects of the DSO project within the Spokane juvenile justice system.

The key questions identified as the focus for the local evaluation were:

1. Did the DSO project divert status offenders from court referral, detention, the filing of a petition, and/or incarceration?

2. Did the DSO project change the probability of being detained, having a petition filed, and/or being incarcerated for youths identified as status offenders?

3. Did the DSO project reduce the recidivism rate of youths identified as status offenders?

Evaluation Design and Analysis

The type of design and analysis differs dependent upon the particular question that is being addressed, but the basic principle is the same: In order to determine the impact of YA on the Spokane juvenile justice system one must ascertain what the system would have been like if Youth Alternatives

had not been implemented. And, to measure the effect of YA services on the subsequent behavior of juvenile offenders, it is necessary to estimate what kind of behavior would have been expected if YA services had not been available to these children. The impact of YA is found by examining the differences between how the system would have processed status offender referrals (if YA had not existed) and how it actually operated. Likewise, the effect of Youth Alternatives on subsequent behavior of status offenders is measured as the difference between the actual behavior and that which would have been expected without YA services.

If there had been a randomly chosen control group of youths, then the values on the dependent variable (such as recidivism) of the control group could be compared with the values of the treatment group (YA) in order to determine the impact of the program. Since there was no random assignment, various types of quasi-experimental designs and analysis procedures must be used in an effort to separate the effects of YA from other factors that also could have produced changes or differences in the system or in the behavior of the youths. In the Spokane evaluation, considerable reliance is placed on interrupted time series and multiple regression analysis. Each of these will be discussed briefly in the subsequent paragraphs.

The interrupted time series analysis of monthly data from January, 1974, through November, 1977, examines whether YA diverted status offenders from court referrals, detention, the filing of petitions, and incarceration. In the time series analysis, the expected number of court status offender referrals, detentions, petitions, and incarcerations after YA began is based on projections of the pre-program trends (if any) in these variables. This estimate is then compared with the actual number in the post-YA months.

In a true diversion situation, there should be one less referral to the court for each referral to the diversion program. And, there would be one less status offender detained by the court for each status offender who was diverted from detention. Thus, if YA diverted youths from the court, one would expect the number at the court to be less than what was expected, based on the pre-program projections.

One of the problems in interrupted time series analysis is in determining whether changes that occurred after the program was implemented were produced by the program or whether the changes were produced by other events that occurred at about the same time as program start-up. In the Spokane evaluation, a major change that occurred at about the same time YA was implemented was an apparent increase in the total number of status offender referrals (counting both the referrals to YA and those to the court). This change seriously confounds efforts to estimate the number or proportion of status offender referrals who were diverted to YA. If one believes that the increase in status offenders was produced by YA (directly or indirectly), then the best estimate of the number diverted is obtained by examining the change in the absolute number of status offender referrals to the court, the absolute number of status offenders detained, and so on. If there is a decline, one can assume that these cases "went to" YA. If not, one assumes that the cases handled by YA were the result of a "net widening" effect and would not have been at court anyway. On the other hand, it might be the case that the increase in status offenders was produced by something not related to YA and would have occurred even if YA had not been implemented. If so, then YA should be credited with diverting all the cases they handled since these would have been referred to the court if YA had not existed.

The time series analysis includes 28 months of pre-YA data and 19 months of post-YA observations. The technical approach used to develop the post-program estimates and the tests of significance is analysis of covariance (ANCOVA).[2] The other major approach one can use for interrupted time series analysis is ARIMA (Auto-Regressive Integrated Moving Averages).[3] The latter procedure does not assume a deterministic trend, as ANCOVA does, but instead estimates the value of subsequent observations on one or more prior observations and, if needed, an estimate of "drift" or "shift" which is quite similar to an estimate of trend. Because the ARIMA approach required computer statistical procedures that are not generally available for the social sciences, we utilized the analysis of covariance model with successive least squares approximations to correct for auto-correlation.[4] This approximation is needed if the observations are not independent but instead are auto-correlated across time. When auto-correlation is present, the tests of significance generated by the ANCOVA model will be inflated. If the usual tests are employed when the observations are not independent, the researcher could conclude that a statistically significant change has occurred when, in fact, it has not. The Durbin-Watson test for auto-correlation, which was used in our analysis, estimates whether the auto-correlation is significant. If the residuals from the equation contained auto-correlation, another analysis was conducted using a procedure in which an estimate is made of the auto-regressive function and this is statistically controlled in the subsequent analysis. (see Appendix A for additional discussion of the procedures.)

The ANCOVA approach to interrupted time series involves the testing of several propositions concerning whether (and how) the program altered the pre-program trends. Basically, the idea is to measure the pattern during the

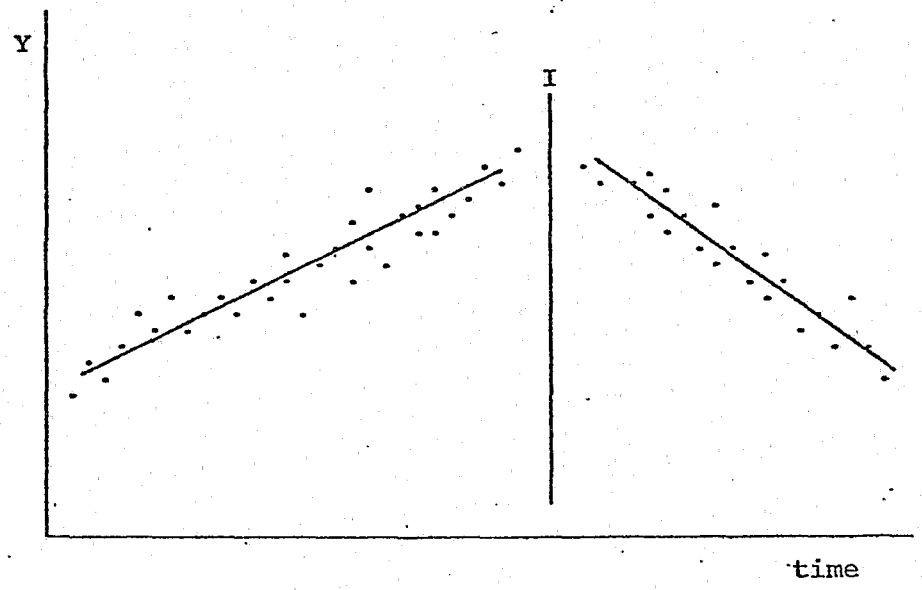
pre-program time period and to compare this with the pattern in the post time period. The types of changes of interest include:

1. A change in the trend (slope) of the observations.
2. A change in the level (intercept) of the series.

If the change is similar to that pictured in Figure 1 and if the significance test shows the change to be statistically significant, then the implication is that the intervention of the program altered the trend that had been occurring during the pre-program time period. If the change is similar to that pictured in Figure 2 and if the tests indicate statistical significance, then the implication is that the intervention altered the level (intercept) of the series, but did not change the basic upward trend.

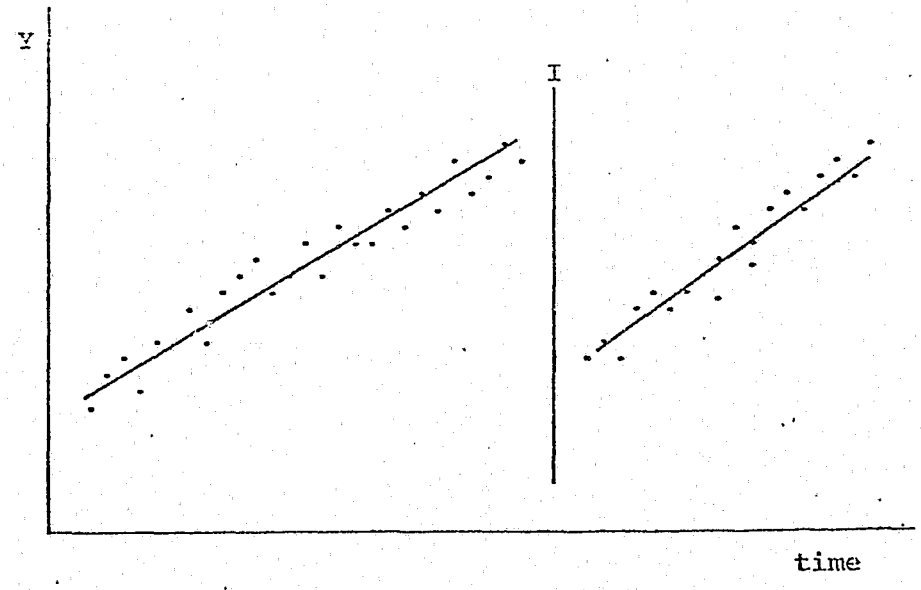
Multiple regression is used to analyze differences between the treatment and comparison groups in terms of the probability of recidivating, the probability of being detained for a status offense, the probability of having a petition filed, and the probability of incarceration. With multiple regression, the investigator can control (statistically) for some of the differences between the treatment and comparison groups. Even so, this technique may not be able to completely adjust for differences between the treatment and comparison group, especially if selection into the program resulted in most of the "easy" cases being placed in one group and most of the "hard" cases in another. If unmeasured variables influenced the selection decisions, they cannot be included in the equation and, therefore, they cannot be controlled statistically. Thus, for multiple regression to produce good results, one needs a comparison group that is relatively equivalent to the treatment group and, in particular, one needs to insure that judgmental criteria

FIGURE 1



Change in trend when program was implemented (I)

FIGURE 2



Change in level of the series when the program was implemented (I)

(which cannot be measured) were not involved in selection of persons into either the comparison or the treatment group.

A major problem in the Spokane evaluation is that there is no comparison group from among those available that is equivalent to the YA client group. The data showing differences between the YA clients and the other groups are in the next section of this report, but the difficulties in using each of the potential comparison groups can be summarized at this point.

One possible procedure would be to compare the penetration and recidivism rates of YA clients with those of status offenders who were referred to the court (during the same months as YA was operative), but who were not referred to YA. This comparison is biased in many ways. The youths remaining at the court differ from the YA clients on number of prior offenses and on several relevant socio-economic characteristics. Some of the juveniles not referred to YA clearly were ineligible (out-of-jurisdiction runaways, for example, or letter and phone dispositions in which the court did not have any actual contact with the youth). Most important, for many of the youths not referred to YA there must have been reasons other than the two just named for not having been sent to YA. These could have included a number of judgmental factors (attitude, apparent stability of the family) which have not been measured and therefore cannot be controlled statistically. The reasons also could include factors that clearly would make the youth ineligible (such as a runaway from a group home) but which were not coded onto the computerized court data and therefore cannot be controlled with multiple regression analysis. Thus, the status offenders remaining at the court (a "concurrent" comprison group) are not equivalent enough to the YA clients to permit a valid comparison.

A second choice would be to compare the YA youths with those at the court who were apparently eligible for YA (on the quantitative criteria for eligibility that could be recovered in the computerized data) but who were not referred to YA. Again, this group of court status offenders almost certainly is not equivalent to the YA group because there must have been reasons for the fact that they were not referred to YA and these reasons could introduce bias into any comparisons that are made.

A third choice would be to compare all of the post-YA youths who apparently were eligible (YA clients and those at the court who met the technical criteria of eligibility) with all pre-YA youths who apparently would have been eligible for YA if the program had existed at that time. This would result in the post group consisting of both the YA clients and the other status offenders who were at the court but not referred to YA and who met the eligibility criteria that could be recovered from the computerized data. Although there might still be some bias between the pre and post groups, there are fewer judgmental selection criteria operative in this comparison and therefore this choice is better than either of the first two discussed. On the other hand, this places a considerable burden of proof upon YA to demonstrate effectiveness, since they did not handle all of the post YA cases. Nevertheless, the technically eligible pre and post groups should be relatively equivalent.

The fourth choice would be to compare the entire post YA group of status offenders with the entire pre YA group of status offenders. Again, this makes it more difficult for the program to demonstrate that this strategy was effective since they did not handle all of the cases.

Two additional problems confound both the use of the entire pre YA group

and the use of the "eligible" pre YA status offenders as comparison groups. As mentioned previously, the implementation of YA corresponded to an upward shift in the total number of status offender referrals when referrals to YA and the court are both included. This fact, along with the fact that the pre and post YA status offenders differ in terms of several potentially relevant characteristics, casts doubt on the comparability of the groups.

A second factor that also confounds the use of a pre-program comparison group is that the total number of delinquent referrals began a slight decline at the time YA was implemented, suggesting that there may have been some shifting in classification (from delinquent to status offender) in order to insure that certain youths would be eligible for YA services. Again, this finding is discussed in the subsequent section but it, too, reduces the degree of equivalency between the pre and post status offenders.

Data and Measurement

Three sources of data were used in the analysis:

1. Monthly aggregate data from Youth Alternatives concerning the number of cases handled and the sources of referral.

2. Case-by-case offense data from the juvenile court computerized system (the raw data tapes for 1972 through October, 1977, were purchased by IPA and analyzed by IPA).

3. Case-by-case data on YA clients collected as part of the local evaluation on behalf of the national evaluators. These data were forwarded by IPA to USC for computerization and were then accessed from the USC data file to recover the individual-level data. The USC file was relatively complete through August, 1977, although the total number of cases contained

in it at that time was less than the total number of clients on whom data had been sent as of March, 1978, for the time period ending August 31, 1977. The cases were not in the computerized file because the machine that processed the pre-coded machine readable data forms did not process some of the forms. This happened when the marks on the form were outside of the bubbles; it occasionally happened because a particular item was not coded, and it happened for other reasons largely idiosyncratic to the machine itself. There are no reasons, however, to suspect that the cases missing from the file differed from those included in such a way as to bias analysis based on these data.

In order to analyze the monthly aggregated data it was necessary to have monthly statistics for the juvenile court (to use in conjunction with the monthly figures obtained from YA). These were obtained from the case-by-case data tapes provided by the juvenile court.

In order to analyze the individual-level data it was necessary to merge the YA information on clients/offenses (from the USC file) with the juvenile court information on clients/offenses. To do this we searched the records at the juvenile court to locate any YA client who had a court file number. This was necessary for three reasons: First, some of the YA clients were referred from the court and therefore if both the YA and the court data on that particular offense were used, the offense would be counted twice. Second, we needed to count the number of prior offenses and subsequent offenses for court and YA youths. A juvenile who had a referral recorded in the court data, should be counted as having a subsequent offense even though the subsequent offense result is a referral to YA rather than to the court. Likewise, a YA client who had a subsequent offense recorded by the

court (but not by YA) should be counted as having a subsequent offense, as should a YA client who returned to YA.

The procedures used in merging the data ensured that every offense (either at YA or at the court) was counted once and none was counted twice. Likewise, the procedure ensured that each instant offense contained information about prior offenses committed by the juvenile regardless of whether those were recorded in court or YA records. Again, if a prior offense resulted in a contact both with YA and with the court, then it was only counted one time. The procedure also ensured that youths with a subsequent offense after the instant offense would have this information recorded only once regardless of whether the subsequent resulted in a referral to the court or YA or to both (court and then referral to YA).

The file used in the individual-level analysis is an "offense chain" file. Each offense is included as a unit of analysis, but the analysis unit contains information on the number, type, and dates of prior offenses; the number, type, and date of subsequent offenses, and the characteristics of the offender at the time the offense was committed. A single juvenile with three offenses would be in the file three times, for example. The first time s/he would be a first offender and would have two subsequents. The second time s/he would have one prior and one subsequent. The third time s/he would have two priors and no subsequents.

This type of file is especially useful in analyzing recidivism because it permits a comparison of one group with another in terms of the probability of committing a subsequent offense (within a specified time frame), controlling for the number of prior offenses as well as the characteristics of the youth at the time the offense was committed. For the same reason the file is useful in comparing the probability of being

detained or having a petition filed, using statistical controls for the number of prior offenses and characteristics of the youths. Furthermore, this type of file permits time series analysis at the individual level because every offense committed by a particular youth is an instant offense during the month that it was committed.

The major dependent variables in the analysis are diversion from court referrals, detention, petitions, institutionalization, and recidivism.

The number of status offender referrals to the court is measured from the court computerized data. If the court personnel filled out a statistical sheet on the referral (as they are supposed to do for every referral involving an offense) and if the entering offense was runaway, truant, incorrigible/ungovernable (e.g., dependency B), then the case was considered a status offense referral. All referrals to Youth Alternatives were considered status offense referrals to the program.

The definition of detention used by the court is that the youth is booked into the juvenile detention center. This generally means that the youth will spend the night there. The measure of detention used in the analysis is from the court computerized data showing the number of days the youth was detained. If this was zero, the youth was considered not detained.

Petitions are filed on status offenders at the discretion of the probation officer or the court. If a petition is filed, a fact-finding hearing is always held and this hearing is followed by a disposition hearing. The measure used for petitions refers to any type of petition filed on a referral for a status offense.

Institutionalization is the prerogative of the Department of Social and Health Services (DSHS), not the juvenile court. The court, however,

can commit a youth to DSHS for institutionalization and this is the measure used for institutionalization.

Two measures of recidivism are used in the analysis: Re-contact with the court or YA (for a delinquent or status offense) within three months, and re-contact with the court or YA within six months. Cases for whom the follow-up time was too short were eliminated from that particular analysis.

The independent variable of particular interest is the difference between the YA procedures (especially non-penetration into the juvenile justice system) and procedures used by the court. In addition to differences in treatment, there are other independent variables used in the multiple regression individual-level analysis, mainly for the purpose of statistically adjusting for differences attributable to variables other than the treatment. These include several socio-economic or demographic characteristics of the clients: age, race, sex, school status (enrolled, dropped, expelled), parental status (living with both parents, one parent, relatives, foster/group home), and number of prior offenses. It should be noted that the individual-level regression analysis includes a type of time-series analysis. Since the month of entry into the system is known for every referral, the inclusion of time as an independent variable provides an estimate of the trend. Furthermore, inclusion of a dummy-variable to indicate whether the referral was pre- or post-YA and an interaction term between this and month yields an estimate of whether there was a change in trend or level of the pre-program data at the time YA began. (See Appendix A for more information on this).

OVERVIEW

OF ACTIVITIES, SYSTEM IMPACT, AND CLIENT CHARACTERISTICS

The major purposes of this section are:

1. To examine the activity levels of Youth Alternatives and the eligibility criteria for entry into the program;

2. To assess whether a "widening of the net" phenomenon occurred and, if so, why this happened; and

3. To describe the characteristics of YA clients and other status offenders in the pre and post time periods.

Program Operation

During the first 19 months of operation (May 1976 through November 1977) Youth Alternatives had 1,019 status offender referrals, an average of slightly less than 54 per month (see Table 1). Of these, 35 percent were referred by the juvenile court intake unit, 53 percent were referred directly from the police, and 11.5 percent were referred by schools or parents or were self-referrals. During this same 19 month period, the juvenile court received an average of 45 status offender referrals per month, of which 41 percent were referred on to YA by court intake. The remainder at the court were considered to be ineligible for YA.

The criteria which excluded a status offender referral from eligibility included:

1. Runaways from other jurisdictions.

2. Wardship cases. These are status offender referrals who previously had committed an offense and still were under the court's jurisdiction at the time of the referral on a status offense.

TABLE 1

STATUS OFFENDER REFERRALS TO YA & THE COURT: MONTHLY DATA[1]

		ⓐ status offender referrals to the juvenile court	ⓑ status offender referrals to YA	ⓒ double referrals (court to YA)	ⓓ total status offenders	ⓔ police referrals to court	ⓕ police referrals to YA	ⓖ number detained	ⓗ number petitions filed	ⓘ number institutionalized
Pre-Program $\bar{X}$ per month		60	0	0	60	47	0	38.7	7	.82
Post-Program $\bar{X}$ per month		45	53.6	18.8	80	40	28.3	17.7	2	.26
1976	May	35	59	16	78	28	36	19	4	0
	June	43	49	14	78	37	31	21	2	1
	July	44	57	17	84	36	39	30	1	1
	Aug	41	45	19	67	34	24	19	2	1
	Sept	55	46	15	86	48	28	35	5	0
	Oct	64	79	23	120	60	42	24	1	0
	Nov	69	57	30	96	65	21	32	3	0
	Dec	50	61	32	79	46	19	9	0	0
1977	Jan	66	72	21	117	64	40	15	0	0
	Feb	33	51	14	70	30	28	8	3	0
	March	46	57	27	76	41	22	14	3	0
	April	41	53	16	78	40	27	18	1	1
	May	42	48	16	74	40	24	10	2	0
	June	35	39	13	61	32	24	14	1	0
	July	40	36	10	66	37	22	15	0	0
	Aug	30	40	11	69	25	28	20	3	1
	Sept	31	61	26	66	27	28	15	1	0
	Oct	49	54	20	83	40	27	12	4	0
	Nov	35	55	16	74	31	27	7	1	0

[1]The pre-program monthly averages (see row 1) are based on 28 months of data, January, 1974, through April, 1976. Data in columns a, e, g, h, i are from the computerized juvenile court records. Entries in columns b, c, and f are from the Youth Alternatives monthly reporting forms.

3. Letter and phone dispositions. Letter and phone dispositions usually mean that the court had no personal contact with the youth but instead handled the referral with a phone call or form letter to the parents.

4. Return to detention institution. Youths who ran away from a detention institution--whether they were there on a delinquency referral or on a status offense referral--are considered ineligible by Spokane authorities.

5. Youths from child protective services. These cases include child abuse, neglect, and so on, of youths currently in the custody of CPS.

6. Juvenile parole counselor. Youths referred to the juvenile parole counselor are ineligible because of prior delinquent offenses and because the youths are under the jurisdiction of juvenile parole.

As noted above, most of the youths in the previous categories are ineligible, but this is not always a hard and fast rule and some persons in those categories were referred to Youth Alternatives. In additon, a youth who ran away from a group or foster home is considered ineligible for the diversion program and is returned, by the court, to the home. Other status offenders who have had a pattern of prior delinquent behavior or who might be dangerous to the community may be considered ineligible by the court or the program even though they do not fit into any of the categories listed above.

The case-by-case juvenile court data contain codes for the first six criteria named above, but there is no way to determine from the computerized data which of the youths would have fit into the other criteria that resulted in a decision of ineligibility (such as attitude or apparent family support). Youths who meet the quantitative criteria for ineligibility on a particular offense (as coded in the court computerized data) constitute about 32 percent of the post YA status offender referrals to the court.

This means that 68 percent (31 per month) of the court referrals were technically eligible for YA even though only 42 percent (19 cases per month)

were referred. In order to determine why some of the apparently eligible status offenders were not referred, a researcher from the Spokane Area Youth Committee (YA's parent agency) examined all of the cases that were not referred during a two month time period and concluded that all the youths were in fact ineligible. The problem was that the proper codes had not been marked on the statistical sheet or that the statistical sheet contained no category that would permit a code indicating why the youth was ineligible.

"Widening the Net"

The phrase "widening the net" refers to a phenomenon whereby the total number of clients in the system (including the diversion program as part of the "system") increases over the pre-intervention time periods.[6] If the purpose of the diversion program is to keep juveniles out of the justice system and if the program itself is considered a part of that system or at least a part of the "official" system, then widening the net would appear to be a dysfunctional aspect of diversion. On the other hand, an argument could be made that if the demand for juvenile services in a community is more than the supply of those services, the introduction of a new program (diversion or otherwise) would be expected to increase the number of clients in the system. Whether "widening the net" is a positive or negative consequence of diversion, however, is not the point of the subsequent analysis. The purpose of examining the question is to determine whether it happened.

The total number of status offender referrals (referred to YA or to the court) is calculated by adding the YA referrals to the court referrals and then substracting those who were referred to both on the same offense (i.e., referred first to the court and then by the court to YA). As

shown in column d of Table 1, there was an average of 80 status offenders per month after YA began, compared with 60 per month before program implementation.

The data in Figure 3 portray changes in the total number of status offender referrals per month (either to YA or to the court, with double referrals counted only once). The total number of technically eligible status offender referrals per month is graphed in Figure 4. Status offender referrals increased sharply after YA began with particularly high referral rates in October, 1976 and January, 1977. Thereafter, the number of referrals dropped considerably, but even so, there was as average of 72 per month from February, 1977 through November, 1977, which is still greater than the pre-program average of 60 per month.

According to interrupted time series analysis the implementation of YA corresponded with an upward shift of about 29 status offender referrals per month. This shift in the level of the series is statistically significant beyond the .01 level. An upward shift in the number of eligible status offenders of about 27 per month also occurred at the time YA was implemented. (see Appendix A for the actual equations.)

There are at least five potential explanations for these increases:

1. The Youth Alternatives program intentionally or inadvertently accepted clients who would not have been referred to the court and who, without the Youth Alternatives program, would never have had any contact with the criminal justice system.

2. The YA program represented an increase in the availability of

appropriate services for status offenders. In response, the police and/or the community began referring status offenders who would have been referred to the system in the past but were not because there were insufficient or inappropriate services for them.

3. The third possible explanation is that the police and/or court began classifying as status offenders some youths who previously would have been considered delinquents or dependency A (e.g., neglect cases) in order to ensure their eligibility for YA services.

4. The fourth possible explanation is that the increase was produced by changes in the way the juvenile court counts the number of status offense referrals.

5. A fifth explanation is that there was an increase in the actual number of status offenses being committed which would, in turn, result in more status offenders being identified in the community regardless of whether YA existed or did not exist. This is unlikely, however, and should show up in a gradual trend rather than a sudden shift during the months after YA began.

A limited amount of evidence is available in relation to these potential explanations.

First, the average number of referrals to the court from sources other than juvenile justice agents in the pre YA time period was 13 per month. In the post YA months, the court averaged only five non-justice system referrals and YA averaged 6.5 non-justice referrals per month. Thus, the total number of non-justice referrals in the post time period (either to YA or to the court) is 11.5 compared with 13 in the pre time

FIGURE 3

TOTAL STATUS OFFENDER REFERRALS (YA PLUS COURT REFERRALS) BY MONTH

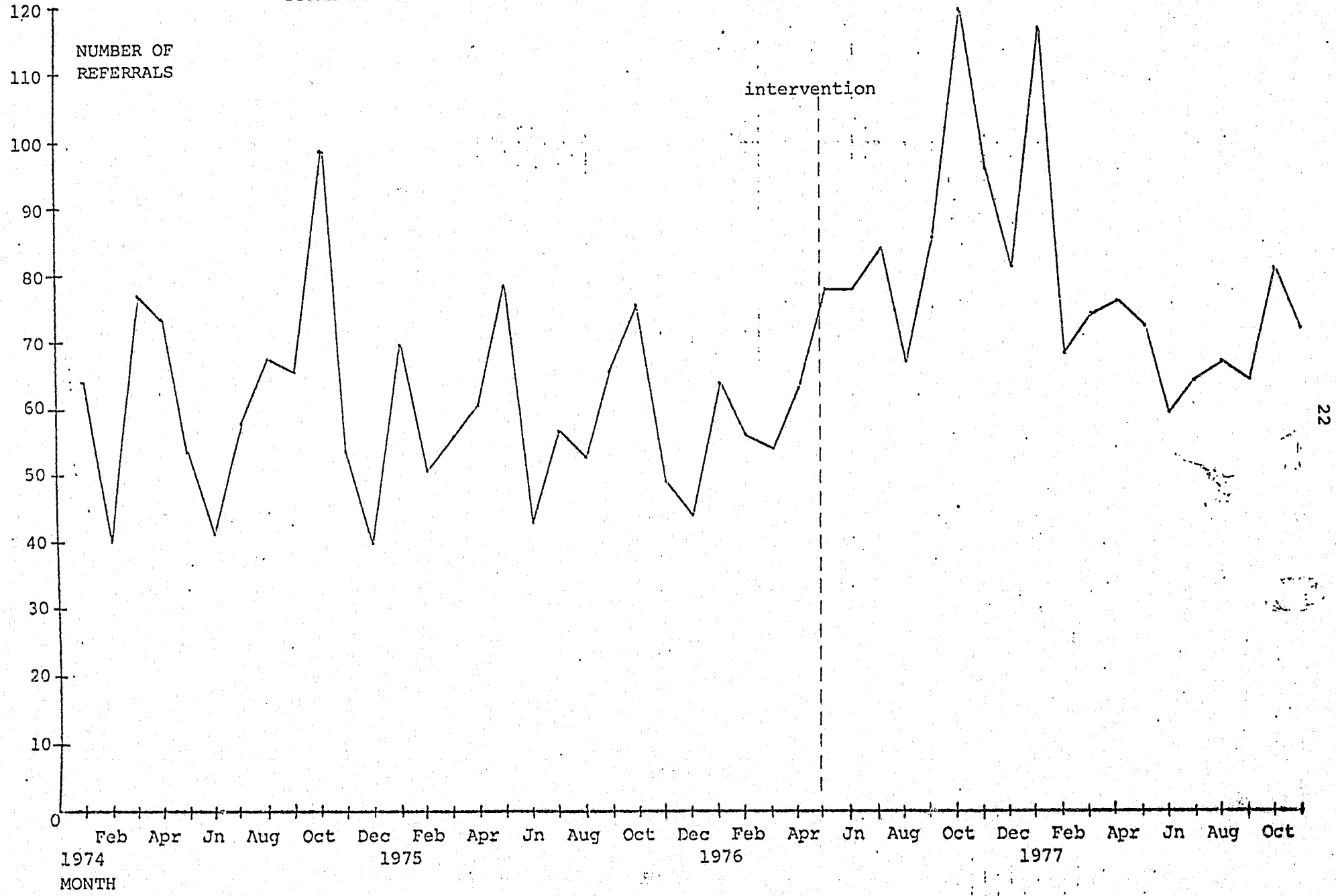
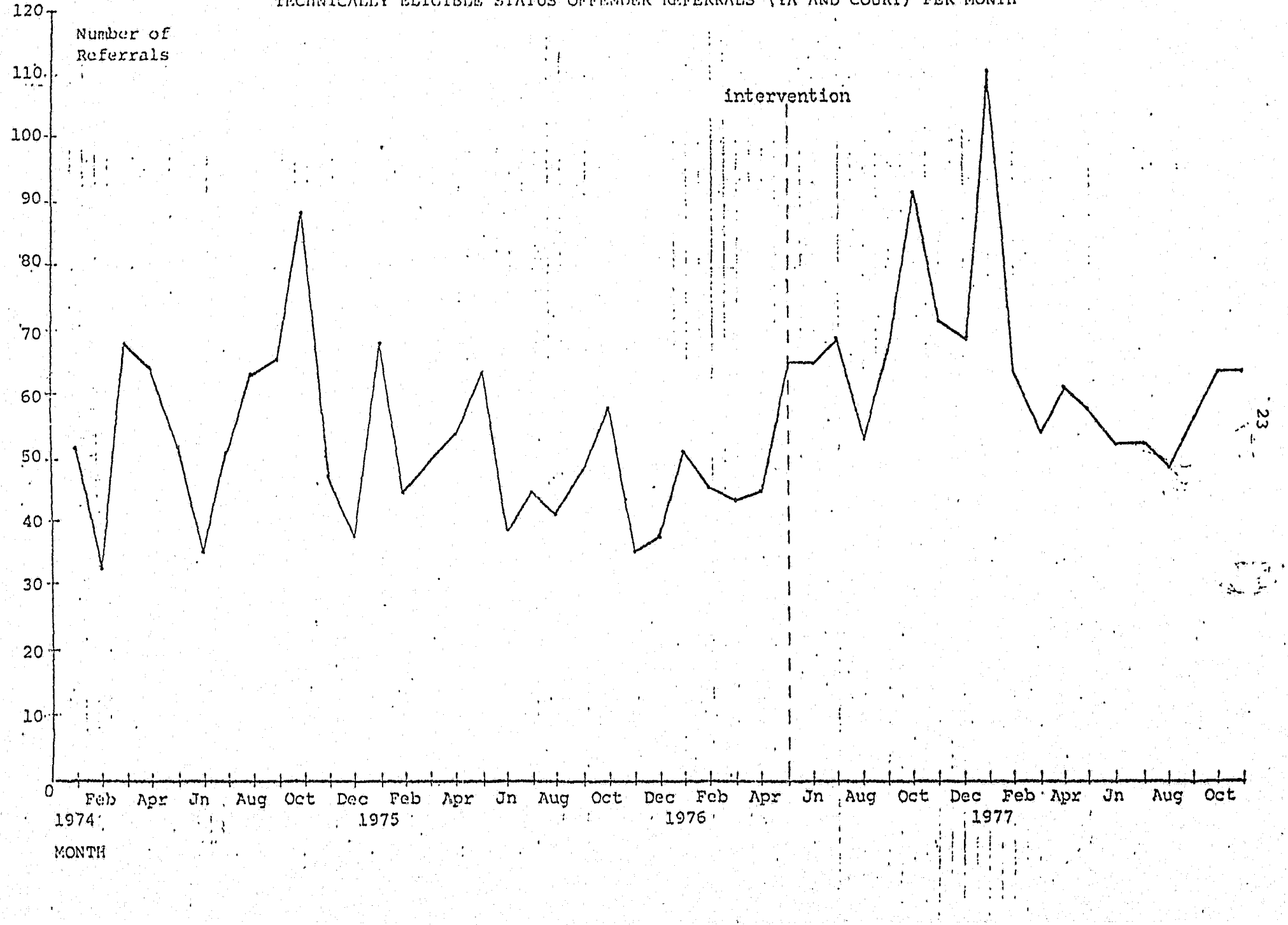


FIGURE 4

TECHNICALLY ELIGIBLE STATUS OFFENDER REFERRALS (YA AND COURT) PER MONTH



period. These data are portrayed in Figure 5. Analysis of the monthly data on total number of non-justice system referrals (YA plus court) indicates that there was no statistically significant change in the generally downward trend or in the level of the series when YA was implemented. This suggests that if a "widening of the net" occurred, it was not produced by an increase in non-justice system referrals into the system via YA or the court. Thus, if the system expanded and pulled in youngsters who would not have been there before, this must have been the result of increased referrals from justice system agents, primarily law enforcement.

Referrals from law enforcement could increase either because of an increase in the number of status offenders referred to law enforcement agencies from the community or because of an increase in the proportion of these cases that are referred by the police to the court or to Youth Alternatives rather than lectured and released.

Data from police records, however, provide no support for either contention. A sample of cases from the Spokane police department files for the months of April, May, and June, 1975 was compared with a sample of cases for the months of April, May, and June, 1977. These data (see Table 2) show that a substantially smaller proportion of status offenders actually contacted by the police were referred on through the system in 1977 compared with 1975. In 1975, 75 percent of the cases actually contacted were referred to the court whereas in 1977, 61 percent were referred either to the court or to Youth Alternatives. The results of the study from police data also show that the police received fewer status offender referrals in 1977 than they did in 1975. The total number of status offender referrals to the

FIGURE 5

NON-JUSTICE REFERRALS TO COURT AND YA

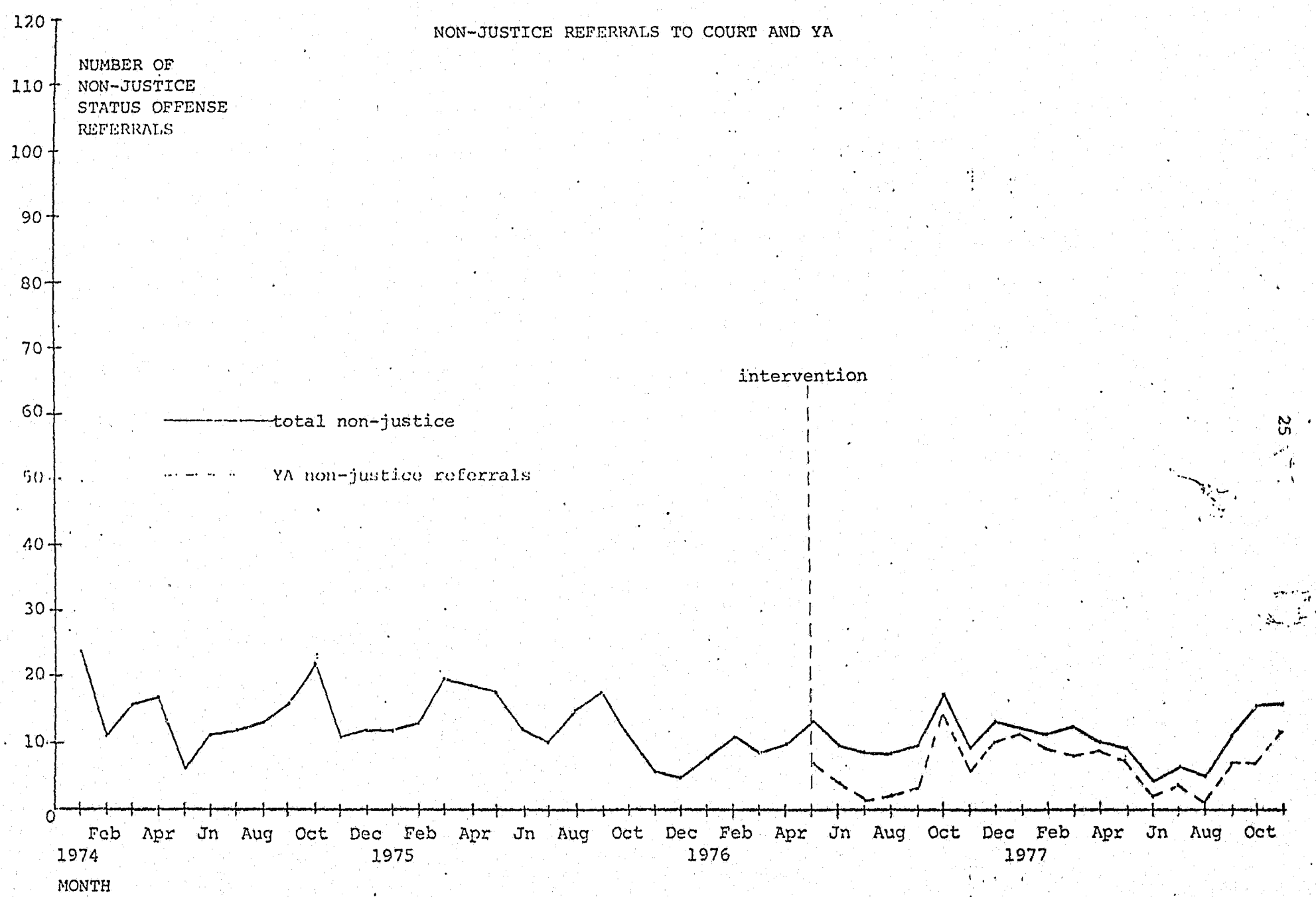


Table 2

SPOKANE: POLICE REFERRAL SOURCES AND ACTION TAKEN

	Status Offenders		Delinquents	
	Pre	Post	Pre	Post
Number in Sample	300	300	300	300
Number of days sampled	55	64	32	34
Average number of referrals to police, per day	5.45	4.69	9.38	8.82
	100%	100%	100%	100%
Reason for Police Contacts				
Self-Referred	3	0	0	.5
Parent Referral	67	82	3	1
Community Agency	8	10	1	.5
Law Enforcement Initiated Contact	17	4	37	60
Juvenile Court	3	0	0	0
Private Citizen	1	4	30	4
Private Security Officer	--	1	22	28
School Referred	--	--	6	5
	100%	100%	100%	100%

[CONTINUED ON NEXT PAGE]

Table 2 (continued)

	Status Offenders		Delinquents	
	Pre	Post	Pre	Post
Police Action				
No Contact	40	54	0	0
Counsel & Release	10	2	22	14
Referred to Juvenile Court	45	24	73	83
No Information	5	15	5	3
	100%	100%	100%	100%

court from police should have been greater (by almost 2 to 1) in 1975 than in 1977. The court records for these same months in 1975 and, in 1977, the court and YA records, show that there were about six percent more referrals from the police in 1977 than in 1975. For delinquents, the police records indicate that the court was sent about 11 percent more referrals in 1977 than in 1975 for the months included in the sample, whereas the court data show that they received about 21 percent more delinquent referrals during these same months in 1977 than in 1975. (The Spokane juvenile court, of course, receives referrals from sources other than the Spokane police department from which the sample was drawn, but the city police account for about 60 percent of all referrals to the court.)

It is difficult to resolve these discrepancies between court and police data. One possibility is that the court changed its procedures for counting status offender referrals (thereby producing more of this type in 1977). Or, the classification procedures could have changed so that some of the "delinquents" were considered to be "status offenders." (This possibility is explored further below). It also is the case that police contact records are not considered to be very reliable and changes in police policies or procedures concerning the number of contacts that are "counted" could have produced the discrepancies.

In general, however, the police data indicate that if a "widening of the net" occurred, it was not produced by them. Court and YA data show that if a net-widening effect happened, it was due to increased referrals from law enforcement.

Another possible explanation for the observed increase in status

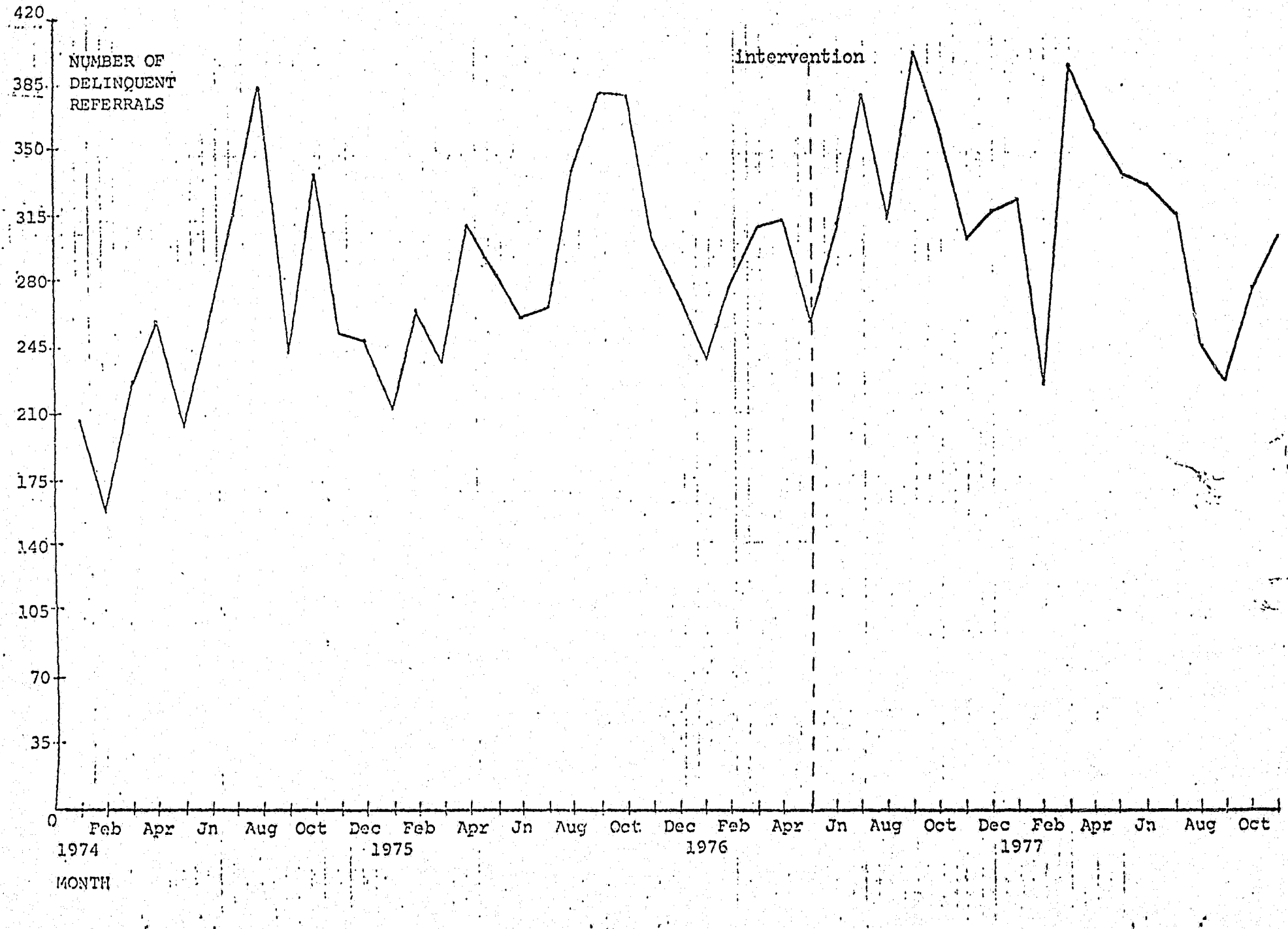
offenders referrals is that it was a "paper" increase rather than a "real" one. A change in classification rules (from delinquent or dependency/neglect) to status offense would produce an apparent increase in the number of status offender referrals, but it would not be a "widening of the net" because these youths would have been in contact with the court anyway (as delinquents or as neglect cases, however, rather than as status offenders).

Delinquent referrals to the court (shown in Figure 6) increased by about three, per month, during the pre-YA time periods and then, after YA was implemented, began to decline at a rate of about three per month. (The change in trend is marginally significant with a probability of .07.) The slight downward shift in delinquency cases could mean that a gradual change in classification from delinquent to status offender was occurring. If the pre-program trend in delinquent referrals had continued throughout the post time period, the average number of delinquent referrals, per month, would have been 344 compared with the observed average of 313. Thus, the decline in delinquent referrals below the expected number is great enough to account for the estimated 29 per month increase in status offender referrals.

The number of dependency A (neglect, child abuse, etc.) referrals to the court had been increasing prior to May, 1976 (when YA was implemented) and also began a slight downward pattern thereafter of one less case every three months. The change in trend is marginally significant ($p = .10$).

The results from the delinquency and neglect analyses indicate a possibility that shifts in classification were occurring and that these contribued to the increase in the number of status offenders referred to YA and

Figure 6: NUMBER OF DELINQUENT REFERRALS BY MONTH



the court after May, 1976.

One more potential explanation is that the apparent upward shift in status referrals that occurred when YA was implemented was produced by changes in the procedures used at the court to "count" the number of referrals. If court personnel undertook a general tightening up in their record keeping procedures so that every referral to them--even those that would not involve personal contact with the youth--was counted as an offense and if this took place at the time YA was implemented, then the record keeping change could produce an apparent increase in the number of status offenders. This would be a "paper" increase rather than a "real" one since the number of referrals would have been underestimated in the pre-YA time periods. Unfortunately, there is no way to test this possibility. Either type of "paper" increase, however, would account for the discrepancy between police data and court data concerning the number of status offense referrals.

Characteristics of Status Offenders

A profile of status offenders in terms of age, offense, school status, prior offenses, sex, and race is shown in Table 3. The first two columns indicate the proporation of all pre YA status offenders and all post YA status offenders in each of the categories shown. The post YA status offenders are subdivided into four groups and the characteristics of these are shown in the last four columns of Table 3. The four groups are:

1. YA only status offender referrals. In this group are the youths referred directly to YA (by-passing the court) from police, schools,

TABLE 3

CHARACTERISTICS OF STATUS OFFENDERS IN SPOKANE, WASHINGTON[1]

N~	Pre-Program 1,689	Post-Program 1,305	YA only status offenders 563	double referrals 169	court "eligible" 338	court "ineligible" 235
AGE	%	%	%	%	%	%
11 or under	2	3	3	2	4	1
12	4	4	5	4	5	3
13	11	11	11	8	13	9
14	22	18	21	18	17	12
15	29	29	25	38	27	32
16	27	24	21	28	24	30
17	10	10	11	2	9	14
18 +	0	1	2	0	1	0
average	14.8	14.9	14.85	14.85	14.83	15.2
OFFENSE						
runaway	76	75	50	93	89	92
truancy	4	4	8	1	2	1
incorrigible	20	21	43	7	10	6
SCHOOL STATUS						
regular	75	77	78	82	75	68
drop-out	18	17	15	15	19	26
expelled	7	6	6	3	7	6
RACE						
white	93	95	96	96	93	95
non-white	7	5	3	4	7	5

[CONTINUED ON NEXT PAGE]

[1]The pre-program time period is from January 1974 through April 1976. The post is from April 1976 through August 1977. "YA only" means the youth was referred directly to YA, whereas "double referrals" are youths referred to YA from court intake. Court "eligibles" are youths for whom no reason for ineligibility could be ascertained from the court computerized data. Court "ineligibles" are youths for whom a reason for ineligibility had been coded onto the data forms.

TABLE 3 (continued)

	Pre-Program	Post-Program	YA only status offenders	double referrals	court "eligible"	court "ineligible"
SEX	%	%	%	%	%	%
male	39	40	37	29	45	45
female	61	60	63	71	55	55
PRIOR DELINQUENT OFFENSES						
none	82	77	84	75	66	79
one	13	15	12	22	18	17
two	4	5	3	3	9	4
three +	1	3	1	0	7	0
PRIOR STATUS OFFENSES						
none	78	79	84	77	67	85
one	15	15	12	17	21	11
two	4	4	2	4	7	2
three +	3	2	2	2	5	2

parents, or as self-referrals.

2. Double referrals. This category refers to the youths who were referred first to the court and then to YA on the same offense.

3. Referrals to the court: "Eligibles." Youths at the court who were not referred to YA on the entering offense, but who met the technical criteria of eligibility that could be recovered from the computerized data are included in this category.

4. Referrals to the court: "Ineligibles." Juveniles referred to the court on a status offense charge who met the technical criteria of ineligibility are included in this category.

In examining the pre and post status offenders, it should be noted that even small differences in percentages are statistically significant (at .05 or beyond) because of the large number of cases in each sample. The pre and post groups did not differ in terms of age, sex, type of offense, or prior status offenses. They differed from one another in that slightly more of the post YA juveniles were regularly enrolled in school, slightly more of them were white, and more of them had one or more prior delinquent offenses.

Examination of the four post YA groups shows that there was no difference in age among the youths in each group, but there were considerable differences in the entering offense, as 50 percent of the YA clients were classified as runaway compared with approximately 90 percent for all three of the other groups. YA clients were more likely to be incorrigible than the other groups. In addition, the YA clients (direct and double referrals) were more likely to be regularly enrolled in school than

those at the court, more likely to be male than the other groups, had fewer prior delinquent offenses, and, in comparison with the court "eligibles," had fewer prior status offenses. (Court "ineligibles" include out-of-jurisdiction runaways; thus, one should expect fewer prior offenses on these youths to be included in the Spokane County data.)

In Table 4 are data showing the characteristics of juveniles who were eligible for YA according to the technical eligibility rules. In the pre YA period this refers to the juvenile who would have been eligible for YA if YA had existed at that time. The same pattern of differences are evident for the eligibles as for the entire pre and post groups: There are no differences in age, minor differences in race, no differences in sex, and none in the number of prior status offenses. As with the entire pre and post groups, the eligibles differed in that the post YA group had a greater proportion with one or more prior delinquent offenses. The data also show that fewer were classified as runaways and more were classified as incorrigibles in the post period.

Discussion.

The evidence presented in the first part of this section shows that a significant increase in the number of status offender referrals occurred at about the time Youth Alternatives began providing services to status offenders. The increase was observed both for the total number of status offenders and for the sub-set that were technically eligible for YA according to the computerized court data.

Of the several explanations that were considered, there was fairly

TABLE 4

CHARACTERISTICS OF TECHNICALLY ELIGIBLE STATUS OFFENDER[1]

	Pre-Program Eligibles N= 1,394	Post-Program Eligibles N= 1,045
AGE		
11	2.5	3.1
12	4.2	4.7
13	11.8	11.6
14	22.3	19.0
15	28.3	27.8
16	21.2	23.2
17	9.5	9.3
18 +	.1	1.3
$\bar{X}$ age	14.81	14.81
OFFENSE		
runaway	74	69
truancy	4	5
incorrigible	22	26
RACE		
white	93	95
non-white	7	5

[CONTINUED ON NEXT PAGE]

[1]The pre-program period is from January, 1974 through April, 1976. The post begins with May, 1976 and extends through August, 1977.

TABLE 4 (continued)

	Pre-Program Eligibles N= 1,394	Post-Program Eligibles N= 1,045
SEX		
male	38	38
female	62	62
SCHOOL STATUS		
regular	75	78
drop-out	17.6	15.8
expelled	7.5	6.1
PRIOR DELINQUENT OFFENSES		
none	81	77
one	13.3	15
two	4.2	5.2
three +	1.4	2.9
PRIOR STATUS OFFENSES		
none	76.8	77.4
one	15.9	15.2
two	4.2	4.2
three +	3.1	3.2

strong evidence that the expansion of the system was not attributable to YA (or the court) taking "walk-ins" or other types of non-justice-system referrals. It is difficult, however, to draw any definitive conclusions as to whether the increase in status offender referrals reflected an expansion of the system by law enforcement to juvenile who otherwise would not have had any contact with it or whether the increase as a "paper" increase, produced by a change in classification (from delinquent and/or neglect to status offense) or a change in counting procedures used by the court.

The characteristics of status offenders changed somewhat between the pre-YA and post-YA time periods in that slightly more of the post-YA youths were regularly enrolled in school, slightly more of them were white, and more of them had one or more prior delinquent offenses. The status offenders receiving services from Youth Alternatives differed from status offenders who were handled exclusively by the court but were apparently eligible for Youth Alternatives, according to the computerized data. The YA youths were more likely to have been classified as incorrigible than the court status offenders, were more likely to be regularly enrolled in school, consisted of slightly more males than the court youths, had fewer prior delinquent offenses and, in comparison with the court eligibles, had fewer prior status offenses.

DIVERSION FROM THE COURT

It should be noted at the outset that none of the clients handled by Youth Alternatives was institutionalized, very few were detained at the juvenile detention center prior to referral to YA, and only one youth had a status or delinquent offense petition filed for the offense which resulted in referral to YA. The question, however, is whether these juveniles would have been subject to any of the indicators of system penetration if the YA services had not been available. If YA diverted status offenders from the court, then one would expect to observe statistically significant downward shifts in the number of status offender referrals to the court, the number detained, filed on, and/or institutionalized at the time YA was implemented. Data from the pre and post periods on referrals who were technically eligible for YA can be analyzed in a similar way to determine how many of the technically eligible youths were diverted to YA.

Diversion Before the Court Intake

There is no generally agreed upon method for calculating the number or proportion of status offenders who are diverted before a referral to the juvenile court. In order to determine how many have been diverted, one must estimate how many would have been handled by the court if the diversion program had not existed. There are three estimates that could

be used and each is based on a different assumption.

First, it could be assumed that the pre-program trend in the number of status offenders would have continued throughout the post-program time period if the program had not existed. If so, then the best estimate of the number of status offenders who would have been at the court is the change in level and/or trend in the number of referrals to the court after YA began.

Second, it could be assumed that the average number of status offenders at the court during the pre-program time period is the best estimate of the number that would have been handled by the court if the program had not been implemented. If this assumption is made, then the number and proportion diverted can be calculated by comparing with pre-program averages. Clearly, however, this assumption is not warranted if trend exists in the pre YA time period and would be expected to continue. But if trend did not exist in the pre YA time period, then the average model would be just as suitable or moreso than a linear projection based on the pre data.

The third method of calculating the number that have been diverted is to assume that all of the status offenders who were clients of the diversion program would have been handled by the juvenile court if the program had not existed.

These methods result in vastly different estimates of the amount of diversion that occurred prior to court intake.

The number of status offender referrals to the court (not including direct referrals to YA) is shown in Figure 7 and the number of technically eligible status offender referrals to the court is shown in Figure 8. In

FIGURE 7

STATUS OFFENDER REFERRALS TO THE COURT

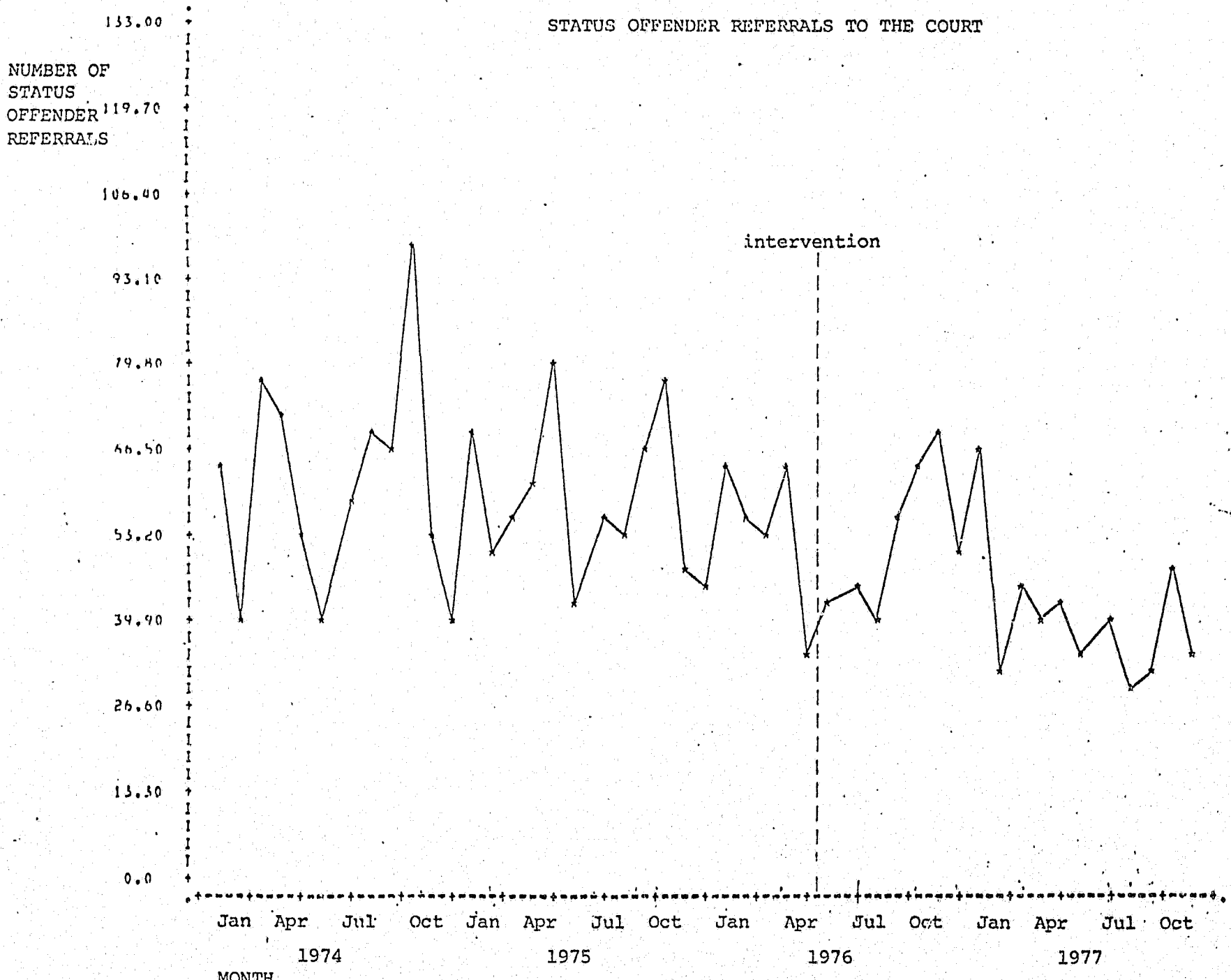
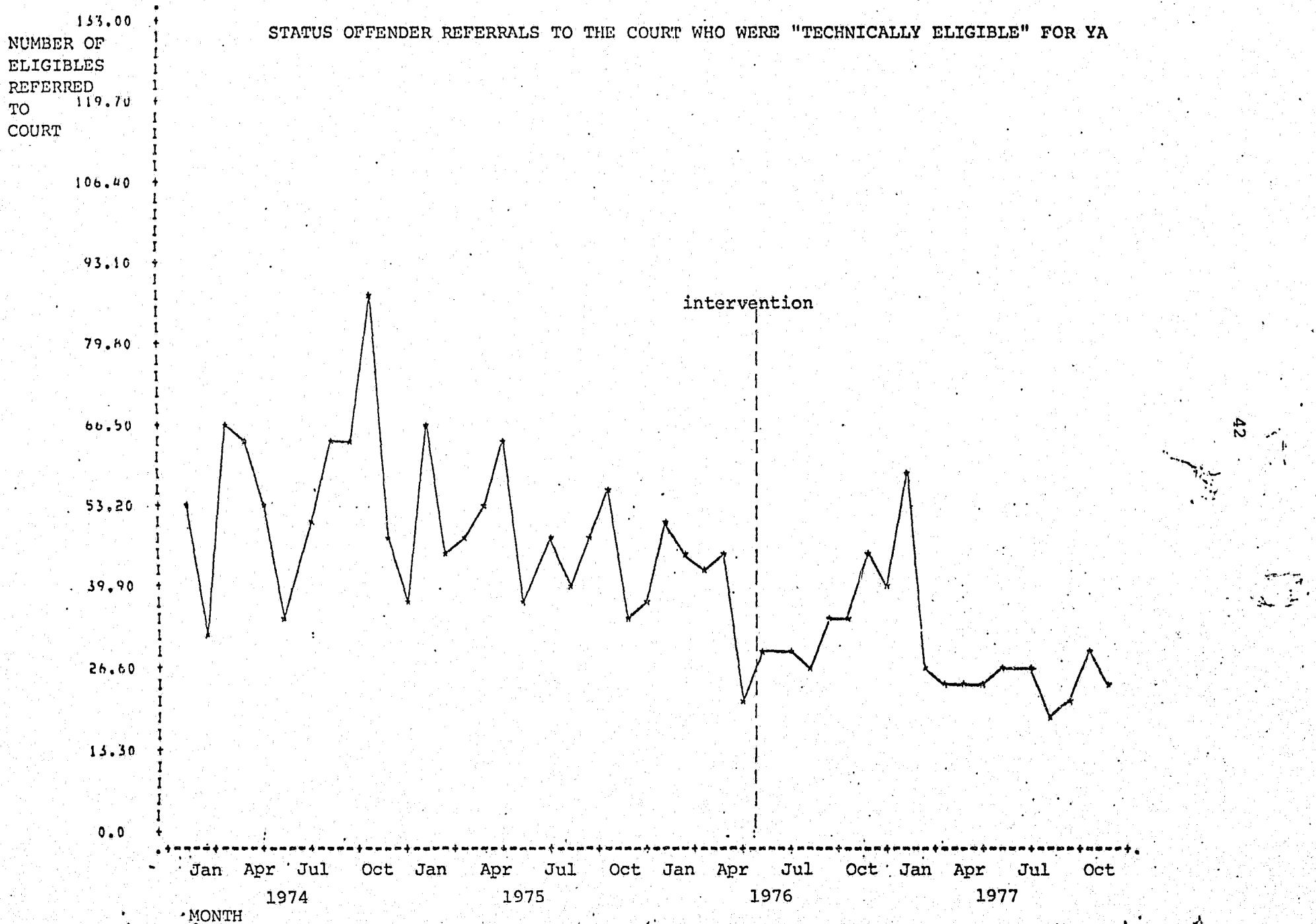


FIGURE 8


STATUS OFFENDER REFERRALS TO THE COURT WHO WERE "TECHNICALLY ELIGIBLE" FOR YA
NUMBER OF ELIGIBLES REFERRED TO COURT
133.00
119.70
106.40
93.10
79.80
66.50
53.20
39.90
26.60
13.30
0.0
intervention
Jan Apr Jul Oct Jan Apr Jul Oct Jan Apr Jul Oct Jan Apr Jul Oct
1974 1975 1976 1977
MONTH

both graphs the double referrals are included. (These youths were, however, diverted immediately after court intake and therefore did not spend much time at the court or consume many of the court's resources.) Nevertheless, the analysis indicates that no statistically significant change occurred in the number of status offender referrals to the court at the time YA was implemented and no statistically significant change occurred in the number of technically eligible youths who were referred. Setting aside questions of statistical significance, for the moment, it should be pointed out that when the implementation variable is in the equation, the estimate is that the number of court referrals dropped by about 8 to 10, per month, after YA began. Thus, even if the intervention had a statistically significant impact (and it did not), the proportion diverted to YA would be estimated at about 15 percent of the total status offense cases at the court. There has been, however, a generally downward trend for both the full court population of status offenders and the eligibles throughout the pre and post time periods. This is statistically significant beyond the .001 level.

Discussion.

Based on this analysis and on the assumption that the downward trend is the best estimate of the number who would have been at the court if YA had not existed, the conclusion would be that YA did not divert anyone from court referral inspite of the fact that they handled approximately 35 direct referrals (by-passing the court) each month. The estimate of number diverted would be confined to a diversion <u>after</u> court intake of 19 status

offenders per month. These juvenile would be considered to have been "diverted" from further court processing only if the court would have processed them within the justice system if YA had not existed.

It should be noted that the problem of determining what produced the apparent increase in total status offenders discussed in the previous section is quite critical in interpretating these data. The conclusion above, that YA did not divert anyone from court referrals, is based on the assumption that all the direct referrals to YA would have had not contact with the system if YA had not existed (or, alternatively, that an equivalent number of status offenders still at the court would not have had any contact with the system if YA had not existed). However, if the increase in total status offenders (Ya and court) was a paper increase produced by a shift in classification from delinquent and/or neglect to status offense or by a change in the counting procedures, then YA should be credited with diverting all or at least a proportion of the cases they handled, since these would have been at the court anyway (but as delinquents or dependency rather than as status offenders, or as uncounted referrals).

The evidence presented previously is sufficient to rule out the possibility that YA and/or the court "widened the net" by taking non justice system referrals. The other evidence concerning possible changes in classification would be consistent with the hypothesis that the increase was a "paper" increase and did not represent any actual expansion of the system to youths who would not have been referred to the court. But, the evidence is not strong enough to conclude that all of the increase was due to changes in classifications. Even though one could speculate that some

of the change might have been due to the court counting procedures, there is no way to test this.

Thus, either of the following conclusions could be drawn concerning the number of status offender referrals diverted by YA before court intake.

1. The Youth Alternatives program did not divert any status offender referrals before the court intake procedures but, instead, produced changes within other parts of the system or the community which resulted in a greater number of status offender referrals and it was primarily this "surplus" which was handled by the diversion program.

2. Youth Alternatives diverted an estimated 28 status offenders per month prior to court intake. The increase in total status offender referrals (YA plus court) was produced by changes in court classification or "counting" procedures and the estimated 28 referrals diverted per month would have been handled by the court if YA had not existed.

Diversion After Court Intake

One of the major purposes of the Spokane program (and of the national DSO initiative) was to reduce the penetration of status offenders into the juvenile court system.

Because the Spokane project was not a part of the juvenile court and was intended to divert youngsters from it, the analysis task in this section is to ascertain whether Youth Alternatives diverted juveniles from processing by the court (after intake) or whether YA provided services to status offenders who would not have been processed through the system anyway.

The indicators of system penetration used in the analysis are the number of status offender referrals to the court who were detained, the number of "offender days" in detention, the number of referrals who had a petition filed on them, and the number of institutionalized. "Offender days" in detention is the total number of days in detention per month, for all status offender referrals to the court.

If YA diverted youths from penetration into the court system, then a statistically significant reduction in detention, petitions, and so on should be observed at the time YA was implemented. The magnitude of such a reduction is estimated by comparing the actual number of youths detained, for example, with the number who would have been expected to be detained based on projections from the pre-YA monthly level and trend in detention.

Results of the analysis are presented in Table 5 for all status offender referrals and for those who are technically eligible for YA. The first column contains the average number of status offender referrals in each category during the 28 months prior to the implementation of YA. Thus, there were an average of 38.7 status offender referrals, per month, detained; an average of 124 "offender days" of detention and so on.

The second column of Table 5 shows the expected number of referrals in each category if the pre-program trend and/or level had continued without any change attributable to the implementation of Youth Alternatives. (It is this number, not the average pre-program figure, which should be compared to the average in the post time period.) The third column contains the average number, per month, during the post time period. The equation from the time-series analysis is shown in the fourth column. Y refers to the

TABLE 5. Diversion of Status Offenders from Detention, Petitions, and Institutionalization[1]

	Pre-YA	Post: Expected	Post: Actual	Equation	Comments
Detention, per month					
# of court referrals detained	38.7	8.0	17.7	Y=50-.82 mo.	No change at YA Implementation
# of offender days in detention	124	73	55	Y=144-36I-1.37 mo.	Decrease in level
# of eligibles detained	33.8	1.18	11.8	Y=46-.87 mo.	No change at YA implementation
# of eligible offender days	108	52	42	Y=129-31I-1.5 mo.	Decrease in level
Petitions, per month					
# of status offender referrals with petitions filed	7	0	2	Y=9.5-1.9 mo.	No change at YA implementation
# of eligibles with petitions	6.5	6.1	1.5	Y=7.9-2.8I-.01 mo.	Decrease in level
Institutionalization, per month					
# of status offender referrals institutionalized	.82	.07	.26	Y=1.14-.02 mo.	No change at YA implementation
# of eligibles institutionalized	.64	0	.05	Y=.89-.02 mo.	No change at YA implementation

[1]Entries in the first column are the average number, per month, during the 28-month pre-YA time period (January, 1974 through April, 1976). The figures in the second column are the expected number in the post time period. These estimates are based on a continuation of the pre-program trend (or the pre-program average, if there was no statistically significant trend) and can be interrupted as the expected number, per month, if YA had no effect on the system. Entries in the third column are the actual number, per month, observed during the 19 months of post-YA follow-up. The regression equation (showing only the statistically significant variables) is in column four. Appendix A has more information useful in interpreting these equations.

expected (predicted) number; the first figure in the equation is the intercept level at the hypothetical month zero; I refers to the program variable, and mo. is the month of referral which was numbered 1, 2, 3, and so on to the most recent month which was 47.

Only those variables that were statistically significant were retained in the equations shown. Thus, if the variable I is in the equation, this indicates that there was a statistically significant change at the time YA was implemented. If the variable month is in the equation, then the trend (slope) of the data was statistically significant. (The interaction term was tested in all equations, but was not significant in any of them shown in Table 5.)

The results of the detention analysis show that there was no significant change in the number of status offender referrals detained by the court after YA was implemented. When all status offenders are considered, the pre-program trend of almost one less referral detained, per month (.82), would have been sufficient, in and of itself, to expect that only eight referrals would have been detained, on the average, in the post time period. Thus, the actual observation of almost 18 detained, per month, even though considerably lower than in the pre-program time period, is not less than what would have been expected based on the pre-program trend in the data.

For technically eligible status offenders, the number detained would have to have dropped to zero shortly after YA began in order for a significant change to have occurred.

When the detention equations were estimated with the intervention variable included, the results showed that the implementation of YA corresponded

with a non-statistically significant change of about six fewer status offender referrals being detained, per month, for both the total and the eligible groups. Thus, if one wishes to ignore the question of statistical significance, the estimate would be that YA diverted about six offenders from detention, per month, which is about 16 percent of the pre-program monthly average.

The impact of YA on number of "offender days" in detention is more noticeable. The results show a marginally significant drop in the level of the series of an estimated 36 fewer days, per month, for all status offender referrals (significant at .05) and a drop of an estimated 31 days, per month, for the eligible status offenders (significant at .10).

The analysis of diversion from petitions being filed is somewhat confounded by the relatively steep downward trend that had been occurring prior to when YA began. A decline to zero petitions filed on status offenders almost immediately after YA started would be needed to have a statistically significant effect. The pre-program trend for the eligibles, however, was not as steep and the implementation of YA corresponded with a drop of almost three petitions being filed, per month, below the six that were expected based on the pre-program data. This was significant beyond the .05 level.

The number of status offenders institutionalized was less than one per month prior to when YA began and was declinding by about one every five months. Thus, even though fewer status offenders are institutionalized after YA began than before, the change is attributable to a continuation of the pre-YA downward trend.

Graphs of the detention, petitions, and institutionalization data for all the court-referred status offenders are shown in Figure 9. Graphs of the data for the technically eligible referrals are shown in Figure 10.

Discussion.

The number of status offender referrals detained, filed on, and institutionalized in Spokane had been declining rapidly before YA began and the substantial differences in monthly averages for the pre and post time periods are generally attributable to a simple continuation of the pre-program pattern. The only exceptions to this are that the number of offender-days in detention declined significantly when YA began and the number of technically eligible youths on whom petitions were filed dropped significantly. For some of the indicators, the pre-program trend was so steep that YA could not have "diverted" youths from these at all unless the number had reached zero almost immediately after YA was implemented.

It was noted earlier in this report that the increased number of status offender referrals (YA plus court) might be attributable to a change in classification rules. If some of the delinquents and neglect referrals were being reclassified as status offenders, and if these were diverted to YA, then one would expect a reduction in detention, petitions, and institutionalization for the delinquent and neglect referrals, or for all referrals, combined. Interrupted time series analyses were conducted on the number of delinquents, dependency A cases, and all referrals (status, delinquent, and neglect) for each of the indicators of penetration into the system. None of the results showed a statistically significant

Figure 9: Number of Status Offenders Detained, Petitions Filed, Institutionalized

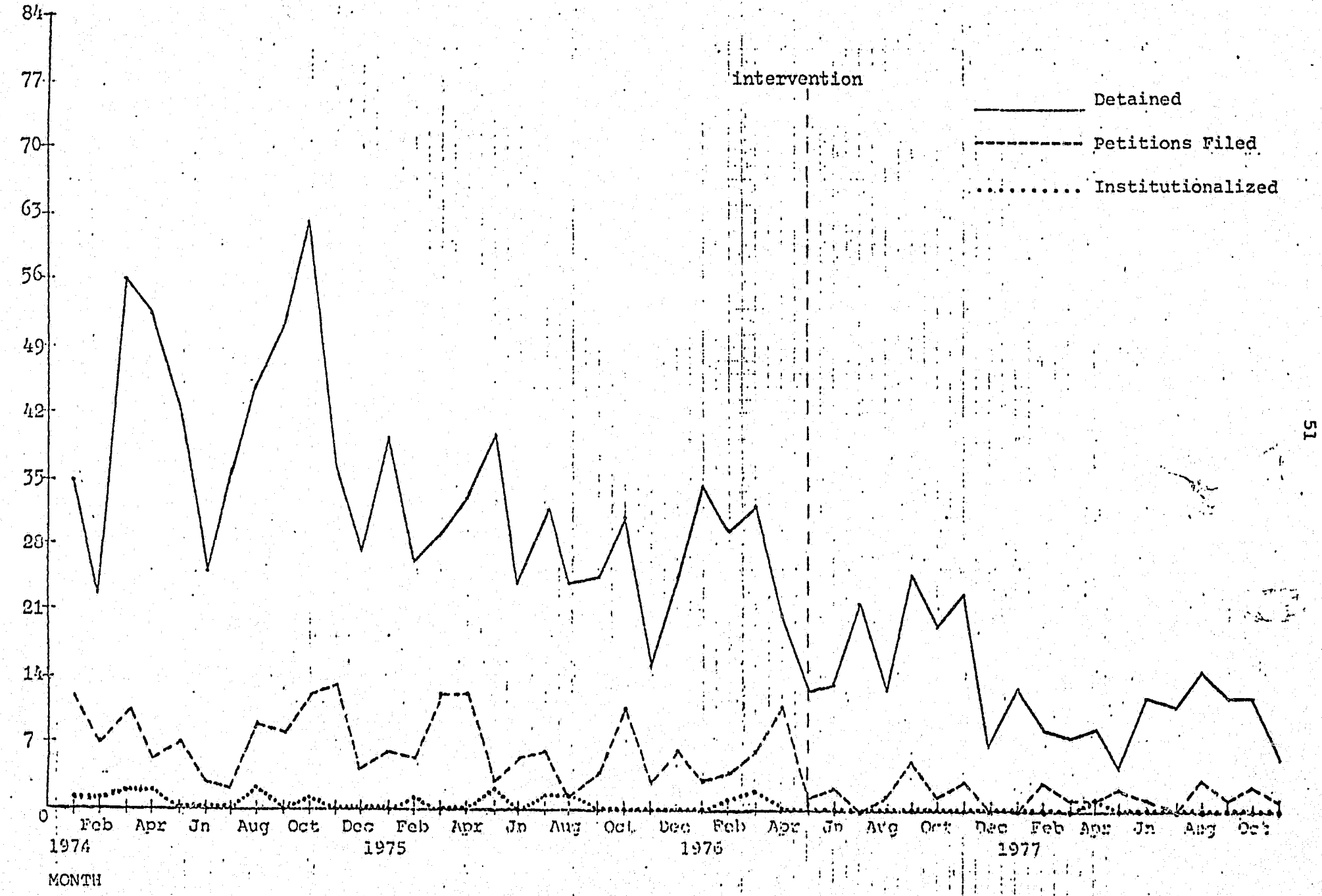
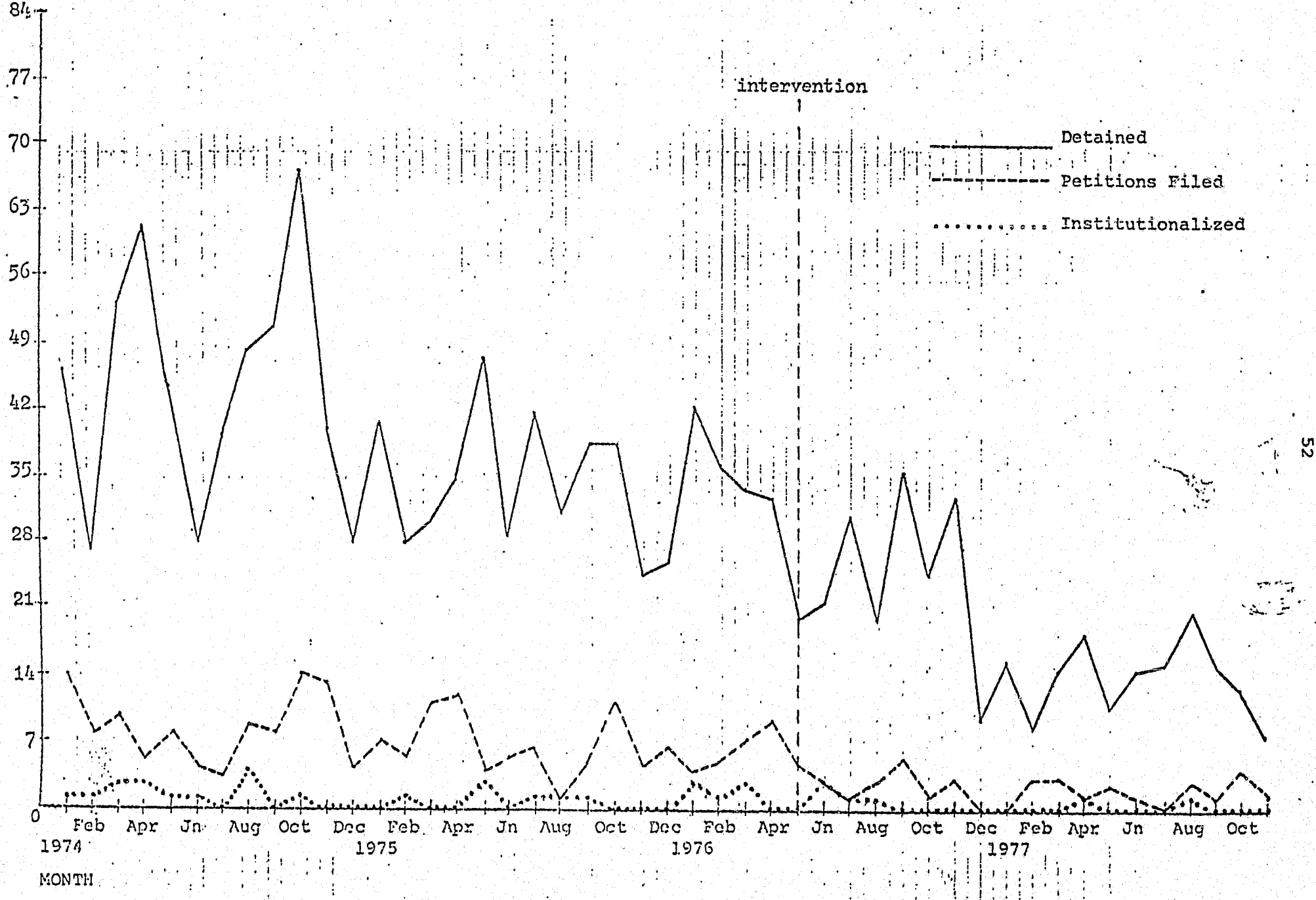


Figure 10: Number of Technically Eligible Status Offenders Detained, Petitions Filed, Institutionalized



change (even at the .15 level) attributable to the implementation of Youth Alternatives. (Appendix A has the equations for these analyses.)

The findings in this section make it difficult to sustain an argument that Youth Alternatives was diverting status offender referrals (or other referrals) who would have been detained, filed on, or institutionalized by the juvenile court. One could contend that the pre-program downward trend in the indicators of penetration was so steep that it would have been almost impossible for this type of analysis to show that YA diverted referrals from penetration into the system. On the other hand, the pre-YA decline in these variables raises the question of whether YA was "needed" for the purpose of diverting status offender referrals from system processes since it appears quite likely that the juvenile court would have been able to do this on its own initiative. On the other hand, one can only speculate about what would have happened (if anything) to the 54 status offenders, per month, who received services from Youth Alternatives. Again, the interpretation of the results depends on what produced the increase in status offenders. If this increase would have been observed even without YA, and if all these cases had been referred to juvenile court, then it is impossible to determine how many would have been detained, filed on, or institutionalized.

PROBABILITY OF PENETRATION INTO THE SYSTEM FOR COMMITTING A STATUS OFFENSE

If one assumes that all the status offenders identified in the community (those referred to YA and to the court) potentially are subject to penetration into the juvenile court system, then a relevant question is whether the implementation of Youth Alternatives altered the probability that a youth identified as a status offender would be detained, have a petition filed against him or her, or be institutionalized.

The problem in ascertaining the impact of YA on these variables is that YA clients are not equivalent to any of the potential comparison groups. Although other status offenders were handled exclusively by the court during the months after YA began providing services, the youths at the court differ from YA status offender referrals on several socio-economic characteristics, number of priors, and so on. More importantly, the selection criteria for referrals to Youth Alternatives were based in part on judgmental decisions made by the police and court personnel. This introduces bias into any comparison between YA and court status offenders which cannot be removed statistically. The court status offenders who, according to the computerized data, were technically eligible for YA, should not be used as a comparison group because there undoubtedly were major differences between these youths and those referred to YA. If not, one would expect that they would have been referred.

The problem of selection bias, however, is less serious in a comparison of the pre-program group with the post-YA group when the latter includes not just the YA clients, but also those handled at the court. As noted

previously, this places a considerable burden of proof on YA to demonstrate effectiveness because they did not provide services to all of the post-YA status offenders. Nevertheless, comparisons between the pre and post (using multiple regression analysis to control for differences in socio-economic characteristics and prior offenses) provides the best available estimate of the impact of Youth Alternatives on the probability of penetration into the system.

Descriptive statistics showing the proportion of youths within each of the subgroups for each type of penetration are in Table 6 and results of the multiple regression analysis are in Tables 7 through 10.

Substantial changes occurred between the pre and post time periods in the probability that a status offender referral (to YA or to the court) would be detained or have a petition filed against him or her. The proportion detained (and the probability of detention, for an individual) dropped from .648 to .232; the probability of having a petition filed dropped from about .14 to less than .04 and the likelihood of being institutionalized after referral on a status offense dropped from one in a hundred to four per 1,000. The probability of detention, petitions, and institutionalization for the technically eligible status offenders also dropped substantially between the pre and post-time periods.

The referrals after YA began have been divided into four groups and the proportions of these detained, filed on, and institutionalized are shown in the righthand portion of Table 6. None of the direct referrals to Youth Alternatives were detained, had petitions filed, or were institutionalized. For referrals who went first to the court and then to Youth Alternatives (on the same offense), 17 percent were detained and less than one percent

had a petition filed. The status offenders who were technically eligible for YA but were considered ineligible by court personnel were much more likely to be detained (51 percent) and to have petitions filed (12 percent).

The substantial change in the probability of penetration into the system observed in Table 6 could be the result of Youth Alternatives but there are two other reasonable propositions concerning the changes: (1) They could have been produced by a pre-program trend that continued after YA was implemented or, (2) they could have been the result of changes in the characteristics of status offender referrals such that further processing by the court was not warranted in the post time period to the same extent as in the pre-YA months.

Results of the multiple regression analysis (Tables 7 through 10) show that the implementation of Youth Alternatives had a statistically significant effect that reduced the probability of detention and of petitions being filed, even when the pre-program trend and characteristics of the youths are statistically controlled.

In each of the multiple regression analyses, the dependent variable is scored zero for non-penetration (for example, not being detained) and is scored as "one" if penetration occurred (for example, being detained). And, the cases that came into the system after YA began are given a score of one whereas the pre-YA cases are scored zero. The constant shown at the lower portion of each table represents the proportion detained when all of the variables in the equation are (hypothetically) zero. The value of B (the partial, understandardized regression coefficient) for the implementation variable, represents the shift in proportion attributable to the program when all the other variables have been controlled, statistically.

Table 6. PROBABILITY OF DETENTION, PETITIONS, INSTITUTIONALIZATION FOR A STATUS OFFENDER REFERRALS TO YOUTH ALTERNATIVES AND THE COURT, PRE AND POST[1]

	Pre-YA	Post-YA		Post-YA Subgroups			
				YA only	Double Referrals	Court Eligibles	Court Ineligibles
Total N's	1,676	1,527		563	169	338	235
Eligible N's	1,417	1,223					
Detention							
All Status Offenders (YA and Court)	.648	.232	N's Detained	0	.172	.512	.43
Eligibles (YA and Court)	.668	.184					
Petitions							
All Status Offenders (YA and Court)	.138	.038	Petitions Filed	0	.006	.118	.038
Eligibles (YA and Court)	.129	.024					
Institutionalization							
All Status Offenders (YA and Court)	.014	.004	Institutionalized	0	0	.003	.017
Eligibles (YA and Court)	.013	.001					

[1]The pre-YA time period is from January, 1974, through April, 1976. The post time period extends through August, 1977.

TABLE 7. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF DETENTION FOR TOTAL STATUS OFFENSE REFERRALS (YA PLUS COURT)

Independent Variable	Dependent Variable: Detention (0=not detained; 1=detained) Probability			
	B	Beta	F	
Implementation of Youth Alternatives (0=pre; 1=post)	-.20	-.19	32	<.001
Monthly Trend	-.01	-.29	76	<.001
Interaction Term	n.s.	n.s.	n.s.	n.s.
Race (2=nonwhite; 1=white)	.10	.05	6.5	<.001
Prior Offenses	.04	.07	14	<.001
Sex (2=Female; 1=Male)	-.04	-.04	5	<.001
Family Instability (Higher = less stable)	.02	.04	4.7	<.001
Age	.02	.03	3.3	<.001
School Status (0=enrolled; 1=dropped out; 2=expelled)	n.s.	n.s.	n.s.	n.s.
Constant: =	.32			
R^2 = .20				
F = 77				

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of being detained. In this analysis, the post time period extends through August, 1977. The interaction term between implementation and month indicates whether a change in trend occurred after the program was implemented.

TABLE 8. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF DETENTION FOR ELIGIBLE STATUS OFFENSE REFERRALS (YA PLUS COURT)

Independent Variable	Dependent Variable: Detention (0=not detained; 1=detained) B	Beta	F	Probability
Implementation of Youth Alternatives (0=pre; 1=post)	-.23	-.23	39	<.001
Monthly Trend	-.01	-.31	68	<.001
Interaction Term	-	-	-	n.s.
Race (2=nonwhite; 1=white)	.06	.03	2.2	<.05
Prior Offenses				
Sex (2=Female; 1=Male)	-.04	-.04	3.2	<.001
Family Instability (Higher = less stable)	.02	.03	2.5	<.05
Age	-	-	-	n.s.
School Status (0=enrolled; 1=dropped out; 2=expelled)	-	-	-	n.s.
Constant:	= .66			
R^2	= .26			
F	= 85			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of a petition being filed. The post time period extends through August, 1977.

TABLE 9. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF A PETITION BEING FILED FOR TOTAL STATUS OFFENDER REFERRALS (YA PLUS COURT)

	Dependent Variable: Petitions (0=no petition; 1 = petition filed)			
Independent Variable	B	Beta	F	Probability
Implementation of Youth Alternatives (0=pre; 1=post)	-.04	-.06	3.1	<.001
Monthly Trend	-.002	-.09	6.4	<.001
Interaction Term	-	-	-	-
Race (2=nonwhite; 1=white)	n.s.	n.s.	n.s.	n.s.
Prior Offenses	.04	.12	31	<.001
Sex (2=Female; 1=Male)	-.02	-.03	2.2	<.05
Family Instability (Higher = less stable)	.01	.05	5	<.001
Age	-.02	-.07	14	<.001
School Status (0=enrolled; 1=dropped out; 2=expelled)	.08	.15	54	<.001
Constant:	= .25			
R^2	= .08			
F	= 22			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of a petition being filed. The post time period extends through August, 1977.

TABLE 10. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF A PETITION BEING FILED FOR ELIGIBLE STATUS OFFENDER REFERRALS (YA PLUS COURT)

	Dependent Variable: Petition (0=no petition; 1 = petition filed)			
Independent Variable	B	Beta	F	Probability
Implementation of Youth Alternatives (0=pre; 1=post)	-.07	-.11	6.8	<.001
Monthly Trend	-.002	-.06	2.3	<.05
Interaction Term	-	-	-	n.s.
Race (2=nonwhite; 1=white)	-	-	-	n.s.
Prior Offenses	.04	.04	26	<.001
Sex (2=Female; 1=Male)	-.03	-.05	4.5	<.001
Family Instability (Higher = less stable)	.01	.05	5.3	<.001
Age	-.02	-.08	14	<.001
School Status (0=enrolled; 1=dropped out; 2=expelled)	.08	.16	53	<.001
Constant:	= .27			
R^2	= .09			
F	= 22			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of a petition being filed.

The analysis reveals that the probability of being detained after YA was implemented shifted downward by an estimated .20 and .23 for the full population and the eligible-only group, respectively. The probability of a petition being filed dropped from an intercept value of .25 by .04 and .07 for the full group and eligible-only group, respectively.

IMPACT OF YOUTH ALTERNATIVES ON RECIDIVISM

The major question to be discussed in this section is whether the Youth Alternatives program brought about a change in the recidivism rates of youths referred for status offenses. The change in procedures for handling status offenders introduced by Youth Alternatives could reduce recidivism if contact and penetration into the system tend to encourage subsequent misbehavior by the youths. Thus, since status offenders who received YA services did not have much contact with the juvenile court, it is possible that the recidivism rates would be lower than expected.

The key problem is in determining what the recidivism rate of YA clients would have been if those status offenders had been referred to the court and processed with the normal court procedures. Status offender referrals who stayed at the court, rather than being sent to Youth Alternatives, are not a suitable comparison group. Any difference in recidivism that might be observed between YA clients and court referrals could be attributed either to the way Youth Alternatives provided its services or to the screening and selection procedures used by court and law enforcement personnel. If the "easier" cases were referred to Youth Alternatives, then the probability of recidivism for YA clients would be less than the probability of recidivism for youths at the court even before any services were provided by either agency. Alternatively, if the harder cases were sent to YA, the likelihood of recidivism for the YA group would be higher than for the court group prior to the service provision. In order to make valid comparison after the services are provided, one must be confident that the two groups were equivalent before services were provided.

Because of these problems, the analysis in this section will involve a comparison of the pre-YA status offender referrals with the entire post-YA group (including cases handled at the court as well as those at Youth Alternatives). A second analysis will compare the pre-YA referrals who met the technical eligibility criteria that could be recovered from the computerized data with the post-YA clients who met those criteria.

Even these comparisons are suspect because of the fact that the total number of status offender referrals increased after YA began and the "extra" referrals may not be equivalent to the pre-program group. If the additional referrals were produced by changes in law enforcement policies, then it is reasonable to believe the "extras" would tend to be less serious cases and, perhaps, to have a lower probability of recidivating than the other youths. On the other hand, if the "extras" were a "paper" increase produced by a change in classification (from delinquent to status offense), then one would be inclined to think that the additional status offender referrals would have a higher probability of recidivating than the other referrals. The other possible explanation for the increased number of referrals was that a change occurred in the counting procedures used by the court so that referrals who, in the past, would not have been counted or entered in the statistical data, were counted after YA began. If this is the correct explanation for the increase, then one would suspect that the extra cases involved less serious offenders (thereby accounting for the fact that they were not counted as true referrals in the pre time periods).

Since we do not know why the number of status offender referrals increased, we cannot ascertain the type of bias that exists when comparing recidivism rates of the pre and post YA referrals.

The measure of recidivism used in the subsequent analysis is re-referral either to Youth Alternatives or to the juvenile court for a status or delinquent offense. In one of the analyses, a three-month, follow-up period is used and the other has a six-month follow-up period. Referrals that entered the system and did not have a full three months of time "at risk" in which to recidivate were eliminated from the three-month analysis and referrals that did not have a six-month follow-up period were eliminated from the six-month analysis.

The time "at risk" was equalized for every referral, regardless of how many actual months of follow-up data were available for a particular case. Thus, a juvenile who had no subsequent referrals within three months (but had one within four months) is considered a non-recidivator for the three-month analysis, but a recidivator in the six-month follow-up.

The probability of recontact with YA and/or the juvenile court within three and six months for each of the sub-groups is shown in Table 10. (The probability of a recontact after the "instant" offense is the percentage of the referrals within each group who have a recontact within the specified time period.)

In the 28 months prior to YA, 22 percent of the referrals were back in contact with the court on a status or delinquent referral within three months and slightly more than 28 percent were in contact for a subsequent offense within six months. The recidivism rates in the post time period are slightly higher: 23.7 percent for the three-month follow-up and 30.8 for the six-month.

The post-YA eligible group shown in Table 11 includes direct YA referrals, the double referrals, and other referrals to the court met the quanti-

TABLE 11. PROBABILITY OF RECIDIVATING IN 3 AND 6 MONTHS, BY SUBGROUPS[1]

	Three Months Percent Recidivating Probability	Six Months Percent Recidivating Probability
All Status Offenders		
Pre (N = 1,689)	.221	.285
Post (N = 1,147;914)	.237	.308
Eligible Status Offenders		
Pre (N = 1,417)	.22	.30
Post (N = 946;767)	.243	.327
YA and Court		
All YA Clients (N = 656;525)	.216	.304
Court only status Offender Referral; (N = 491;389) in post period	.265	.314
Post- YA Subgroups		
Ya direct Referrals (N = 510;410)	.176	.263
Double Referrals (N = 146;115)	.356	.452
Court "eligibles" (N = 290;242)	.303	.376
Court "ineligibles" (N = 201;147)	.209	.211

[1]Recidivism refers to a recontact with the juvenile court (or YA) on a status or delinquent referral.

tative eligibility criteria that were in the computerized data. In the pre-time period, the eligible group contains referrals who would have been technically eligible for YA if it had existed at the time the referrals were made to the court. Recidivism rates of the eligibles were marginally higher than for the total status offenders. The comparison of pre and post eligible referrals shows the same general pattern observed for all referrals: slightly greater recontact rates in the months after YA began.

Comparisons between all the YA referrals (including these referred first to the court and then to YA) and the status offenders who were referred to the court but not referred to YA can be made from the third set of entries in Table 10. In the three-month follow-up, the YA clients were slightly less likely to recidivate but the differences were very small after six months. It should be noted, of course, that the court-only group includes runaways from other jurisdictions. These youths would be less likely to have recontact with Spokane authorities than would the YA clients, even if the true number of subsequent offenses were the same for both groups.

The recontact rates for direct referrals to YA were lower than for any of the other post-YA categories after three months. After six months, the direct referrals to YA had lower recontact rates than the eligible groups at the court. As noted before, however, it is quite possible that the YA clients, especially the direct referrals, may have been less serious offenders and less likely to recidivate. These factors could have influenced the decision by law enforcement to refer the youths directly to YA rather than to the court.

Multi-variate analysis of differences in the three and six-month recidivism rates for the entire post-YA status offender referral group and the

entire pre-YA group indicates that the implementation of Youth Alternatives had no significant impact on recidivism (see Tables 12 and 13). The only variables included in the multiple regression analysis that had any predictive ability in terms of recidivism were the number of prior offenses and age of the youth at the time of the referral. Virtually identical patterns are found for the comparison between pre and post-YA referrals who were (or would have been) technically eligible for Youth Alternatives (see Tables 13 and 14). The single exception is that the six-month recidivism analysis for eligible referrals indicates a very slight, but statistically significant, downward trend throughout the time period.

Discussion

The recidivism analysis was complicated by the absence of any suitable comparison group and by the fact that there was no way to ascertain what the nature of the biases might be between YA clients and the groups with whom they could be compared.

The comparison that was used (between the pre-YA group and the entire post group, including both YA and court referrals) is less biased than direct comparison between YA and the other subgroups. And this comparison revealed no differences in recidivism.

If YA clients were equivalent to court and/or pre-program clients and if the recidivism rates of these youngsters were less <u>because</u> they were part of a diversion program, then we would expect the recidivism rates for the entire post-group to be at least slightly lower than the pre-program group. Since this was not the case, the most appropriate conclusion is that the lower recidivism rates of the YA clients (especially the direct

TABLE 12. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF RECIDIVISM IN 3 MONTHS; TOTAL STATUS OFFENDER REFERRALS (YA PLUS COURT), PRE AND POST

Independent Variable	Dependent Variable: Recidivism (0=none in 3 months 1=1 or more in 3 mos.) B	Beta	F	Probl # Cases = 2,210
Implementation of Youth Alternatives (0=pre; 1=post)	(-.007)	(.03)	(.05)	n.s.
Monthly Trend	n.s.	n.s.	n.s.	n.s.
Race (2=nonwhite; 1=white)	n.s.	n.s.	n.s.	n.s.
Prior Offenses	.09	.21	98	<.001
Sex (2=Female; 1=Male)	n.s.	n.s.	n.s.	n.s.
Family Instability (Higher = less stable)	n.s.	n.s.	n.s.	n.s.
Age	-.01	-.04	2.9	<.01
School Status (0=enrolled; 1=dropped out; 2=expelled)	n.s.	n.s.	n.s.	n.s.
Constant: =	.32			
R^2 =	.04			
F =	51			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of recidivating within 3 months. The post time period in this analysis extends only through August, 1977 so that all cases had three months follow-up.

TABLE 13. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF RECIDIVISM IN 6 MONTHS; TOTAL STATUS OFFENDER REFERRALS (YA PLUS COURT) PRE AND POST

	Dependent Variable: Recidivism 0=none in 6 mos. 1=1 or more in 6 mos.			
Independent Variable	B	Beta	F	Probl # Cases 2,063
Implementation of Youth Alternatives (0=pre; 1=post)	(.04)	(.04)	(1.3)	n.s.
Monthly Trend	-	-	-	n.s.
Race (2=nonwhite; 1=white)	-	-	-	n.s.
Prior Offenses	.09	.21	91	<.001
Sex (2=Female; 1=Male)	-	-	-	n.s.
Family Instability (Higher = less stable)	-	-	-	n.s.
Age	-.02	-.06	8.4	<.001
School Status (0=enrolled; 1=dropped out; 2=expelled)	-	-	-	n.s.
Constant: =	.52			
R^2 =	.05			
F =	50			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of Recidivism in 6 months. The post time period extends only through May, 1977 so that all cases have a 6 month follow-up period.

referrals) was attributable to the selection and screening procedures and that these tended to result in the "easier" cases being referred to Youth Alternatives.

It should be emphasized, however, that the probability of recidivism for the post-YA group was not significantly greater than for the pre-YA group even though 44 percent of the status offender referrals were handled entirely outside of the official juvenile court system in the post-YA months and an additional 24 percent were handled primarily outside of the system.

Although a reduction in recidivism was a goal of the Spokane DSO project, one should not automatically assume that the "success" of a diversion program depends on it being able to demonstrate a significant reduction in recidivism. It is just as reasonable to define "success" as being able to divert youths from the court and incur no increase in recidivism over that which would have been observed if they had been processed through the juvenile justice system.

TABLE 14. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF RECIDIVISM WITHIN 3 MONTHS; ELIGIBLE STATUS OFFENDER REFERRALS, PRE AND POST

	Dependent Variable:				
Independent Variable	B	Beta	F	Probl	# Cases = 2,063
Implementation of Youth Alternatives (0=pre; 1=post)	-	-	-	-	
Monthly Trend					
Race (2=nonwhite; 1=white)	-	-	-	-	
Prior Offenses	.07	.175	59	<.001	
Sex (2=Female; 1=Male)	-	-	-		
Family Instability (Higher = less stable)	-	-	-		
Age	-.01	-.04	2.7	<.01	
School Status (0=enrolled; 1=dropped out; 2=expelled)	.03	.04	2.5	<.05	
Constant: =	.31				
R^2 =	.04				
F =	23				

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of recidivating in three months.

TABLE 15. MULTIPLE REGRESSION ANALYSIS OF THE PROBABILITY OF RECIDIVISM WITHIN 6 MONTHS; ELIGIBLE STATUS OFFENDER PRE AND POST

	Dependent Variable:				
Independent Variable	B	Beta	F	Probl	# Cases =
Implementation of Youth Alternatives (0=pre; 1=post)	-	-	-		
Monthly Trend	-.003	-.08	6		
Interaction Term	-	-	-		
Race (2=nonwhite; 1=white)	-	-	-		
Prior Offenses	.08	.18	59		
Sex (2=Female; 1=Male)	-	-	-		
Family Instability (Higher = less stable)	-	-	-		
Age	-.02	-.06	5.7		
School Status (0=enrolled; 1=dropped out; 2=expelled)	-	-	-		
Constant:	=	.51			
R^2	=	.03			
F	=	32			

[1] B is the unstandardized, partial regression coefficient; Beta is the standardized partial regression coefficient. The variables are scored so that a positive sign on the regression coefficients means that the independent variable is associated with an increased probability of recidivating in six months.

DISCUSSION

During the months covered by the evaluation, Youth Alternatives appeared to be a well-managed, highly competent organization with a dedicated staff. They handled more than 50 status offender referrals, per month, and almost all of these were referred to them from legitimate juvenile justice system authorities. Program personnel were on call at all hours of the day or night to handle crisis, find temporary shelter for the youngsters, settle disputes that would permit the youth to return home, and so on. The program provided follow-up services, when needed, for three to ten days after a referral.

Eligibility issues and the problem of "widening the net" were recognized from the outset by Roy Lakewalk, project director, and others on the staff. Of particular concern was the question of how a project that was entirely independent of the juvenile justice system could "de-institutionalize" status offenders or even reduce the degree of their processing through the court. Extensive discussions were held with court and law enforcement personnel in an effort to insure that all referrals to YA were "eligible" in the sense that they would have been referred to the court and/or processed through the court if they were not referred to YA. And, extensive efforts were made to insure that YA received all the eligible cases from the court.

The nine-month evaluation report from the Institute of Policy Analysis

was released in early February, 1977. Its findings were quite similar to those reported in the first sections of this final evaluation: (1) There was a clear indication that the number of total status offender referrals had increased and that a "net-widening" effect could be responsible for the increase; (2) the computerized data indicated that YA was not receiving all of the cases that met the technical, quantitative, criteria for eligibility which could be recovered from the computerized offense data.

In response to that information, Roy Lakewald intensified discussions with law enforcement and court personnel and a new set of explicit (written) criteria to govern referrals was issued. The data in this final report shows that the sudden upsurge of status offender referrals during the first nine months subsidized and the referrals dropped considerably. Nevertheless, the number of referrals to the court and YA stayed above pre-program levels by about 12, per month--a 20 percent increase above the pre-program monthly average which had been declining slightly before YA began.

In addition, YA initiated a small study of court files to determine whether the youths not referred were eligible for YA. The investigator concluded that none of the non-referred status offenders were eligible for YA and that it was the failure to record data (or the inability to record it) on the statistical sheet that made it appear as if eligible cases were not being referred.

It has been said several times in this report that we cannot determine whether the increase in status offender referrals was "real" and actually

represented referrals to YA or the court who would not have been referred before. It could have been a "paper" increase produced by slight shifts in classification or by changes in the counting procedures used at the court. Furthermore, if it was a "real" increase, we have no way of ascertaining whether it is better for these youngsters to be referred to YA or whether it would be better for them to stay entirely out of the system. Someone (parents, neighbors, teachers, law enforcement) apparently thought the youths would be better off it referred.

Youth Alternatives demonstrated marked effectiveness in terms of providing services to a substantial number of referrals and, according to a cost analysis conducted by Peat, Marwick, and Mitchell, Co., did so for a price, per case, that was below the court cost.

This evaluation contains evidence that a community can provide services to a substantial proportion of its status offenders outside of the traditional juvenile court setting without incurring any increase in recidivism. Thus, in terms of its operating procedures, management, and general strategy for dealing with status offenders, Youth Alternatives should be considered an effective project.

On the other hand, the evidence in this report shows that it was not the implementation of YA which produced the marked downward trend in number of status offenders detained, and number of petitions filed on status offenders. Nor can YA take credit for the very low (almost zero) rate of institutionalization of status offenders in Spokane County as that was low anyway and declining toward zero. All of these indicators of court processing had been declining at a fairly rapid rate for more than two years

before YA began.

The data in this evaluation show that the juvenile court continued to handle many status offender referrals (45 per month) and, in fact, there was no significant change in the number referred to the court at the time YA was implemented.

Thus, in the final analysis, the evaluation does not show that the project achieved its goals of reducing status offender contact with the court, of reducing the extent of court processing of status offender referrals, or of reducing the recidivism rate.

In a sense it is fair to say that YA was victimized by a system and /or community that did not abide by the prevailing philosophy within the federal DSO initiative (and the philosophy held by many in the juvenile justice system) which presumes that "doing nothing" is better than "providing services" even if those services are provided outside of the justice system. It is that perspective which identifies "widening the net" as a negative consequence of diversion.

If the prevailing philosophy were that all juveniles who run away from home, or are frequently in conflict with their families, or are consistently truant from school should be provided services by a non-judicial agency, then projects such as Youth Alternatives would be evaluated in relation to their ability to find and attract these referrals. And, if the prevailing philosophy held that service provision to youngsters with these types of problems is inherently more humane (or less expensive) outside of the court system, then the projects would not be expected to do "better" in terms of recidivism--but only not to do any worse.

From a local perspective, it should be emphasized that there may be considerably more status offender referrals after YA began than before, but if the increase was "real" it was produced by the community, by law enforcement agencies, and/or other factors rather than by YA or the court. Furthermore, it is important to know that the probability of being detained, having a petition filed, or being institutionalized because of a status offense referral is considerably lower now than it was before YA began. Third, the evidence shows that the county can provide services to status offenders outside of the traditional juvenile court setting without increasing the rate of subsequent referrals, either for delinquent or status offenses.

CONTINUED

1 OF 2

FOOTNOTES

[1]Of the various "threats to validity" that plague all quasi-experimental designs, "history" is the most troublesome for the single interrupted time series design. See Donald Campbell and Julian C. Stanley, Experimental and Quasi-experimental Designs for Research (Rand McNally & Co., 1966), for a discussion. Also see Anne Schneider, "An Introduction to Interrupted Time Series Designs," in Anne L. Schneider, et al., Handbook of Resources for Criminal Justice Evaluators (State of Washington Office of Financial Management, 1978), for a discussion of each major threat to validity and how troublesome it is to the different types of interrupted time series designs.

[2]For explanations of the application of ANCOVA to interrupted time series analysis see Gregory C. Chow, "Tests of Equality between Sets of Coefficients in Two Linear Regressions," Econometrica, 28 (July 1969), 591-605; Joyce Sween and Donald T. Campbell, The Interrupted Time Series as Quasi-experiment (Vogelbach Computing Center, Northwestern University, 1965); and Charles W. Ostrom, Jr., Time-Series Analysis: Regression Techniques (Sage Publications, 1978).

[3]The ARIMA models have been applied to interrupted time series (as distinct from ordinary time series analysis) by Gene V. Glass, Victor L. Willson, and John M. Gottman, Design and Analysis of Time-Series Experiments (Colorado Associated University Press, 1975); and by Stuart J. Deutsch and Francis B. Alt, "The Effect of Massachusetts' Gun Control Law on Gun-Related Crimes in the City of Boston," Evaluation Quarterly, 1 (1977), 543-568. For general references on the ARIMA procedures see George E. P. Box and Gwilym M. Jenkins, Time Series Analysis: Forecasting and Control, revised edition (Holden-Day, 1976). More readable presentations are in Charles R. Nelson, Applied Time Series Analysis (Holden-Day, 1973); and Warren Gilchrist, Statistical Forecasting (John Wiley & Sons, 1976).

[4]See Ostrom in footnote 2, Ibid.

[5]A good discussion of the limitations of multiple regression when there has been extensive selection bias into the treatment group is in Donald C. Campbell and Robert F. Boruch, "Making the Case for Randomized Assignment to Treatments by Considering the Alternatives: Six Ways in Which Quasi-Experimental Evaluations in Compensatory Education Tend to Underestimate Effects," in C.A. Bennett and A. Lumsdaine (eds.), Central Issues in Social Program Evaluation (Academic Press, 1975)

[6]For discussions of the general issues involved in diversion programs, including "widening the net," see: Robert Carter and Malcolm W. Klein (eds.) Back on the Street: The Diversion of Juvenile Offenders (Englewood Cliffs: Prentice-Hall, 1976); Donald R. Cressey and Robert A. McDermott, Diversion from the Juvenile Justice System (Ann Arbor: National Assessment of Juvenile Corrections, 1973); Dennis Berg and David Shichor, "Methodological and Theoretical Issues in Juvenile Diversion: Implications for Evaluation, Washington, DC, February 22-24, 1977; Board of Directors, National Council on Crime and Delinquency, "Jurisdiction over Status Offenses Should be Removed from the Juvenile Court," Crime and Delinquency, 21(2), April, 1975, pp. 97-99; Roger Baron, Floyd Feeney, and Warren Thornton, "Preventing Delinquency Through Diversion: The Sacramento County 601 Diversion Project," Federal Probation, pp. 13-18; Richard J. Lundman, "Will Diversion Reduce Recidivism," Crime & Delinquency, October, 1976, pp. 428-437; Don C. Gibbons and Gerald F. Blake, "Evaluating the Impact of Juvenile Diversion Programs," Crime & Delinquency, October, 1976, pp. 411-42.; Alan J. Couch, "Diverting the Status Offender from the Juvenile Court," Juvenile Justice, November, 1974, pp. 18-22; Franklyn W. Dunford, "Police Diversion: An Illusion?", Criminology, November, 1977, pp. 335-53; Joyce Berkowitz, "Keeping 601's Out of the System," Youth Authority Quarterly, Winter, 1977, pp. 27-32; William S. Davidson II, Ph.D., Edward Seidman, Ph.D., and Julian Rappaport, Ph.D., "The Diversion of Juvenile Offenders: Initial Success and Replication of an Alternative to the Criminal Justice System," Paper presented at American Psychological Association Convention, Washington, DC., September, 1976; Suzanne Bugas Lincoln, Kathie S. Teilmann, Malcolm W. Klein, and Susan Labin, "Recidivism Rates of Diverted Juvenile Offenders," Paper presented at The National Conference on Criminal Justice Evaluation, February 22-24, 1977; Richard M. Ariessohn and Gordon Gonion, "Reducing the Juvenile Detention Rate," Juvenile Justice, May, 1973, pp. 28-33; Malcolm W. Klein and Kathie S. Teilmann, Pivotal Ingredients of Police Juvenile Diversion Programs, National Institute for Juvenile Justice and Delinquency Prevention, May, 1976.

APPENDIX A

STATISTICAL RESULTS

FROM INTERRUPTED TIME SERIES ANALYSIS

INTRODUCTION

There are three hypothesis usually tested with the single intervention time series design:

1. The intervention produces a change in the trend of the dependent variable (this is the first ANCOVA test, also known as Walker-Lev 1).

2. [If the first hypothesis is not accepted] There is an underlying trend in the dependent variable (the second ANCOVA test; also Walker-Lev 2).

3. [If the second hypothesis is not accepted] The intervention produced a change in the level of the dependent variable (the third ANCOVA test and Walker-Lev 3).

The SPSS multiple regression program, using dummy variables, provides the information needed to test all three of the above hypotheses, provided that the dummy variables are entered in a stepwise manner. The equation is:

$$Y = a + b_1D_1 \qquad \text{Step 1}$$

$$Y = a + b_1D_1 + b_2\text{MONTH} \qquad \text{Step 2}$$

$$Y = a + b_1D_1 + b_3D_2\text{MONTH} \qquad \text{Step 3}$$

where Y = the dependent variable (aggregated data, by month);

a = the intercept value (to be estimated);

b = the regression coefficient (to be estimated);

D_1 = dummy variable with pre=0, post=1;

MONTH = months (time) numbered from 1 (January 1974) to 42 (June 1977);

D_2MONTH = interaction term (month times D_1).

The procedure for testing these hypotheses is as follows.

Hypothesis One (change in slope - Walker-Lev 1)

1. Examine Step 3 of the regression (all three variables are in the equation).

2. The coefficient for D_2MONTH gives the post-intervention slope adjustment. The F ratio associated with this coefficient is the statistical test for hypothesis one. If D_2MONTH is significant, then the coefficient for MONTH gives the pre-intervention slope.

3. If D_2MONTH is not significant, then hypotheses two and three are tested.

Hypothesis Two (trend in dependent variable = Walker-Lev 2)

1. Examine Step 2o of the regression. At Step 2 only MONTH and D_1 will have been entered with the equation. (D_2MONTH is regarded as error in Step 2.)

2. The coefficient for MONTH gives the slope (trend) of the dependent variable over time. The F ratio associated with this coefficient is the statistical test for hypothesis two (whether the trend is significantly different from zero) and is identical to Walker-Lev 2).

Hypothesis Three (change in intercept = Walker-Lev 3)

1. Remain on Step 2 of the regression.

2. The coefficient for D_1 gives the post-intervention intercept adjustment. The F ratio associated with this coefficient is the statistical test of hypothesis three and is identical to Walker-Lev 3.

The Durbin-Watson (DW) test for significant autocorrelation is used on the residuals from the equation. If the test indicates that there is a significant autocorrelation problem, the equation is re-estimated using an OLS approximation procedure. If the DW is above 1.50, there is generally no autocorrelation problem, but if it is below this the equation may be in error and is re-estimated.

Rather convincing arguments can be made that ANCOVA is not the best procedure for analyzing time series data of social phenomena and that the ARIMA models are more appropriate. This is particularly true for data, such as crime rates, that are not "controlled" in any deterministic way, but instead tend to move upward or downward, through time, as the product of random "shocks" to the system which are felt at one or a few subsequent time points. Because the ARIMA models contain lagged values of the dependent variable rather than containing a "time" variable in the equation, they are more appropriate for such data. The argument is somewhat less convincing for social science data that are controlled (or more nearly controlled) by policy decisions--such as the number of offenders detained at the court--and where it is more reasonable to expect deterministic patterns in the data. The choice in this evaluation to use ANCOVA rather than one of the ARIMA models was made primarily because the statistical computerized routines for the latter were not available. In ARIMA models, the parameters are estimated using maximum liklihood rather than ordinary least squares. It should be emphasized, however, that if the data meet the assumptions of ANCOVA (and multiple regression analysis), then these approaches yield reliable estimates of the intercept, slope (trend), and the impact of the program variable.

The assumption of ANCOVA that most often is violated when it is used for time series analysis is that the observations are not independent, but instead are autocorrelated. As noted in the text of the report, this inflates the value of F and will tend to produce a "finding" of significant

differences when, in fact, the differences were not significant.

This problem can be overcome by testing the residuals from the equation for autocorrelation. If the autocorrelation is significant, the autoregression coefficient in the error term is calculated and the equation is re-estimated using SAS statistical routine. This enters lagged value of the dependent variable in the equation, weights it with the autoregressive coefficient (or order 1, 2, or whatever was specified) and re-estimates the equation. The autoregressive component can be specified as order 1, 2, or whatever is needed. The SAS program shows the autocorrelation of the data at lag 1, lag 2, and for however many lags were specified. This information is used to estimate the appropriate order of the autoregressive component. In practice, we continued specifying one additional lag until the results of the equation did not change, indicating that the autoregressive component of that order had no effect whatsoever on the results. Generally, a lag 1 specification was sufficient for equations that originally contained autocorrelation in the residuals. Most of the equations did not contain statistically significant autocorrelation and did not have to be re-estimated.

Another problem with using ANCOVA and a time variable (months, numbered 1, 2, 3, and so on) is that when the time series becomes quite long, it is clearly inappropriate to project a linear trend for many types of social phenomena. This is especially true if the variable is a percentage or some other kind of value that is subject to ceiling and floor effects. But, when the time series is shorter, the use of a linear trend estimate is not at all unreasonable because the projections do not extend for ridiculously long periods of time. The ARIMA models generally require considerably

longer time series (50 or more data points are recommended for the pre-intervention data) than do the ANCOVA models. Thus, given the relatively short time series used in this evaluation and the attention given to meeting the assumption of independence in observations, the ANCOVA tests can be expected to have considerable reliability.

EQUATIONS, SIGNIFICANCE TESTS, AND DURBIN-WATSON STATISTICS FROM INTERRUPTED TIME SERIES ANALYSIS[1]

VARIABLE	INTERCEPT VALUE	Change in Level	Change in Trend	Overall Trend	F ratio	Durbin-Watson
TOTAL NUMBER OF REFERRALS						
1. Total status offender referrals (YA plus court)	65	+29	-	-	12	1.9
2. Total eligible status offender referrals (YA plus court, eligibles)	59	+27	-	-	14	1.9
3. Number of referrals from non-justice system sources	16	-	-	-.09	3.4	1.6
4. Number of YA and court referrals from law enforcement	49	+24	-	-	10	2.1
5. Total number of all referrals (delinquent, status, neglect, YA)	318	-	-7.9	-	7	1.8
6. Number of status referrals to court	67	-	-	-.55	16	2.0
7. Number of delinquent referrals, to court*	228	-	-5.6	-	.07	2.0

A value is entered for change in level, change in trend, or change in overall trend only if it was statistically significant at the .10 level or beyond. The F value and Durbin-Watson are for the variable entered in the column, not for the entire original equation. The time variable (month) is always included as a control variable in the equation even if no value fact is given in this chart. An asterisk indicates the equation was re-estimated using an autoregressive model.

EQUATIONS, SIGNIFICANCE TESTS, AND DURBIN-WATSON STATISTICS FROM INTERRUPTED TIME SERIES ANALYSIS

VARIABLE	INTERCEPT VALUE	Change in Level	Change in Trend	Overall Trend	F ratio	Durbin-Watson
TOTAL NUMBER OF REFERRALS						
8. Number of Dependency A (neglect) referrals to court	25	-	-.98	-	.07	2.0
9. Number of referrals, any type, to court (delinquent, status, Dependency A)	318	-	-7.9	-	7	1.76
10. Number of eligible status offender referrals to court	61			-.78	41	1.8
DETENTION OF REFERRALS BY COURT						
11. Number of status referrals detained	50	-	-	-.82	.75	1.8
12. Number of eligible status referrals detained	46			-.87	90	1.6
13. Number of delinquent referrals detained*	109	-	-	-1.1	14	1.6
14. Number of all court referrals detained (status, delinquent, neglect)	176	-	-	-1.4	18	1.6
PETITIONS FILED ON REFERRALS						
15. Number of petitions filed on status referrals	9	-	-	-.19	37	1.8

EQUATIONS, SIGNIFICANCE TESTS, AND DURBIN-WATSON STATISTICS FROM INTERRUPTED TIME SERIES ANALYSIS

VARIABLE	INTERCEPT VALUE	Change in Level	Change in Trend	Overall Trend	F ratio	Durbin-Watson
TOTAL NUMBER OF REFERRALS						
16. Number of petitions filed on eligible status referrals	8	-2.8	-	-	3.5	1.8
17. Number of petitions filed on Dependency A referrals	12	-	-	.51		2.4
18. Number of petitions filed on delinquent referrals	(No estimates could be obtained due to severe outliers in the data and autocorrelation problems that could not be resolved)					
INSTITUTIONALIZATION						
19. Number of status offenders committed to DSHS for institutionalization	1.1	-	-	-.02	7	2.21
20. Number of eligible status offender referrals committed to DSHS for institutionalization	.89	-	-	-.02	10	2.02

END