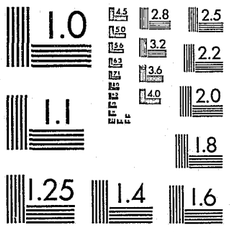

DESIGN OF A STUDY TO ASSESS THE IMPACT OF INCOME MAINTENANCE ON DELINQUENCY

Final Report

March 1979

By: Lyle P. Groeneveld
James F. Short, Jr.
Peggy Thoits

SRI Project 6967

Prepared under Grant Number 78-JN-AX-0001 from the National Institute for Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration, U.S. Department of Justice.

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COMMENCE REPORT HERE (*Add continuation pages as required.*)

Final report is attached.

NOTE: *No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations (FMC 74-7; Omnibus Crime Control Act of 1976).*

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1. OVERVIEW

This report summarizes the research project entitled "Design of a Study to Assess the Impact of Income Maintenance on Delinquency" conducted by SRI International with the assistance of Washington State University and funded by the Office of Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration (LEAA grant number 78-JN-AX-0001). The study was designed to determine the feasibility of using data from the Seattle and Denver Income Maintenance Experiments (SIME/DIME) combined with data from other sources to study delinquency in the low income sample included in the experiments. The study was not intended to exhaust the potential of SIME/DIME for addressing questions related to delinquency but rather to determine the feasibility of addressing such questions in the context of the income maintenance experiments.

The research strategy employed in the project included preliminary investigations of several approaches to studying delinquency in the SIME/DIME sample and an in-depth investigation of one approach. We investigated the feasibility of obtaining data from several sources including court records, Federal Bureau of Investigation (FBI) records and the records of suburban police departments. We also considered the possibility of obtaining data directly from the juveniles by means of interviews.

The approach that we pursued in depth was to obtain official records of contacts with the police from the Seattle and Denver police departments. A sample of 1,411 juveniles from the SIME/DIME population who would enter the most delinquency-prone ages during the experiment were studied in detail. The sample included blacks and whites of both sexes. Police records were examined for recorded police contacts with any of the juveniles in the sample or any of their family members. These data from the police records were merged with data about the individual juveniles and their families from SIME/DIME. This combined data set was analyzed to investigate any

experimental impact on delinquency and to investigate the correlates of delinquency in the sample.

Our study of the police records data revealed little evidence of an experimental effect on delinquency, although there were some suggestive findings that might be pursued in a study using a larger sample and perhaps different analytical methods. We did find that several of the nonexperimental variables used in the analysis had important effects on delinquency. In general, these findings confirmed those of other studies.

We also examined how the behavior of other family members affected juvenile delinquency. We found that the mother being employed increased the commission of status offenses among males. Having a sibling with a police record increased delinquency for both males and females but we found no evidence that parental police record had any effect. The mother's educational aspirations and expectations for their children were significantly related to delinquency: the higher the mother's aspirations and expectations, the less likely that the son or daughter would be delinquent. We also found that parents' reported marital satisfaction had significant effects on delinquency. Ecological variables appeared to have little effect on delinquency when individual and family characteristics were controlled. We discuss these findings at length in the following chapters.

The remainder of this report is organized into five chapters. Chapter 2 describes the study including the selection of the sample for the police records data collection, the data collection procedures used, and the evaluations of the alternative data sources. Chapter 3 discusses the definitions of delinquency used in the analysis of the police records data and measures the incidence of delinquency in the sample. Chapter 4 focuses on the impact of the experiment on delinquency. Chapter 5 turns from the experiment to more general questions of delinquency in a low-income population. Chapter 6 evaluates the study and makes recommendations for further research. Appendices describe the income maintenance experiments and give additional details about the police records data collection.

2. DESCRIPTION OF THE PROJECT

In this chapter we describe our study of the impact of the income maintenance experiments on juvenile delinquency. We begin with an overview of the project, followed by a discussion of the sample that was used for our analyses. Next we describe the data collection procedures we used and summarize our investigation of additional data sources. The results of our analysis are presented in the subsequent chapters.

2.1 Overview of the Study

The purpose of our study is to investigate the relationships among measures of socioeconomic status and juvenile delinquency. We recognized that the Seattle and Denver Income Maintenance Experiments, conducted under the auspices of the United States Department of Health, Education and Welfare, provided a unique opportunity to study these relationships in an experimental setting. The experiments had already collected detailed information about the economic situation of a large number of low and lower-middle income families over a period of several years. Information was also collected about family composition, attitudes of family heads, and other aspects of individual and family behavior over the same period of time. We supplemented this large body of data with measures of delinquency from official police records in the two cities.

Within this context two objectives have guided our research:

(1) To investigate the impact of income maintenance on the delinquent behavior of juveniles enrolled in SIME/DIME, and

(2) To use the extensive SIME/DIME longitudinal data files to model the effects of family background, community characteristics, and other variables on delinquency.

Thus, our concern has been both to assess the impact of income maintenance on delinquency and to understand the processes determining delinquency.

Our work has in many respects been a pilot project. Questions about the usefulness of SIME/DIME data for our purposes and uncertainties about the suitability of Seattle and Denver police department records for the measuring of delinquency led us to propose a less ambitious study than we had originally planned. In each phase of our study, we were concerned not only with the potential contributions of the present study to our understanding of delinquency, but also with evaluating the feasibility of a larger study using similar procedures.

An important factor in our study is the design of the experiments. SIME/DIME is the largest of five income maintenance experiments conducted by HEW. The experiments were designed to measure the effects of several negative income (NIT) programs on the labor force participation of family members, on marital stability, and on a variety of other outcomes. The NIT programs provide every family with a minimum income. If family members have earnings or income from other sources, their NIT payment is reduced by a proportion of their other income. In the experiments the level of the minimum income (the guarantee) and the rate at which payments are reduced (the tax rate or benefit reduction rate) are varied. The experiment enrolled families as controls as well as the families who were eligible for the experimental payments. The controls were interviewed in the same way as the experimental. Appendix A describes the experiment more fully. More details of the experimental design may be found in Kurz and Spiegelman (1972).

2.2 The Sample

Budget limitations prevented us from gathering data for all juveniles who were members of families enrolled in SIME/DIME. In selecting the portion of the SIME/DIME juveniles for our study, we were guided by several considerations. First, we wanted to include both control and experimental

families in order to determine the experimental effect on delinquency. Second, we wanted to include females as well as males. We felt that one potential strength of the SIME/DIME data was that it provided an opportunity to compare the effects of a number of family and individual variables on male and female delinquency. Third, we decided to sample an age cohort from the SIME/DIME population rather than spreading our sample over the entire age distribution. This approach allowed us to concentrate on the juveniles who would be at the most delinquent-prone ages during the experiment; it also allowed us to collect data that would not be available should a later study be conducted. In Seattle the police records of all juveniles are destroyed after their nineteenth birthday unless criminal charges had been filed against them as adults. (In Denver, such records are removed from the files but remain accessible for research purposed.) Thus, by selecting an entire age cohort, we were able to preserve Seattle police records data that would not be available to a later study.

The sample we selected is composed of all juveniles who were members of families on the day their family was enrolled and who were at least 9 and less than 12 years old if they lived in Seattle, or at least 10 and less than 13 years old if they lived in Denver. Both whites and blacks are included but Chicanos (who were in Denver only) are not included. The inclusion of Chicanos would have been possible only if we had reduced the number of blacks and whites in our sample. We judged the gain from larger samples for whites and blacks to outweigh the gain from adding a third ethnic group. We used a different age range for each city because the experiment began a year later in Denver than in Seattle. At the time we collected the data, the juveniles in our sample were between 16 and 19 years of age.

We also searched the official records for indications of delinquent and criminal behavior of each juvenile's parents (as of enrollment) and any siblings who were over age 6 in Seattle and 7 in Denver at enrollment. Table 2.1 gives the number of individuals included in our records search. There are 580 Seattle families and 491 Denver families represented in the sample.

Table 2.1

NUMBER OF INDIVIDUALS INCLUDED IN POLICE DATA RECORDS SEARCH

	Seattle	Denver	Total
Juveniles	776	635	1,411
Parents	885	738	1,623
Siblings	968	793	1,761

Our analysis focuses on the sample of juveniles 9, 10, and 11 years old at enrollment in Seattle; and aged 10, 11, and 12 years old in Denver at enrollment. There were 1,411 individuals in this group that we refer to as our juvenile sample. Data from the sample of parents and the sibling sample were used in the analysis of delinquency among the juvenile sample but are not analyzed themselves.

Table 2.2 contains some descriptive statistics of the juvenile sample. The age distribution results from the difference in the age span of the cohort at enrollment in the two sites. The sample contains slightly more males than females. About half of the juveniles are living in one-parent families at enrollment. This situation is a result of the SIME/DIME sample design and does not reflect the distribution of the populations of the two cities by marital status. Fifty-five percent of the sample resided in Seattle and 53.2% was black. Fifty-six percent of the sample were in families eligible for the experimental treatment and 73% of the experimentals were enrolled for 3 years. The remaining experimentals were enrolled for 5 years. Normal family income is a measure of the income the family would be expected to receive assuming normal circumstances for the family and the regional economy. The normal family income categories, which are standardized to a family of four persons, were used in the process of assigning families to the various treatments (see Kurz and Spiegelman, 1972). The normal income categories are defined in 1971 dollars. The median family income in 1971 was about $10,000, and the poverty level for a family of four

Table 2.2

CHARACTERISTICS OF THE JUVENILE SAMPLE
(N=1,411)

Age at Enrollment	%
9	18.9
10	35.0
11	31.5
12	14.6

Sex	%
Male	52.1
Female	47.9

Marital Status of Parents	%
Single	48.5
Married	51.5

Site	%
Seattle	55.0
Denver	45.0

Race	%
Black	53.2
White	46.8

Treatment Status	%
Control	43.7
Experimentals	56.3
3-year experimentals	73.0
5-year experimentals	27.0

Normal Family Income	%
$0 - 999	11.8
1,000 - 2,999	13.5
3,000 - 4,999	19.6
5,000 - 6,999	23.4
7,000 - 8,999	20.0
9,000 - 10,999	9.7
11,000 - 12,999	0.6
Unclassified	1.3

was about $4,100. Thus, our sample consists of families in the lower half of the income distribution with more than one-half being above the poverty level.

2.3 Data Collection Procedures

Data from two sources were assembled for this study. The measures of delinquency came from official police records in the two sites. Variables describing the individuals and their families were taken from existing SIME/DIME data files.

2.3.1 Police Records Data

The strategy used to collect police records data was the same in both sites, although details of the data collection differed because of differences in the record keeping systems of the two cities. In this section we describe the data collection in general terms. Readers interested in more detail about the data collection procedures are referred to Appendices B and C.

In each site we searched the police files for recorded contacts with any of the individuals in our juvenile, sibling, or adult samples. Matches between sample members and records were done on the basis of name, sex, and date of birth. In addition, information such as parent's name or sibling's name was used when possible. In Denver, the records search was done by police clerks and technicians who used the records routinely. Project personnel supervised the records search. In Seattle, the records search for juveniles and siblings was done by project personnel with the assistance of police personnel. The adult records search was done by police personnel.

Whenever a member of one of our samples was located in the records, the reason for the contact (usually an offense), the date, and the disposition were recorded. Offenses were coded into a five-digit code used by the Seattle Police Department, which was based on an FBI coding system. When

the records search was complete and the offenses and dispositions had been given numeric codes, the data were transferred to machine readable form to be added to our data files.

Throughout this process great care was taken to prevent the identification of any of the persons participating in the experiment. Names were removed from coding forms as soon as the coding process was complete. Lists of names and identification numbers were available only to project personnel and were kept in locked storage cabinets when not in use.

2.3.2 SIME/DIME Data

The families enrolled in SIME/DIME (both controls and experimentals) were interviewed about three times per year starting at enrollment and continuing for at least 1 year after their treatment ended. Each interview gathered detailed information about the labor force participation of every family member over age 16. Information about nonwage income was also collected and the families reported certain kinds of expenses such as work-related child care expense and medical expenses.

In addition to the detailed income information, each periodic interview contained several modules of questions on a variety of topics. The modules included varied from periodic to periodic and most of the modules were repeated several times during the course of the experiment. Over 50 different modules were administered. The topics covered included family assets, consumption of durable goods, health and mental health status of family heads, husband and wife role perceptions, educational and occupational expectations for each child, marital and fertility histories, migration history, community ties, parental background of family heads, attitudes toward work and welfare, job satisfaction, occupations and education of family heads' parents, and family decision-making.

The SIME/DIME data base enables us to differentiate families on several attitudinal and behavioral dimensions. This differentiation provides a rich

background for evaluating influences on delinquency in our sample. The richness of the data available to us posed a major data processing problem. The SIME/DIME data base contains information from over 80,000 interviews. Most of the data is organized by family identification number. Our task required identifying the family numbers of all families in which each member of our sample participated (for a number of reasons, including changes in family composition individuals can be in several different families during the experiment) and retrieving the data that we needed. The responses from the interviews then had to be transformed into indices for use in our analyses. Since much of the data we desired to use had not been accessed previously for research purposes, a great deal of time was spent becoming familiar with the data. The result of this process was the creation of data files that are far richer in information about our juveniles and their families than we were able to use in the time available for analysis. We plan to make further use of this data in future studies.

2.4 Evaluation of Alternative Data Sources

In addition to collecting data to be used in our analysis, we also evaluated several other sources of data that might be used in a larger follow-up study. We examined the possibility of using data from other law enforcement agencies and investigated the feasibility of conducting further interviews.

2.4.1 Data from other Agencies

We investigated the possibility of using data from police departments of the areas surrounding Seattle and Denver, from the courts and other juvenile justice agencies, and from the FBI. Other local police departments were contacted to determine the extent to which juveniles in our sample might have police records outside of the city. Our investigation (which is described in more detail in Appendices B and C) convinced us that collecting data from these suburban departments would not be fruitful. While we would

certainly find records of additional offenses, such data would be gathered only at great expense. Each department has its own system of maintaining records and, in general, the departments were less systematic about the maintaining of the records of juveniles living outside of their jurisdiction than they were if the juveniles lived within their jurisdiction. The thoroughness of the record keeping systems also varied greatly from department to department. Collecting data from these departments would also involve a considerable investment of time in obtaining the necessary permission to access the records.

In both Seattle and Denver, we obtained permission to examine the records of the juvenile courts as a possible source of data. The court records contain a great deal of information about the juveniles who have been referred to the court by police agencies. The information includes copies of police records, including the police complaint and the results of the police investigation; social histories; psychological evaluations; probation officers' reports; and a variety of documents describing legal proceedings. (A fuller description of the court records is included in Appendices B and C.) While these records provide a wealth of data for juveniles who are referred to court, there were several considerations that led us not to use this data for the present study and seem to weigh against using the court data in a follow-up study. First, much of the information is in narrative form which makes coding difficult and time consuming. Second, the data are available only for juveniles who have been charged with serious offenses. Comparable data for juveniles who have not been referred to court is not available. If the data were to be used to study only juveniles with court records, there is still a difficulty. The court records vary greatly in what is included. In general, the more serious the offense or the more times a juvenile had been arrested, the more information would be included in the folder. This procedure would make it difficult to compare less serious offenders to more serious offenders or to compare first-time offenders to repeat offenders. Third, in order to use court records, one must devote considerable attention to the process that produces the records. It may not be easy to separate the effects of the system from the effects of the juveniles behavior on the outcomes in those records.

We also investigated the possibility of using FBI records. These records would be particularly attractive for measuring the criminality of older siblings and parents in our samples. Such records would also contain offenses of arrests made outside Seattle or Denver. We were unable, however, to obtain permission for assistance from the FBI in this regard.

2.4.2 The Feasibility of Further Interviewing

One shortcoming of the SIME/DIME data for the study of delinquency is that there is very little information gathered directly from the juveniles. With the exception of the information on labor force participation for juveniles over the age of 16, all information comes from the heads of household. In studying delinquency, we felt that it would be desirable to question the juveniles themselves about their attitudes toward police and government, their expectations for the future, and their relationships with parents, teachers, and peers. In addition, it would be useful to have self-reports of delinquent behavior from the juveniles. Many researchers have argued that self-reports are better measures of delinquency than police records since much delinquency goes undetected by the police. Also, information on a wider range of offenses than are usually found in police records could be obtained by self-reports.

We investigated the possibility of interviewing juveniles to obtain this information and concluded that such interviewing was not feasible. First, in order to obtain self-reports for the period of the experiment, we would need to ask juveniles to recall their activity over several years. Clearly, the accuracy of recall over a long period of time would be questionable. Recall would also be a problem with the attitudes we wished to measure since we were interested in attitudes during the period of greatest delinquency proneness, not attitudes at the time of interviewing. Second, field operations in Seattle were shut down, and in Denver, were winding down. Many of the families had been out of contact with the experiments for several years, which would make locating the juveniles very difficult. We were concerned in particular because it seemed likely that those juveniles who would be most

difficult to locate would be those with the most serious criminal records. Clearly, this situation would bias any analysis. Third, since field operations were shut down in Seattle and about to cease in Denver, we would not be able to take advantage of the experienced field staffs in the SIME and DIME offices. It would have been necessary to reestablish field offices and hire and train interviewers for the study. This situation would make the data collection much more costly than our original estimates. For these reasons, we concluded that interviewing of the SIME/DIME juveniles was not feasible.

3. DELINQUENCY STATUS OF THE SAMPLE

In this chapter we explore the incidence of delinquency in our juvenile sample. We begin with a discussion of the definitions of delinquency used in our study. We then report the incidence of delinquency in our study and examine the effects of several variables on delinquency.

3.1 The Definition of Delinquency

The majority of theoretical and empirical studies of delinquency treat delinquency as an attribute of the individual, that is, they assume that any population of juveniles could be ordered in terms of the level of delinquency. Some will be very delinquent, some less delinquent, and some not delinquent at all. The problem facing the analyst is to relate this level of delinquency to observable phenomena. For some attributes the measurement problem is so routine that it can be ignored. Attributes such as height, age, sex, or race are examples. The measurement of delinquency, however, is not so routine. Delinquency is not observable, but must be inferred from delinquent behavior. Delinquent behavior can be observed directly, or indirectly by self-reports or official records. Whatever method of observing is chosen, issues such as the type and seriousness of the act, circumstances surrounding the act, and the frequency and variety of acts over time need to be considered in determining the level of delinquency of a particular individual. All of these issues face us in determining how to measure delinquency with the data we have collected. Before considering them, we will briefly describe our data to provide the context for our discussion of the measurement issues.

For a variety of reasons we chose to rely on official records of delinquent behavior for this study. For every juvenile in our sample, we searched the records of the juvenile divisions of the Denver and Seattle

Police Departments for recorded contacts with the police. When we found a record for a juvenile in our sample, we recorded the date, offense(s), and disposition for every arrest* included in the record. The offenses were then given a numerical code. The dispositions were also given a numerical code. The coding was done to preserve the maximum amount of information. Where there was more than one offense per arrest, each offense was coded separately with the disposition (the same for all offenses within an arrest) and an indication that it was a multiple offense arrest. For each juvenile in our sample, we have a record indicating whether or not they have a police record and for those having a police record, the date, offense, and disposition of every arrest in their record.

In order to analyze delinquency, we must translate the data we have collected into one or more measures of delinquency. In measuring delinquency, we may consider the various types of delinquent behavior that are recorded, the seriousness of the acts, the frequency with which the acts occur, and the dispositions of the acts. In assessing affects of the experiment and of other variables on delinquency, we want a measure of delinquency that can vary over time. In particular, we want to allow for the possibility that a juvenile who is delinquent in one time period is not delinquent in a subsequent period.

The measure that we have chosen to use for most of our analysis is a dummy variable that equals 1 if the juvenile has a recorded arrest in a particular time interval and equals 0 if not. This measure emphasizes the difference between being delinquent and being nondelinquent in the period but ignores the degree of delinquency. We choose to ignore the number of delinquent acts in most of our analysis because recorded delinquency is rare. In any time interval that we might choose, most (on the order of 90%) of our sample have no recorded acts. In such a population, we feel that the

*Arrest is the term used by both police departments for an entry in the record.

explanation of the delinquent-nondelinquent difference is substantively more important than explanations of differences in numbers of delinquent acts.

We distinguish two types of delinquent acts: status offenses and serious offenses. Status offenses are violations that apply only to juveniles such as runaway, curfew violation, or truancy. Serious offenses are violations that do not only apply to juveniles such as robbery, burgularly, rape, trespassing, possession of narcotics, or destruction of property.

3.2 The Incidence of Delinquency in the Juvenile Sample

Table 3.1 describes the incidence of deliquency in our juvenile sample. Delinquent behavior in this table refers to recorded police contacts for status and serious offenses. All recorded contacts are included, whether before, during, or after the experiment. We have not included police contacts for traffic offenses or other noncriminal causes. We report the percent delinquent and the percents with one, two to four, and five or more police contacts separately by site, sex, and race.

In both sites, we see that blacks are more delinquent than whites and males more delinquent than females. Only a small percentage of the sample are offenders with more than five contacts but the majority of the offenders have more than one recorded contact.

The most striking finding in Table 3.1 is the difference between the sites. For white males and for black and white females, the percent delinquent is substantially higher in Seattle than in Denver. We compared the juvenile samples from the two sites on several variables known to be related to delinquency to determine whether the difference in the percent delinquent might be due to differences in the samples. We found that the only variable differing between the two sites was family income. We found no differences between the sites in family size, family composition, or age. Table 3.2 gives the distributions of the family income of the juveniles included in

Table 3.1

PERCENT OF JUVENILE SAMPLE WITH ANY RECORDED POLICE CONTACTS BY SITE, SEX, AND RACE

	Number of Cases	Percent Delinquent	Percent of Sample with 1 Contact	2-4 Contacts	5 or More Contacts
Seattle					
Black Males	189	43	13	15	15
White Males	211	38	16	15	7
Black Females	199	35	17	11	7
White Females	177	29	15	11	3
Denver					
Black Males	187	44	14	19	11
White Males	148	22	11	7	3
Black Females	176	24	11	9	3
White Females	124	14	9	3	2

Table 3.2

PERCENT DISTRIBUTION OF FAMILY INCOME
BY SEX, RACE, AND SITE

Family Income	Percent in Each Income Category							
	White Males		Black Males		White Females		Black Females	
	Seattle	Denver	Seattle	Denver	Seattle	Denver	Seattle	Denver
$0 - $2,999	16	7	14	11	14	10	12	7
$3,000 - $5,999	39	30	48	46	44	36	49	43
$6,000 - $8,999	29	43	25	26	31	31	26	26
$9,000 or more	35	20	13	17	12	22	13	24

our sample by race, sex, and site. In all four race-sex groups, the Seattle juveniles come from lower income families than the Denver juveniles. Among white males, for example, 55% of the Seattle juveniles come from families with incomes less than $6,000, compared to 37% of the Denver white males. The differences are similar for white and black females. For black males, for whom their is little difference in the percent delinquent between the two sites, the family income distributions are similar: 62% are below $6,000 in Seattle, and 57% in Denver. This suggests that the differences between the two sites reflect differences in family income. In our multivariate analysis, we will include variables to control for family income and test the significance of the site difference.

3.3 Variables Affecting Delinquency

In this section, we examine the effects of several variables that are usually found to affect delinquency. Table 3.3 contains the percent delinquent for categories of family income, family size, family composition, and experimental condition. The percentages are reported separately for each race-sex group.

For all four groups, juveniles from lower income families are more likely to be delinquent than those from higher income families. This relationship appears strongest for black females and is least pronounced for white males. Within income categories, the variation by race and sex that we observed in Table 3.1 still holds: blacks are more delinquent than whites, and males more delinquent than females. The majority (81%) of the juveniles in our sample are members of families with three or more children. About 25% of the juveniles come from families with five or more children. The percent delinquent is generally greater for juveniles from large families than for juveniles from small families. Only for black females is the percent delinquent lower for juveniles from families of five or more children than for juveniles from families with three or four children. The relationship between family size and delinquency appear somewhat stronger among whites than among blacks.

Table 3.3

PERCENT DELINQUENT BY VARIOUS CHARACTERISTICS

	White Males	Black Males	White Females	Black Females
Family Income				
$0 - $2,999	30	51	27	35
$3,000 - $5,999	34	49	32	37
$6,000 - $8,999	31	33	12	25
$9,000 or more	27	39	19	19
Number of Children				
1 or 2	30	61	26	25
3 or 4	29	42	18	32
5 or more	40	47	32	30
Family Composition				
Two-Parent Families	29	35	18	21
One-Parent Families	35	50	30	36
Experimental Condition				
Experimentals	33	45	25	31
Controls	29	42	20	28

The percent delinquent is lower for juveniles from two-parent families than for juveniles from one-parent families for all four race-sex groups. The difference between juveniles from oneand two-parent families in the percent delinquent is greatest for black females and least for white males.

The percent delinquent is higher for experimentals than for controls in all four race-sex groups. The difference between the experimentals and controls probably reflects the way families were assigned to experimental or control status, rather than being an experimental effect. In the assignment process poorer families were more likely to be assigned to an experimental condition than richer families. Thus, the experimental control difference in Table 3.3 is due, at least in part, to the differences in family income. In the next chapter, we will address the experimental control difference directly.

Table 3.3 shows that the probability of being delinquent varies with family income, family size, marital status of parents, race, and sex. There also appears to be differences between the experimental and control groups. We will investigate the effects of these and other variables on delinquency using multivariate analytical techniques. In the next chapter, we attempt to determine whether there is an experimental-control difference when we control for other variables known to affect delinquency. In the subsequent chapters, we use data collected during the experiments to explore the causes of delinquency more directly.

4. THE EFFECTS OF THE INCOME MAINTENANCE EXPERIMENTS ON DELINQUENCY

4.1 Introduction

To estimate the effects of the experiment, we regressed measures of delinquency status on variables representing the experimental treatments and variables describing the juvenile and his family. The nonexperimental variables are included for several reasons. First, some of the variables were included because they were stratification variables in the assignment process. Second, the inclusion of variables known to affect delinquency status will increase the efficiency of our estimates of the experimental effects. Third, the effects of these other variables are of interest in their own right.

Two measures of delinquency status are used. The first is a dummy variable that is 1 if the juvenile had one or more police contacts for a status offense during the first 3 years of the experiment and 0 otherwise. The second measure of delinquency status is a dummy variable that is 1 if the juvenile had one or more police contacts during the first 3 years for a more serious offense and 0 otherwise. We use a 3-year time period to cover the period during which most of the juveniles participated in the experiment.

4.2 Site and Race Differences

In Section 3.2 we noted that the percent delinquent differed by site and suggested that the difference may be due to differences in the distributions of family incomes. We tested for the significance of differences between the sites and between the races in our multivariate analysis by comparing regressions run separately by race and by site with pooled regressions. We found no significant differences between races or between sites for males' serious offenses or for status and serious offenses of females. Only for

male status offenses were the F-tests for differences between races and sites significant at the .10 level. The differences were due to the effects of juveniles' delinquency prior to the experiments. These variables had large positive effects for whites, but not for blacks and large positive effects in Denver, but not in Seattle. Including interaction terms to allow the effects of the prior offense variables to vary by site and race allowed the pooling of sites and races in the male status offense equation. The differences in these effects are discussed below.

4.3 Effects on Delinquency

Tables 4.1 and 4.2 contain the effects of both nonexperimental and experimental variables for males and females, respectively. The effects are estimated by ordinary least squares regression (OLS). While the assumptions of OLS are violated when a dummy dependent variable is used (especially when its mean is close to zero as is the case with our variables), we chose to use OLS for this exploratory analysis because it is relatively inexpensive and because our experience and that of other analysts has been that the effects of more appropriate analytical techniques seldom are much different from OLS results. The means of the dependent variables are given at the bottoms of the columns in Table 4.1 and 4.2. For both sexes, about twice as many juveniles committed serious offenses as committed status offenses.

We will first consider the effects of the nonexperimental variables, then the effects of the treatment variables. The means and standard deviations of all variables included in the regressions are reported in Tables 4.3 and 4.4 for reference.

The effect of age at enrollment is positive for both sexes and is greater for serious offenses than for status offenses. Recall that our sample selection procedure limits age at enrollment to 9 to 11.99 in Seattle and 10 to 12.99 in Denver. In this narrow range age has little effect on status offenses, but substantial (relative to the means of the dependent variables) effects on serious offenses.

Table 4.1

EFFECTS ON DELINQUENCY STATUS FOR MALES: OLS ESTIMATES

Independent Variables	Status Offenses	Serious Offenses
Age	.02*	.03**
Race (1=black)	.03	.07*
Site (1 = Denver)	.00	-.06
Black*Site	.00	.08
Preexperimental Status Offenses	.06	.34***
Preexperimental Status Offenses, Denver only	-.06	--
Preexperimental Status Offenses, Denver whites only	.74***	--
Preexperimental Serious Offenses	-.01	.41***
Preexperimental Serious Offenses, Denver only	.33**	--
Normal Family Income:		
Two Parent Families:		
Less than $1,000	-.05	-.06
$1,000 to $2,999	.09	-.02
$3,000 to $4,999	.01	.06
$5,000 to $6,999	-.01	.12**
$7,000 to $8,999	-.01	.07
$9,000 to $12,999	--	--
Unclassified	-.04	.24
One Parent Families		
Less than $1,000	.02	.09
$1,000 to $2,999	-.03	.14**
$3,000 to $4,999	-.01	.17***
$5,000 to $6,999	.03	.17***
$7,000 to $8,999	.01	.16**
Unclassified	-.05	.16
1=Experimental Family	-.02	-.03
1=3-Year Experimental Family	.02	.02
Estimated Payment ($1,000s)	.01	.00
Constant	-.17	-.36
R^2	.11	.16
Mean of Dependent Variable	.07	.16
Number of Cases	735	735

*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

Table 4.2

EFFECTS ON DELINQUENCY STATUS FOR FEMALES: OLS ESTIMATES

Independent Variables	Status Offenses	Serious Offenses
Age	.00	.03**
Race (1=black)	.04**	.07**
Site (1=Denver)	-.01	-.05
Black*Site	.04	.01
Preexperimental Status Offenses	.62***	.36***
Preexperimental Serious Offenses	.11*	.53***
Normal Family Income:		
Two Parent Families:		
Less than $1,000	-.00	-.06
$1,000 to $2,999	.06*	.07
$3,000 to $4,999	-.01	.03
$5,000 to $6,999	.07**	.01
$7,000 to $8,999	-.02	-.07
$9,000 to $12,999	--	--
Unclassified	.05	.06
One Parent Families:		
Less than $1,000	.07**	-.01
$1,000 to $2,999	.06*	.07
$3,000 to $4,999	-.01	.03
$5,000 to $6,999	.07**	.01
$7,000 to $8,999	-.02	-.07
Unclassified	.05	.06
1=Experimental Family	-.06	-.01
1=3-Year Experimental Family	.04*	-.00
Estimated Payment ($1,000's)	.01*	.00
Constant	.01	-.23
R^2	.16	.13
Mean of Dependent Variable	.04	.09
Number of Cases	676	676

*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

Table 4.3

MEANS AND STANDARD DEVIATIONS OF VARIABLES INCLUDED IN REGRESSION EQUATION: MALES
(Number of cases=735)

Variables in Equation	Mean	Standard Deviation
Age	10.95	1.02
Site (1=Denver)	.46	.50
Race (1=Black)	.51	.50
Black*Site	.25	.44
Preexperimental Status Offenses	.02	.14
Preexperimental Serious Offenses	.05	.02
Preexperimental Status or Serious	.06	.23
Normal Family Income		
One Parent Families:		
Less than $1,000	.10	.30
$1,000 to $2,999	.11	.32
$3,000 to $4,999	.13	.34
$5,000 to $6,999	.10	.30
$7,000 to $8,999	.04	.19
$9,000 to $12,999	.09	.29
Unclassified	.01	.08
Two Parent Families:		
Less than $1,000	.02	.13
$1,000 to $2,999	.02	.14
$3,000 to $4,999	.06	.24
$5,000 to $6,999	.14	.35
$7,000 to $8,999	.17	.38
Unclassified	.01	.07
Experimental Family	.55	.50
3-Year Experimental Family	.40	.49
Estimated Payment (dollars)	911.81	1335.3
Status Offenses During First 3 Years of Experiment	.07	.25
Serious Offenses During First 3 Years of Experiment	.16	.37
Status or Serious Offenses During First 3 Years of Experiment	.18	.39

Table 4.4

MEANS AND STANDARD DEVIATIONS OF VARIABLES INCLUDED IN REGRESSION EQUATION: FEMALES
(Number of cases=676)

Variables in Equation	Mean	Standard Deviation
Age	10.88	.99
Site (1=Denver)	.44	.50
Race (1=Black)	.55	.50
Black*Site	.26	.44
Preexperimental Status Offenses	.01	.11
Preexperimental Serious Offenses	.01	.12
Preexperimental Status or Serious Offense	.03	.16
Normal Family Income		
Two Parent Families:		
Less than $1,000	.01	.12
$1,000 to $2,999	.03	.16
$3,000 to $4,999	.07	.26
$5,000 to $6,999	.15	.35
$7,000 to $8,999	.15	.36
Unclassified	.00	.05
One Parent Families:		
Less than $1,000	.11	.31
$1,000 to $2,999	.11	.32
$3,000 to $4,999	.13	.34
$5,000 to $6,999	.08	.27
$7,000 to $8,999	.04	.19
$9,000 to $12,999	.11	.31
Unclassified	.01	.10
Experimental Family	.58	.49
3-Year Experimental Family	.42	.49
Estimated Payment (dollars)	885.12	1182.59
Status Offenses During First 3 Years of Experiment	.04	.20
Serious offenses during first 3 Years of Experiment	.09	.28
Status or Serious Offenses During First 3 Years of Experiment	.11	.31

Race and site are represented by a series of variables. For male serious offenses and for female status and serious offenses, three variables are used: a race dummy (1=black), a site dummy (1=Denver), and an interaction dummy (1=Denver black). For male status offenses we had to represent the race and site differences in a more complex way in order to pool the observations. In addition to the three variables used in the other equations, three additional variables were required: a dummy interacting preexperimental status offenses with site (1=preexperimental status offenses in Denver), a dummy interacting preexperimental status offenses with site and race (1=preexperimental status offenses for Denver whites), and a dummy interacting preexperimental serious offenses with site (1=preexperimental serious offenses in Denver). We will discuss the race and site effects in the three simpler equations first, then look at the more complex equation.

The race variable is significant in all three of the simpler equations: blacks are more delinquent than whites. The site and race-site interaction variables are not significant. The difference between the sites that we observed in Table 3.2 disappears when family income and other variables are controlled.

For male status offenses, it was necessary to interact race and site with the variables for prior offending. The two variables measuring prior offenses are dummy variables that are 1 if the juvenile had one or more recorded police contacts before enrollment for status offenses or serious offenses. While only 6% of the males and 3% of the females had prior recorded offenses, these variables have large, significant effects in the three simpler equations: prior offenders are much more likely to be delinquent during the experiment than prior nonoffenders.

For male status offenses, we found that having prior status offenses affects the probability of having a recorded status offense only for Denver whites for whom it has a very large effect. For serious offenses, it has effects only for Denver males, not Seattle males. We have been unable to discover an explanation for the difference in effects of these variables between the sites.

The next variables in Tables 4.1 and 4.2 are categories of normal income. Normal income is "the expected income of the family in the year prior to the experiment, assuming relatively normal circumstances of the family and for the regional economy in which the family lives" (Kurz and Spiegelman 1972:27). It is an attempt to measure the family's permanent income, free from any transitory components due to special circumstances facing the family. The categories are in 1971 dollars, normalized by a family size index to families of four members. The unclassified categories contain families who had changes in composition between the preenrollment screening and enrollment, and families classified as "secondary" because they resided in the household of another eligible family. The normal income categories are interacted with the number of parents present at enrollment for two reasons. First, families were assigned to treatment separately by whether one or two parents were present. Second, by interacting income with family composition, we are able to determine whether the often observed negative relation between income and delinquency holds within family types.

The omitted normal income-family composition category is the highest income, two-parent family category ($9,000 to $12,999). The results of other studies led us to expect that this category will be the lowest delinquency category so that the coefficients for the other categories will be positive and decrease as normal income increases. We also expected that the coefficients for the other categories will be positive and decrease as normal income increases. These expectations are supported most clearly for males' serious offenses. But, even there the pattern of coefficients is not completely consistent with our expectations. The problem may be due to the fineness of the categories and the small numbers of cases in any category. In another analysis (not reported here), we used a continuous measure of family income rather than the normal income. The income coefficients in those equations had the expected negative sign except for the income term for single-parent families for females that was positive for both dependent variables. The failure to clearly demonstrate the relationship between income and delinquency so often found in other studies may result from the truncated income distribution in our sample: we have very few families from the top half of the income distribution.

The next three variables describe the experimental treatment. The first variable is a dummy variable that is 1 for experimental families and 0 otherwise. The second is a dummy variable that is 1 for experimental families with a 3-year treatment and 0 for 5-year experimentals and controls. The third variable is the estimated payment during the first year of the experiment to the family. The estimate of the payment assumes that the family will have the same income and family composition during the first year of the experiment that it had in the year before the experiment. Controls receive zero payments.

The coefficient for the experimental variable is negative in all equations, but significant only for females' status offenses. The 3-year experimental coefficient is positive in all equations except females' serious offenses where it is negative, but very small. The two treatment dummy variables indicate that the effect of the experiment is to decrease delinquency with the decrease being larger for 5-year families than for 3-year families. This negative effect is offset by the positive effect of the estimated payments: the larger the family's estimated payment the more likely that the juvenile will be delinquent. This effect holds for both sexes and for all three dependent variables. Thus, the decline in delinquency indicated by the two treatment dummy variables holds for families with zero payments. As the payment increases, the effect of the experiment becomes less negative and eventually becomes positive.

This finding is puzzling: why should the experiment decrease delinquency among juveniles whose families receive nothing and increase delinquency among families who receive large payments? One possibility is that we have not adequately controlled for the level of family income and that the positive payment effect results from the negative correlation between family income and delinquency. Since poorer families get larger payments (ceteris paribus), the positive payment effect may be due to the higher delinquency rates among poorer families. We have two pieces of evidence that suggest that this is not the case. First, we have estimated equations similar to those in Tables 3 and 4 with continuous income variables rather than the normal earnings variables. The pattern of treatment effects is the

same as reported in these tables. The second bit of evidence comes from comparing equations with and without the payment variable. If the payment effect observed was reflecting the family income effect on delinquency, the coefficients of family income should increase when payment is not in the equation. This increase does not occur: the income coefficients change little and show no pattern of change when the payment variable is deleted from the equation.

A second possibility is that while the direct effect of the experiment may be negative, there may be indirect effects that increase delinquency. We know, for example, that marital dissolution rates increased significantly among the experimental families (Hannan, Tuma, and Groeneveld, 1977). One adverse result of marriages dissolving may have been increased delinquency among the offspring. The experiment has also been shown to delay entry into the labor force for teenagers (West, 1978), which could also contribute to increased delinquency. The experimental effects on labor supply (Keeley, et al., 1978) or on psychological distress (Thoits, 1978) may also have increased delinquency. A definitive resolution of these results is beyond the scope of this report.

4.4 Variations in the Experimental Effects

In keeping with the exploratory nature of our project, we emphasize the pattern of results rather than statistical significance. We are looking for indications of experimental effects that may be pursued with further analysis. Of course, if we find few statistically significant results, we cannot with confidence assert the presence of an experimental effect on delinquency.

In the previous section, we found weak evidence of an experimental effect on delinquency. The experiment appeared to have a small, negative effect on delinquency status. The effect was greater for families who received low payments from the experiment than for families receiving higher payments. However, the experimental effect was significant only for females

committing status offenses (by an F-test for the significance of the three experimental variables). In spite of this lack of clear evidence of an experimental effect, it is possible that the experiment has an effect on some subsets of the population. To investigate this possibility, we interacted a dummy variable for receiving the financial treatment with various characteristics of our sample. The results are reported in Table 4.5.

We report only the coefficients for the experimental treatment dummy variable and the interaction term. The equations contained exactly the same nonexperimental variables as reported in Tables 4.1 and 4.2 with one exception: We have not included the race-site-prior offense interactions in the male status offense equations. Only the parameterization of the experimental effect is changed: here we represent the treatment by a single variable dummy or by a dummy variable and an interaction term, rather than the three variables used to represent the treatment in the earlier memo. We do not report the coefficients of the nonexperimental variables because they are similar to the coefficients reported earlier and because we wish to emphasize the measurement of the experimental impact.

Table 4.5 contains estimates for both males and females. The effects are estimated separately for status offenses and serious offenses. In the first case, the dependent variable is a dummy variable that is 1 if the juvenile had one or more contacts with the police for status offenses during the first 3 years of the experiment and is 0 otherwise. In the second case, the dependent variable is a dummy variable indicating whether or not the juvenile had one or more police contacts for more serious offenses. Each panel of the tables reports results from separate regression equations, that is, we have only one interaction term in an equation at a time.

The first panel of Table 4.5 reports the coefficient for the experimental treatment variable without any interaction terms. The coefficients are not significant for males or females. The experiment slightly increased the incidence of status offenses for males, decreased the incidence of status

Table 4.5

VARIATIONS IN EXPERIMENTAL EFFECTS ON DELINQUENCY
(standard errors in parentheses)

Variables	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
1. Experimental Treatment	.02	-.01	-.01	-.01
	(.02)	(.03)	(.01)	(.02)
2. Experimental Treatment	.03	.01	-.01	-.02
	(.03)	(.04)	(.02)	(.03)
Race Interaction	-.02	-.03	.01	.02
	(.04)	(.05)	(.03)	(.04)
3. Experimental Treatment	-.01	-.02	-.01	-.01
	(.02)	(.03)	(.02)	(.03)
Site Interaction	.07*	.02	-.00	-.00
	(.04)	(.05)	(.03)	(.04)
4. Experimental Treatment	-.07	.30	-.12	-.03
	(.20)	(.28)	(.16)	(.23)
Age Interaction	.01	-.03	.01	.00
	(.02)	(.03)	(.01)	(.02)
5. Experimental Treatment	.01	-.01	-.01	-.01
	(.02)	(.03)	(.01)	(.02)
Prior Record Interaction	.18**	-.03	.01	-.11
	(.08)	(.11)	(.10)	(.15)
6. Experimental Treatment	.01	.02	.01	-.01
	(.03)	(.04)	(.02)	(.03)
Two-Parent Family Interaction	.02	-.06	-.02	-.01
	(.04)	(.05)	(.03)	(.04)
7. Experimental Treatment	.06*	.03	.00	-.02
	(.03)	(.05)	(.03)	(.04)
Family Income Interaction	-.01*	-.01	-.00	.00
	(.00)	(.01)	(.00)	(.00)
8. Experimental Treatment	-.01	-.04	-.02	-.01
	(.02)	(.03)	(.02)	(.03)
Low Family Income Interaction	.04	.05	.03	-.01
	(.03)	(.04)	(.02)	(.03)

Table 4.5 (concluded)

Variables	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
9. Mother Employed	.08***	.00	.00	.02
	(.03)	(.04)	(.02)	(.03)
Experimental Treatment	.08***	-.01	-.02	-.01
	(.03)	(.04)	(.02)	(.03)
Interaction	-.11***	.00	.02	-.01
	(.04)	(.05)	(.03)	(.04)
10. Father Employed	-.03	-.05	.01	-.07
	(.06)	(.08)	(.06)	(.08)
Experimental Treatment	.04	.05	.01	-.09
	(.07)	(.10)	(.07)	(.10)
Interaction	-.02	-.05	-.03	-.08
	(.07)	(.11)	(.07)	(.10)
Mean of dependent variable	.07	.16	.04	.09
Number of cases	735	735	676	676

See text for definitions of interaction variables.
*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

offenses for females and decreased the incidence of serious offenses for both sexes.

In panel 2, we have allowed the experimental effect to vary by race. The interaction term is a dummy variable that is 1 for black experimentals and 0 otherwise. For white males the experimental effect is positive for both dummy variables. For black males the effect is positive for status offenses (.03 - .02 = .01) and negative for serious offenses (.01 - .03 = -.02). For white females the experimental effect is negative for both dependent variables. It is positive for status offenses for black females and zero for serious offenses for black females. None of the coefficients are significant and all are small. We conclude that the experimental effect does not differ by race.

Panel 3 contains the experimental effects with a site interaction. The interaction variable is a dummy variable that is 1 for experimentals living in Denver and 0 otherwise. For males we find a large and significant difference in the experimental effect between the two sites for status offenses. There is a small decrease in the incidence of status offenses due to the experiment in Seattle and a large (very large relative to the mean of the dependent variable, .07) increase in Denver. Recall that Denver males had a higher incidence of status offenses than Seattle males when we controlled for other variables (Table 4.1). By including the site interaction, we find that that difference was due to the greater increase in status offenses among Denver males. The coefficient for the site difference is negative in the present equation with the treatment-site interaction (-.01).

We, at present, have no explanation for why there should be a large positive experimental effect in Denver and not in Seattle. It is unlikely that it is due to differences in the juvenile justice systems in the two cities since that should affect controls and experimentals equally. Our contact with police departments in the two cities indicated that they were equally ignorant about the existence of the experiment. One possibility is that it is a result of differences in the administration of the experiments

in the two sites, but we know of no differences that would account for the finding. This area clearly warrants our attention. That the difference appears only for status offenses for males and not for serious offenses for males or for either dependent variable for females further increases the difficulty of explaining the finding. (It, of course, also increases the tendency to attribute the difference to chance.)

In panel 4 we report the result of interacting the experimental treatment with age. The interaction variable is 0 for controls and equal to the age in years for experimentals. Thus, the experimental effect for any individual is equal to the coefficient of the treatment variable plus their age times the coefficient of the interaction variable. For males the experimental effect for status offenders is -.07 + .01 x age. The effect is .03 for a 10-year old and .09 for a 12-year old. For male serious offenses there appears to be a large treatment effect (.30), but that is offset by the age interaction so that the effect for a 10-year old is .00 and the effect for a 12-year old is -.06. For neither males nor females does the experimental effect appear to vary greatly by age. But, our sample is limited in its age distribution (9, 10, and 11 year olds in Seattle and 10, 11, and 12 year olds in Denver). We might find different results if we had a wider age range.

Panel 5 contains the experimental effects when the treatment variable is interacted with prior delinquency. The interaction variable in this case takes the value of 1 for experimentals who had one or more police contacts before the experiment began and is 0 otherwise. About 7% of the male experimentals and 3% of the female experimentals had prior records. The experimental effect for those who had no prior record is small and insignificant for both males and females. For males there is a large and significant difference in the experimental effect between those with prior offenses and those with no prior offenses. We are reluctant to attach too much significance to this finding because of the small number of males with prior offenses (27 financials and 16 controls). From our earlier analysis, we are confident of the finding that those with prior offenses are more delinquent than those with no prior offenses. That finding was consistant

for both races and for all three dependent variables. We do not, however, have the same confidence that the experimental effect varies depending on whether the juvenile had prior police contacts or not.

In panel 6 we examine the difference in the experimental effect in one- and two-parent families. The interaction variable equals 1 for experimentals with two parents present at enrollment and is 0 otherwise. We noted above that the delinquency rates were greater in one-parent families than in two-parent families. Here we are comparing the difference in the effect of the experiment on delinquency in one and two-parent families when we have controlled for the differences in delinquency between the two family types. None of the coefficients in panel 6 are significant. For status offenses among males, the experimental effect is positive, increasing delinquency for both types of families and the increase is greater in the two-parent families. For serious offenses among males, the experiment increased the incidence of serious offenses for juveniles in one-parent families and decreased the incidence for those in two-parent families. Among females, there is an increase in status offenses and a decrease in serious offenses due to the experiment for females in one-parent families. For females with two parents, there is a decrease for both measures of delinquency. Overall, however, it appears that the experimental effect differs little between one- and two-parent families.

Panels 7 and 8 we have allowed the experimental effect to vary by family income. In panel 7, the interaction variable is equal to annual family disposable income in thousands of dollars for experimentals and 0 for controls. In panel 8, the interaction variable equals 1 for experimentals with annual family disposable income less than $6,000 and 0 otherwise. For males, the experiment decreases delinquency for high income families and increases delinquency for low income families. The only significant coefficients are in panel 7 for male status offenses. The coefficients indicate that the incidence of status offenses increases .06 for a family with zero income, does not change for a family with $6,000 income, and decreases .06 for a family with $12,000 income. For females, the dependence of the experimental effect on family income is not as strong as for males.

In panels 9 and 10 we introduce two additional nonexperimental variables to the equations and examine their interactions with the treatment variable. In panel 9 a dummy variable indicating that the mother was employed outside the home at any time during the year before the experiment is included. About 59% of the juveniles' mothers were employed. The interaction variable is 1 for juveniles in experimental families whose mothers were employed and is 0 otherwise. The effects are significant for male status offenses only. The probability of committing a status offense depends both on the experimental treatment and on the mother's employment. The three variables indicate the effect relative to controls whose mothers were not employed. For controls, the mothers working increases the likelihood of having a recorded status offense by .08. This increase is consistent with control theories of delinquency to the extent that the mother's employment reduces the supervision of the child in the home. If the mother is not working, the effect of the experiment is to increase delinquency by .08. This experimentally induced increase in delinquency could be an indirect result of a number of factors rather than being a direct result of the experiment. We know from other studies that the experiments increase marital dissolution rates (Hannan, Tuma, and Groeneveld, 1977, 1978) and decrease psychological well-being (Thoits, 1978). Both effects would be disruptive of family life and thus induce delinquent behavior. If the mother works, the experimental effects are still positive but reduced to .05 (.08 + .08 - .11). This may be due to the experimental effect on women's employment: wives reduce the time spent working in response to the experiment (Keeley, et al., 1978, Robins and Tuma, 1977). The modelling of the interrelations of the experimental effects on employment, marital stability, psychological well-being, and delinquency is beyond the scope of this project.

Panel 10 contains coefficients for father's employment. The father employed variable is 1 if the father was employed in the year before the experiment and 0 otherwise. Ninety percent of the juveniles who were in two-parent families had employed fathers. The experimental treatment variable indicates the experimental effect for two-parent families. An additional treatment variable for one-parent families was included in these

equations but is not reported. The interaction variable is 1 for juveniles in two-parent experimental families whose fathers were employed and is 0 for all others. None of the coefficients are significant.

The interactions reported in Table 1 do not provide strong evidence of experimental effects on delinquency. There is some evidence of effects on status offending for males. The significant site and prior offense interactions in panels 3 and 5 may be due to the complicated race-site-prior offense interactions reported in Table 4.1. We have not explored this possibility. The experimental effects for male status offenses also appear to vary by family income and by mother's employment status. Any firm conclusion about an experimental effect needs further analysis. We recommend that any additional analysis focus on these effects.

4.5 Variation in Experimental-Control Difference Over Time

Another way in which an experimental effect may be present, but not seen in our analysis so far, is if the effect varies over time. It might be, for example, that there is a lag in the experimental effect and that experimental effects are small initially but larger later on. In Table 4.6 we take a first look at that possibility. We have computed the proportion of the sample having one or more police contacts preexperimentally and during each of the first 4 years of the experiment. The preexperimental period includes police contacts at any time prior to enrollment in the experiment. The four annual periods are 1 year periods beginning with the date of enrollment. In the fourth year, about 72% of the experimental juveniles are in families no longer eligible for income maintenance payments. However, if there is a lag in the response to the experimental treatment, the experimental-control comparison in the fourth year is still of interest.

In examining Table 4.6, two types of comparisons are of interest: experimental-control comparisons within years and comparisons of the changes

Table 4.6

PROPORTION OF SAMPLE WITH POLICE CONTACTS BY YEAR, SEX, AND TREATMENT

	Preexperimental	1st Year	2nd Year	3rd Year	4th Year
Males--Status Offenses					
Experimentals	.02	.02	.03	.03	.05
Controls	.02	.01	.02	.03	.02
Males--Serious Offenses					
Experimentals	.06	.07	.06	.10	.11
Controls	.03	.05	.05	.11	.15
Females--Status Offenses					
Experimentals	.01	.01	.02	.03	.06
Controls	.01	.00	.01	.04	.05
Females--Serious Offenses					
Experimentals	.02	.02	.04	.05	.06
Controls	.01	.04	.04	.03	.05

Number of Cases	
Males	
Experimentals	403
Controls	332
Females	
Experimentals	392
Controls	284

from year to year. We continue to analyze males and females separately and to distinguish status offenses from more serious offenses.

Looking first at status offenses for males, we find no difference in the proportions with preexperimental police contacts between the experimentals and controls. In the first, second, and fourth years, more experimentals had police contacts for status offenses than controls. This finding is consistent with the findings of our regression analysis where we found a small positive experimental effect for status offenses. There does not appear to be a uniform change in the experimental-control difference over time. The proportions increase for both over time as do the sample ages.

Preexperimentally male experimentals were twice as likely as controls to have had police contacts for serious offenses. However, by the fourth year the proportion with police contacts for serious offenses is greater for controls than experimentals. This situation may be an experimental effect. The experiment may be either reducing recividism among offenders or reducing first offenses among nonoffenders.

For females there does not appear to be much variation in the experimental-control differences over time. Both groups become more delinquent over time at about the same rate and the difference between the two groups is about the same over the 4 years. This finding is true for both status and serious offenses.

The exploration of time variation in experimental effects on delinquency is beyond the resources of the current project. It does appear to be a fruitful area for investigation in future work. The time trend could be explored using either a pooled cross-sections approach or using event-history models to measure effects on the date of first or subsequent delinquency (Tuma, Hannan, and Groeneveld 1979).

4.6 Effects of Family Member's Criminality on Delinquency

In addition to gathering recorded police contacts for all juveniles in our sample, we also searched police records in Seattle and Denver for recorded contacts with siblings and parents. Table 4.7 gives the proportion of juveniles in our sample whose father, mother, or siblings had recorded police contacts before enrollment in the experiment. The proportions are given separately by sex, experimental status, and site. In computing the proportion with police records, we have ignored traffic offenses and procedural offenses as we did for the juveniles in our sample. For siblings we have included status offenses. We restricted ourselves to contacts before the experiment for our analysis of the experimental effects.

The most striking finding in Table 4.7 is the difference between the sites: the proportions are much higher in Denver than in Seattle. It appears that while Seattle juveniles are more likely to be delinquent, Denver juveniles are more likely to have parents or siblings with police records. There do not appear to be any systematic differences between financials and controls or between sexes. Juveniles are more likely to have siblings and fathers with recorded police contacts than to have mothers with police contacts.

Having measures of recorded police contacts of other family members allows us to examine the influence of the criminality of other family members on the juveniles in our sample. A number of theories would suggest that the criminality of other family members would have effects on juvenile delinquency. Family members may affect juvenile delinquency through role modeling, or by providing opportunities for delinquency. The criminality of other famliy members may also be caused by the same factors causing delinquency in the sample juveniles.

We measured the criminality of fathers, mothers, and siblings with three variables that are one if the respective family members had one or more recorded police contacts before the family was enrolled and are zero

Table 4.7

PROPORTION OF JUVENILES WHOSE FATHER, MOTHER, OR SIBLINGS HAVE POLICE CONTACTS BEFORE ENROLLMENT BY SEX, SITE, AND TREATMENT STATUS

	Seattle		Denver	
	Experimentals	Controls	Experimentals	Controls
Males				
Father with previous record	.07	.06	.13	.16
Mother with previous record	.03	.06	.08	.10
Sibling with previous record	.07	.12	.23	.16
Females				
Father with previous record	.08	.04	.13	.24
Mother with previous record	.03	.04	.10	.08
Sibling with previous record	.09	.07	.22	.14
Number of Cases				
Males	210	190	193	142
Females	216	160	176	124

otherwise. (Traffic offenses and procedural contacts are ignored. The family members are those who were present when the family was enrolled.) We included these three variables in regression equations. The equations also contained the variables in the equations reported in Tables 4.1 and 4.2. The two dependent variables are dummy variables for having one or more status offenses and one or more serious offenses during the first 3 years of the experiment.

The coefficients for the three variables describing the criminality of other family members are reported in Table 4.8. The coefficients for the other variables in the equations are almost unchanged from Tables 4.1 and 4.2. The only exception is the coefficient for serious offenses before enrollment for female status offenses. That coefficient was .11 ($p \leq .10$) without the family police contacts variables and is .07 (not significant at the .10 level) with those variables included. This is the only variable that changed its level of significance or substantially changed magnitude.

The effects for father's and mother's prior records are small and insignificant. The effect of sibling police record is significant for male serious offenses and for both status and serious offenses for females. The effects are large with respect to the means of the dependent variables. This finding suggests a strong sibling influence on delinquency.

That the sibling effect should be stronger than the effect of either parent probably reflects the peer influence of siblings. The siblings offenses are more recent and are likely to be known to the juveniles. Parental criminal activity, on the other hand, covered a much longer period of time and we have included many police contacts from before the families were formed.

Our final concern is to determine whether or not family members' criminality affects the experimental effects. We have followed the same strategy as we used in Section 4.3 where we discussed how the experimental effect varied with individual characteristics. We interacted each of the family police records data separately with the financial treatment dummy. In

Table 4.8

EFFECTS OF OTHER FAMILY MEMBERS' POLICE CONTACTS ON DELINQUENCY:
OLS ESTIMATES
(Standard errors in parentheses)

	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
Father with previous record	-.03	-.04	.01	-.03
	(.03)	(.05)	(.02)	(.04)
Mother with previous record	.01	.02	.05*	-.01
	(.04)	(.05)	(.03)	(.04)
Sibling with previous record	.04	.13***	.08***	.16***
	(.03)	(.04)	(.02)	(.03)
R^2	.07	.17	.18	.16
Mean of dependent variable	.07	.16	.04	.09
Number of cases	735	735	676	676

***.01 ≥ p.

addition to the treatment and interaction variables, the equations contained all the nonexperimental variables included in earlier equations and the three family police record variables. The results are reported in Table 4.9.

In the first panel of Table 4.9, we report the coefficients for the financial treatment dummy variable in equations without interactions. The coefficients are similar to those in Table 4.5, indicating that inclusion of the three family police records variables has little effect on the estimated treatment effect.

In the second panel of Table 4.9, we report the results of interacting the father's police record variable with the treatment variable. The financial treatment effects reported here are for juveniles with fathers only. A variable for the experimental effect on juveniles from single-parent homes (almost all are female-headed families) was included in the equation but is not reported here. The interaction variable is 1 if the juvenile is a member of a financial family and the father has a recorded police contact before enrollment; otherwise it is 0. None of the effects are significant. For status offenses the estimated experimental effect for males whose father had no record is .01. The estimated effect for males whose father had a recorded police contact is .10 (.01 + .09). For serious offenses for males, the estimated effects are negative for both boys whose fathers do not have and do have police contacts. The experiment doubled the decrease in delinquency among boys whose father had a police contact, relative to those whose fathers did not have a police contact.

For females the effect of father's police record is more what we expected. The experimental effect is negative for both dependent variables and larger than the effect in panel 1. This effect, in part, reflects the larger effect on delinquency among two parent families (see Table 4.5, panel 6). Among females whose fathers have police records, the experimental effect is closer to zero: -.01 for status offenses and .02 for serious offenses.

Table 4.9

VARIATIONS IN EXPERIMENTAL EFFECTS BY FAMILY MEMBERS' POLICE RECORDS: OLS ESTIMATES[a]
(Standard Errors in Parentheses)

	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
1. Experimental Treatment	.02 (.02)	-.00 (.03)	-.01 (.01)	-.02 (.02)
2. Experimental Treatment Father's Record Interaction	.01 (.03) .09 (.06)	-.04 (.04) -.00 (.09)	-.03 (.02) .02 (.05)	-.04 (.03) .06 (.07)
3. Experimental Treatment Mother's Record Interaction	.02 (.02) -.05 (.08)	.01 (.03) -.19* (.10)	-.01 (.02) .01 (.06)	-.02 (.02) -.01 (.09)
4. Experimental Treatment Siblings' Record Interaction	.00 (.02) .09 (.05)	.01 (.03) -.10 (.07)	-.01 (.02) .05 (.05)	-.05** (.02) .26*** (.07)
Mean of dependent variable Number of cases	.07 735	.16 735	.04 676	.09 676

[a]See text for definition of variables.
*.10 ≥ p > .05
**.05 ≥ p > .01
***.01 ≥ p

In panel 3 we report the effects by mother's police record status. The experimental treatment variable in these equations is the same as used in panel 1: 1 for experimentals, 0 for controls. Almost all juveniles have a female head of household (whom we call the "mother") present at enrollment. Note the large and significant (at the .10 level) effect for the mother's record interaction for male serious offenses. This interaction variable takes the value of 1 if the juvenile is in an experimental family and the mother has one or more recorded police contacts. The coefficient indicates a larger reduction in delinquency when the mother had a police record. For male status offenses, there is a smaller corresponding reduction.

Panel 4 contains the experimental effects by sibling delinquency status. The treatment variable gives the effect for juveniles who have siblings. The interaction variable is 1 if the juvenile is in an experimental family, and a sibling has a recorded police contact before enrollment. It is 0 otherwise. The estimates show a large increase for status offenses and a large decrease for serious offenses due to the experiment for males whose siblings have police records. For females the estimated experimental effect is positive for both dependent variables for those whose siblings had police records. The effect is very large for female serious offenses. We have no explanation for why the experiment should increase delinquency among females whose siblings have police records.

4.7 Effects of Area of Residence and Residential Mobility

We attempted to obtain complete address histories for all juveniles in our sample from SIME records. Budget considerations led us to forego collecting Denver addresses. For approximately 70% of the Seattle juveniles we were able to construct complete address histories covering the entire period of their enrollment. For 98% of the juveniles we had valid address information at enrollment.

We organized the address histories into address spells, where a spell is a period of time at a single address. The spells begin at enrollment or at

Table 4.9

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(Standard Errors in Parentheses)

	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
1. Experimental Treatment	.02	-.00	-.01	-.02
	(.02)	(.03)	(.01)	(.02)
2. Experimental Treatment	.01	-.04	-.03	-.04
	(.03)	(.04)	(.02)	(.03)
Father's Record Interaction	.09	-.00	.02	.06
	(.06)	(.09)	(.05)	(.07)
3. Experimental Treatment	.02	.01	-.01	-.02
	(.02)	(.03)	(.02)	(.02)
Mother's Record Interaction	-.05	-.19*	.01	-.01
	(.08)	(.10)	(.06)	(.09)
4. Experimental Treatment	.00	.01	-.01	-.05**
	(.02)	(.03)	(.02)	(.02)
Siblings' Record Interaction	.09	-.10	.05	.26***
	(.05)	(.07)	(.05)	(.07)
Mean of dependent variable	.07	.16	.04	.09
Number of cases	735	735	676	676

[a]See text for definition of variables.
*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

In panel 3 we report the effects by mother's police record status. The experimental treatment variable in these equations is the same as used in panel 1: 1 for experimentals, 0 for controls. Almost all juveniles have a female head of household (whom we call the "mother") present at enrollment. Note the large and significant (at the .10 level) effect for the mother's record interaction for male serious offenses. This interaction variable takes the value of 1 if the juvenile is in an experimental family and the mother has one or more recorded police contacts. The coefficient indicates a larger reduction in delinquency when the mother had a police record. For male status offenses, there is a smaller corresponding reduction.

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We organized the address histories into address spells, where a spell is a period of time at a single address. The spells begin at enrollment or at

arrival at an address and end with a move to a new address, disenrollment, or a gap in the address data.

The addresses were coded into census tracts. The geocoding program at the University of Washington which was used for assigning our addresses to census tracts also gave coordinates for the addresses. In constructing the address histories we counted a move whenever the coordinates of the address changed. This criteria was used because of the difficulties we encountered comparing addresses. Defining moves as changes in coordinates allowed us to detect moves within census tracts, but missed some moves within blocks. In general, however, the coordinate system was fine enough to detect intra-block moves as well.

It was necessary to exclude cases from our analysis when their address histories were incomplete. Table 4.10 shows the numbers of cases excluded and the reason for excluding them. Three percent of the cases were excluded because their address at enrollment was not in Seattle and thus we could not use the geocoding program to locate them within the city. We excluded 22.4% of the cases because their address data ended prematurely. We excluded 13.8% of the cases for other reasons, primarily because we could not determine their address for some portion of their history, or because they moved outside of Seattle.

Table 4.10

REASONS FOR EXCLUDING CASES FROM ANALYSIS USING ADDRESS HISTORIES

	Number of Cases	Percent
Included	472	60.8
Not in Seattle at enrollment	23	3.0
Data ends prematurely	174	22.4
Other reasons	107	13.8
Total	776	100.0

Excluding those cases whose address histories end prematurely introduces a potentially serious bias into our analysis. The way the data are currently coded on our analytical file we cannot determine the length of the address history for juveniles who move. The result is that we use different rules to exclude movers and nonmovers. Movers are included if they lived in Seattle initially and moved to a known address in Seattle. Nonmovers are included if they lived in Seattle originally and have a continuous address history for 3 years. This procedure could lead to misleading results and needs to be evaluated very carefully in subsequent research. At present time and budget constraints preclude any further investigation of this problem. In the analysis that follows this potential bias must be kept in mind when interpreting the results that follow.

For the juveniles included in the analysis we have used two variables to describe their neighborhoods: the percent of families in their census tract who were below poverty level from the 1970 census and the crime rate in their census tract. The crime rate is the number of crimes known to the police in the tract per 10,000 population. We computed the rate for 1970, 1971, and 1972 and used the 3-year average. For individuals who moved we also described their new census tract using these two variables and calculated the difference in the poverty level and in the crime rate between the old and the new tracts.

We followed the same strategy used in our other analyses by interacting the variables of interest with the experimental treatment variable. We examined the effect of the crime rate, the poverty level, a variable indicating that the juvenile had moved, and variables measuring the change in the crime rate and the change in the poverty level for those who moved. The only significant effects were for the interaction with the moving variable. Table 4.11 contains the coefficients for those equations. For males' serious offenses the interaction of the experimental treatment variable with the dummy variable for having moved is significant and indicates an increase in delinquency among experimental juveniles whose families moved.

We must interpret this result with caution because of the potential bias used by our sample selection procedures. A more thorough analysis is needed before any conclusion about the relationship among the experiment, moving, and delinquency can be drawn. We hope to investigate this in future research. In the following chapter we investigate the relationship of neighborhood characteristics and moving on delinquency.

Table 4.11

EFFECTS OF CHANGING RESIDENCE ON DELINQUENCY

	Males		Females	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offensus
Moved	.01 (.04)	-.05 (.06)	.03 (.04)	-.01 (.06)
Experimental Treatment	-.08 (.05)	-.14 (.08)	-.01 (.05)	-.01 (.08)
Interaction	.05 (.07)	.22** (.10)	.03 (.04)	.07 (.10)

5. DELINQUENCY IN A LOW INCOME POPULATION: THEORETICAL ASSESSMENT*

5.1 Introduction

Theories of juvenile delinquency typically are based on and constrained by empirical referents, rather than formal theoretical criteria. Thus, our efforts to understand the extent and nature of delinquency among children of SIME/DIME families are similarly based and constrained.

Earlier sections of this report have described the annual incidence of official delinquent behavior in the sample chosen for study, and the overall prevalence of such behavior during the study period. These data suggest that our sample is not atypical of other youth populations in these respects. This suggestion is confirmed by data on the social distribution of delinquent behavior in our sample--by age, sex, race, income, and marital status of parents. In this chapter these "facts our theories must fit" will be further explored in relation to other variables chosen to represent etiological theories of delinquent behavior. Here we will be attempting to explain the extent and the distribution of delinquency in our sample. Our focus, and our strategy, therefore differs from that in preceding chapters. Here the income maintenance experiments are viewed as factors intervening in etiological processes of delinquency, influencing these processes and perhaps modifying their relationship to delinquent behavior.

We are constrained in this pursuit by the data available to us, as well as by the theories. Our strategy will be to examine sets of data relevant to theoretical formulations, and to interpret empirical relationships as

*Sections 5.1 through 5.6 were written by James Short and Peggy Thoits. Section 5.7 was written by Lyle Groeneveld.

they bear on these formulations. Several types of data are available to us, having to do with: (1) family structure; (2) husband-wife relationships; (3) parent-child relationships; (4) family criminality (parental and sibling); (5) occupational and work history data for parents and children; (6) family income; (7) community characteristics; and (8) community relationships.

The data base thus permits differentiation of families on several attitudinal and behavioral as well as experimental dimensions. This background for evaluating influences on delinquency in our sample posed a major data processing problem. The SIME/DIME data base contains information from over 80,000 interviews, organized largely by family identification number. Accessing these data for our purposes required that all families in which each member of our sample participated be identified (since individuals can be in more than one family during the experiment). Coded responses from most interviews then had to be transformed for use in our analyses. Much of the data we wished to use had not been accessed previously for research purposes. A great deal of time and effort therefore was required to become familiar with the data. The result is that data files have been created that are far richer in information about our juveniles and their families than we have been able to use in the time available for analysis. Future studies will further exploit these files.

Delinquency theories vary a great deal in the extent to which they involve variables within these broad categories. "Predictions" from theory are rarely possible, and the relevance of specific findings to alternative theories is often unclear. Parent-child relationships, for example, can affect child behavior in a variety of ways. Theoretical language used to describe these influences is suggestive, but imprecise. We speak, for example, of role theory or social learning theory, of control theory, subculture theory, or strain theory. Considerable research has been done within these broad domains, but formalized theory within each has been slow to develop, with the result that specification of hypotheses and "critical tests" between them are difficult and ambiguous in outcome.

These problems are exacerbated in SIME/DIME by the design of the experiments, which was based on economic theories, and by data collection instruments and designs that relate only loosely to theories of delinquency. The data set includes data relevant to some, but not all of the major theories of delinquency. As is often the case in secondary data analysis, the relevance of available data for theoretical purpose is not always clear. The latter problem in due as much to the imprecision of sociological theory as to the design of SIME/DIME.

Nevertheless, the longitudinal character of SIME/DIME and the variety of data collected presents a rare opportunity to study the etiology of officially recorded delinquency in a large and varied population. Our project proposal indicated general theoretical orientations that might be thus examined. The sheer magnitude and complexity of the data set as well as the need to collect new data (on juvenile delinquency, and on parental and sibling crime, on community characteristics and family moves) has of necessity dominated our efforts, consuming the bulk of our time and funds. What follows is a brief, and preliminary, report of our attempt to bring some, but not all, SIME/DIME data to bear on major theoretical approaches to delinquency causation.

5.2 Analytic Strategy

This evaluation of theoretical statements concerning delinquency is focused on relationships between a set of background variables, a set of experimental treatments, selected sets of theoretical variables, and two measures of delinquency as the dependent variable, in the general form:

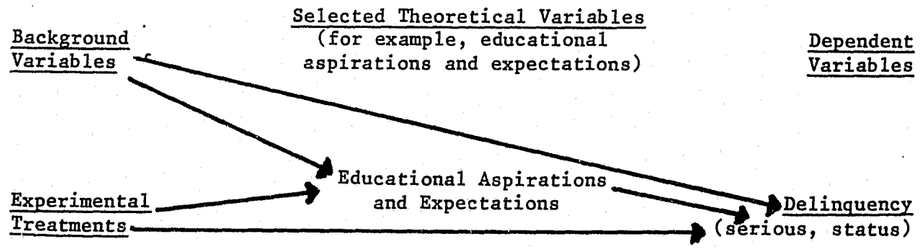

FIGURE 5.1 EFFECTS ON DELINQUENCY

Except for family crime data that are gathered for each family member of our sample of juveniles, and community level data that are aggregated by census tracts, all theoretical variables included in this report are based on interviews or other reports by parents. Some of these reports refer to behavior, for example, data concerning family structure (marital status at enrollment, change in marital status), employment and income of family members, family roles (that is, child care, household chores), and conflicts, and some types of community relationships. Other reports refer to more subjective aspects of family life, such as attitudes, for example, educational and occupational aspirations and expectations for children, marital happiness, and satisfaction. Delinquency as a dependent variable is divided into status offenses and more serious offenses as recorded in police files. In the analyses that follow, except as otherwise noted, all offenses recorded through December 31, 1977 for youngsters in our sample are included.

The analytic strategy employed is regression analysis, with delinquency treated as a dummy variable: 0 if no offense has been recorded, 1 if at least one offense has been recorded. Since this analysis differs somewhat from that in earlier sections (where the dependent variable refers only to offenses recorded during the 3 years following enrollment), we first present regressions of delinquency measures on a set of background variables describing the juveniles and their families.

5.3 Educational Aspirations, Expectations, and Delinquent Behavior

Robert K. Merton's classic article, "Social Structure and Anomie," is the basis for the general theoretical point that crime and delinquency may be innovative responses to blocked opportunities when socially approved success goals have been accepted. That general perspective has been interpreted and "tested" in a variety of ways (for example, as interpreted by Cohen, 1955; and by Cloward and Ohlin, 1960; as "tested" by Short, 1964, by Short, et al., 1965; and by Hirschi, 1969; and Elliott and Voss, 1974). Most investigators of the theory as it applies to juvenile delinquency have studied the aspirations of boys--sometimes comparing them with the boys' expectations, or with their fathers' achievements to secure a measure of strain toward innovation (delinquency). In general, the strain hypothesis has not fared well in these investigations. Short (1964) and Hirschi (1969) report that boys with higher educational occupational aspirations are less rather than more delinquent, but both official and self-reported criteria, compared to boys with lower aspirations; nor could discrepancies between aspirations and expectations, or between either aspirations or expectations and fathers' achievements account for differences in delinquency. Elliott and Voss (1974) summarize their data as indicating "no predictive power in the relationship between anticipated failure to achieve long-range goals and subsequent delinquency."

The SIME/DIME data set includes no relevant data gathered directly from children; hence, we cannot replicate these studies. We do have data on mother's stated educational and occupational aspirations and expectations for their children, however. The focus of our inquiry thus must be on the family as a socializing contect in which children's perspectives on their educational and occupational futures are shaped. The research two questions to be examined may be stated as follows:

(1) How do our background and treatment variables relate to this context? Specifically, in this report we inquire as to their influences on mother's educational aspirations and expectations for

their children and on the difference between them. Operationally, we view the difference (referred to hereinafter as a discrepancy score) as critical to the strain hypothesis.*

(2) Controlling for background and experimental variables, how do mothers' educational aspirations and expectations, and the difference between them, relate to arrests of their children for delinquent behavior?

Data bearing on the first question are presented in Table 5.1: where mothers' educational aspirations and expectations, and difference between them, are regressed on a set of background and experimental variables.

There is no difference between males and female children in mean levels of mothers' educational aspirations, expectations, or discrepenacy scores. Mean levels of both aspirations and expectations exceed high school graduation, and discrepancy scores between the two average about a year and one-third.** Explained variance in these phenomena is small, especially for discrepancy scores (there is little variation in these scores to be explained.) About a third (43 out of 126) of the relationships in the table are significant (at $p < .10$ or better), but this varies by score and by sex of child. More relationships are significant for males (25) than for females (18), and slightly fewer discrepancy scores (12) than aspiration (15) or expectation (16) relationships reach significance.

For boys, lower family incomes are significantly associated with lower educational aspirations and expectations by mothers, and higher discrepancy

*Peculiarities in the coding of occupational aspirations and expectations render impossible regression analysis of these variables in relation to either background (and experimental) characteristics or delinquency. A brief discussion of this problem, and of the distribution of mothers' occupational aspirations and expectations for our juveniles follows analysis of education.

**Standard deviations are high for discrepancy scores (1.94 for males, 1.95 for females), but low, relative to mean values for aspirations (1.92 for boys and 1.93 for girls) and expectations (2.11 for boys and 2.06 for girls).

Table 5.1

EFFECTS ON MOTHERS' ASPIRATIONS, EXPECTATIONS, AND DIFFERENCES BETWEEN ASPIRATIONS AND EXPECTATIONS BY SEX OF CHILD

	Boys			Girls		
Independent Variable	Aspirations	Expectations	Differences between Aspirations and Expectations	Aspirations	Expectations	Differences between Aspirations and Expectations
Normal Income Unclassified	-1.21*	-1.11	-.09	-2.18***	-1.76**	-.41
$0 - 999	-1.36***	-1.90***	.54	-.45	-.95**	.50
1,000 - 2,999	-.82***	-.154***	.72**	-.001	-.48	.48
3,000 - 4,999	-.80***	-1.23***	.44*	.35	-.24	.59**
5,000 - 6,999	-.27	-.65***	.38*	.22	-.32	.54**
Juvenile Age	.02	.19*	-.16*	.06	-.05	.11
Black	.08	.13	-.05	.55***	.41*	.14
Denver	-.41*	-.89***	.48*	-.70***	-.76***	.06
Two-Parent Family	.21	-.42	.63	.27	-.50	.76**
Two-Parent Family x Income	.001	.01	-.004	-.07*	-.04	-.05
Denver Black	.83***	.85**	-.02	.47	.59*	-.12
Preexperimental Serious Offense	.02	-.82**	.84**	-1.21*	-.95	-.25
Preexperimental Status Offense	-1.87***	-.38**	-1.49***	.22	-.68	.90
Father's Prior Criminality	.07	.18	-.10	.26	.32	-.06
Mother's Prior Criminality	-.50	-.35	-.16	-.39	-.59*	.19
Sibling's Prior Criminality	-.55**	-.42*	-.13	-.69***	-.20	-.49*
Mother Working	.27	.15	.12	.42**	.08	.34
Father Working	-.56	-.58	.02	.38	.29	.10
Experimental Treatment	-.08	.24	-.32	.03	-.09	.12
3-Year Treatment	.03	-.04	.07	.04	.02	.03
Payment	-.10	-.19**	.09	-.06	.01	-.07
Mean of Dependent Variable	14.95	13.59	1.36	14.88	13.56	1.33
Number of Cases	626	626	626	579	579	579
R^2	.12	.13	.04	.13	.08	.04

*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

scores. Mothers' aspirations for girls are unrelated to income, but expectations and discrepancy scores behave in the same manner as for boys. Whether lower income mothers lower educational aspirations and expectations for their sons (and increase the discrepancy between the two) because of lower income cannot be ascertained from these data.

Age of child appears to influence mothers' aspirations and expectations differently for males and females, but the relationships are significant only for boys. The older the boy, the higher the mother's educational expectations and the smaller the discrepancy between her aspirations and expectations. Just the opposite tendency is noted for girls, but the findings are not statistically significant.

Race does not differentiate males in these respects, but black mothers have higher educational aspirations and expectations for their daughters than do white mothers. Discrepancy scores do not differ significantly by race.

Site differences appear in Table 5.2. Denver mothers have significantly lower aspirations and expectations for both sons and daughters, compared to Seattle mothers. Discrepancy scores differ significantly only for sons, with Denver mothers having significantly higher scores than their Seattle counterparts. Moving down the table to the "Denver Black" variable, a strong effect is observed. The difference is consistent (but not always significant) for both sexes: Denver black mothers have higher aspirations and expectations, but not discrepancy scores, for their children than do other mothers.

Married women have somewhat higher aspirations and lower expectations, and thus higher discrepancy scores, than do single women. The only significant effect, however, is on discrepancy scores for girls. Interaction of marital status and income yields little of significance save for the

apparent anomaly that that higher income women have lower educational aspirations for their daughters.*

The next five variables present the effects of juveniles, parents' and siblings' preexperimental arrests on mothers' educational aspirations and expectations.

Boys' preexperimental status offenses significantly lower their mother's aspirations and expectations for them and reduce discrepancy scores. Boys' preexperimental serious offenses significantly decrease expectations, thereby increasing discrepancy scores. In general, a boy's preexperimental delinquency status strongly depresses his mother's hopes for and assessments of his future accomplishments. In general, a girl's preexperimental delinquent activity has few significant effects on her mother's hopes for and assessments of her. Only mothers of girls who commit a preexperimental serious offense exhibit a response: their aspirations for their daughters are significantly lowered.

In general, preexperimental arrests of parents have no major effects on mother's aspirations or expectations, with one exception: mothers who have preexperimental criminal records have significantly reduced expectations for their daughters. A mother's criminality tends to depress her aspirations and expectations for her children generally, while her spouse's record tends to raise each slightly.

Finally, siblings' preexperimental arrests significantly depress mothers' educational aspirations for and expectations of both male and female children, but tend to diminish discrepancy scores.

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*It may be that these women compared to others find the role of housewife satisfactory, and therefore do not think higher education to be necessary for their daughters. If so, this view is probably a misperception, since college remains a prime site for financially successful marriage beginnings.

Discussion of findings in Table 5.1 concerning effects of arrest records is complicated by the fact that juveniles whose fathers have arrests are compared not only to those who do not, but also to boys who do not have fathers in the home. Computation of the coefficients for two-headed families only does not change the findings, however. Fathers' arrest has no significant effect on mother's educational aspirations or expectations, for either sons or daughters.

The remaining variables in Table 5.1 show significant relationships only between mothers' employment and aspirations and discrepancy scores for girls. In each case, as in the other (nonsignificant) relationships among the variables, working mothers have higher aspirations and expectations for their children. Fathers' employment also slightly increases mothers aspirations and expectations for daughters and decreases discrepancy scores. Effects are negative on mothers' aspirations and expectations and positive on discrepancy scores for sons. None of these relationships are significant, however. These relationships are the same when two-parent families are analyzed above. Neither being an experimental family, nor a 3-year experiemnntal family has an effect on aspirations or expectations. Payment significantly lowers mothers' expectations for boys but is unrelated to other dependent variables for either boys or girls.

Before discussing the empirical relationships between delinquency and our measures of educational aspirations, expectations, and discrepancy scores, a discussion of theoretical expectations is necessary. Aspiration, ambition, and internalization of success goals are the hallmarks of strain theory. Strain toward innovation occurs when lofty goals cannot be realized by virtue of blocked legitimate opportunities. Assuming children from our low income sample are likely to experience some obstacles to high education goals, compared to those in better economic circumstances, strain toward innovation might be expected to be associated with higher educational aspirations. Such a prediction would be quite contrary to control theory since, in this view, higher aspirations are likely to be associated with greater parental interest, concern, and, therefore, closer supervision. These "predictions" can hardly be taken as a critical test of the theories,

however, since strain theorists might well argue that higher parental aspirations are likely to indicate not only acceptance of socially approved goals, but increased opportunity by virtue of parental assistance.

The findings, presented in Table 5.2, provide no solution to this theoretical tangle. The coefficients in Table 5.2 are the estimated effects when each of the three variables is entered separately into the regression equation. Mothers' educational aspirations significantly reduce both serious and status arrests among their sons, but not their daughters.

Similar arguments to those preceding could be made concerning expectations, with the added stipulation, however, that one's expectations may be more "realistic." Therefore expectations may involve a higher degree of belief, and perhaps commitment (both crucial terms in control theory). The precise meaning of expectations in relation to aspirations is unclear. On the one hand, they seem less laden with the success orientation stressed by strain theory; on the other they may index, better than aspirations, personal goals without idealistic distortion. In any case, findings are very similar to those for aspirations. Relationships with arrests are small, but consistently negative, and are significant in three of four instances. The probability of arrest is depressed by higher educational aspirations and expectations. The coefficient, though small, is not inconsequential, for the metric employed is tied to increments of each year of schooling aspired to or expected. To illustrate: the coefficient between mothers' aspirations for their sons and arrest for serious offenses (-.03) translates into a decreased probability of .03 per year of schooling to which mothers aspire for their sons. The difference in probability of arrest for a serious offense, e.g., between two sons for whom maternal aspirations are 8 and 12 years of schooling, respectively, is .12 (12 minus 8 years = 4, multiplied by .03). A similar difference results from maternal aspirations for college, compared to high school graduation (16 years of schooling compared to 12 years). These probabilities assume linearity of the relationship, which may not exist. We will investigate this assumption in future work. In any case, educational goals are negatively related to the probability of arrests for boys, with a somewhat weaker relationship

Table 5.2

EFFECTS ON DELINQUENCY OF MOTHERS'S EDUCATIONAL ASPIRATIONS, EXPECTATIONS, AND DISPARITY BETWEEN THESE, BY SEX OF JUVENILE AND SERIOUSNESS OF OFFENSE

	Boys		Girls	
	Status	Serious	Status	Serious
Educational Aspirations	-.01**	-.03***	-.003	.001
Educational Expectations	-.02**	-.02***	-.01	-.02**
Difference (A-E)	.004	.004	.01	.02**
Number of Cases	626	626	579	579
Percent Committing One or More Offenses	14%	34%	15%	21%

**.05 ≥ p > .01
***.01 ≥ p

noted for girls. Clearly, then, high educational goals, if they create strain, do not result in higher probabilities of delinquent behavior in our sample. Instead they appear to reflect influences toward conventionality, and in that sense, to deter delinquent behavior.

The final panel in Table 5.2 displays coefficients for relationships between discrepancy scores and arrests, previously noted as the best "test" of strain versus control theory. Here only one statistically significant coefficient appears between discrepancy scores for girls and their arrests for serious delinquencies. The relationship is small, but nontrivial. The anomaly here is that support for the strain theory position is found for girls but not for boys, upon whom the "strain" toward delinquency generated by disjunctures between goals and means presumably falls most heavily. We will be exploring the causal chains suggested by our data in future work. We know that lower income and intact families, and families in which the mother is employed tend toward higher discrepancies between education aspired to and expected by mothers for their daughters. Siblings' criminality, on the other hand, depresses discrepancy scores. Perhaps the modest relationship we have found between discrepancy scores and girls' arrests for serious delinquency results from despairing mothers who want something better for their daughters, but who reduce expectations out of realistic appraisal, based upon their own economic circumstances and experience with troublesome older children (the juveniles siblings).

5.4 Occupational Aspirations, Expectations

The occupational aspiration questions were asked only of Seattle mothers. We noted, in the preceding section that the occupational coding of mothers' aspirations for the juveniles in our sample did not lend themselves easily to statistical manipulation. It is possible, however, to gain some insight into these matters with the existing code. Table 5.3 presents raw frequencies of mothers' aspirations and expectations for our juveniles. The rationale for the code, while not tied directly to prestige, clearly relates to education and training, or to special skills (e.g., athletic or artistic

Table 5.3

MOTHERS' OCCUPATIONAL ASPIRATIONS AND EXPECTATIONS
FOR SONS AND DAUGHTERS (Seattle only)

Code	Occupation	Aspirations		Expectations	
		Number of Cases	Percent	Number of Cases	Percent
1.	Professional, advanced degree (doctors, lawyers, etc.)	106	12.9	55	6.8
2.	Professional, bachelor degree (chemist, engineer, teacher, etc.)	251	30.6	198	24.6
3.	Semi-professional, some college (draftsmen, etc.)	10	1.2	7	.9
4.	Apprenticable, high school graduate plus skilled trade (carpenter, mechanic, etc.)	52	6.3	66	8.2
5.	Technical, high school graduate plus additional training (nurse's aide, lab technician, etc.)	43	5.3	47	5.8
6.	Clerical I, high school graduate, no additional training (secretarial)	34	4.2	31	3.8
7.	Clerical 2, less than high school graduation required (free clerk, keypunch operator, etc.)	12	1.5	25	3.1
8.	Business (run his/her own business, etc.)	22	2.7	15	1.9
9.	Athlete (professional football/ basketball, etc.)	47	5.7	54	6.7
10.	Artist (painter, singer, etc.	56	6.8	65	8.1
11.	Social purpose worker (with handicapped, etc.)	32	3.9	29	3.6
12.	No labor force aspirations/expectations (including housewife)	17	2.1	63	7.8
13.	Open response (anything he/she wants	51	6.2	40	5.0
14.	Too young to specify	16	2.0	22	2.7
15.	Don't know	64	7.8	79	9.8
16.	Military	6	.7	10	1.2
	Total	819	99.9	806	100.0

ability). In addition, the code has the advantage for our purposes that it does not force a response on the mother, but allows her to indicate "no aspirations/expectations" (Code 12), "anything he/she wants" (Code 13), "too young to specify" (Code 14), and "don't know" (code 15). While these responses are ambiguous, they would seem on the one hand not to indicate high ambition and on the other to signify uncertainty and lack of "middle-class" concern over this important area of a child's future. These responses, together with those that are more achievement oriented, permit a sort of "test" of strain versus control perspectives. Codes 12 through 15 clearly do not indicate strain toward innovations; hence delinquency rates of children whose mothers have given these responses might be expected to be lower than those of children whose mothers aspire to (or expect) higher occupational achievement on the part of their children. In contrast, control theory would lead to quite different expectations, in that children in families with high ambitions would be expected to be especially sensitive to the necessity to protect them against influences and behaviors that might thwart these ambitions. While they may not always indicate lack of concern or control, the ambiguous responses could hardly be argued as indicative of greater concern or control. Their general thrust would appear at the very least to be less controlling, less driving with respect to the children who are the objects of the questions posed. The bearing of these data on the strain hypothesis is enhanced by the large proportion of professional aspirations registered by these mothers--43.5% for the two professional occupational codes. Considerably fewer mothers expect professional achievements, however--31.4%. Because the code is not a numerical scale, precise measurement of disparity scores such as were computed for educational aspirations and expectations is impossible. Nor it it possible to compare in this way parental occupations with those aspired to or expected for their children. Clearly, however, aspirations exceed expectations. The contrast is especially great with respect to the professional categories, as previously noted and--in the other direction--for category 12 (no labor force aspirations/expectations). More mothers have no labor force expectations than have no labor force aspirations for their children. Since this code includes "housewife," its effects must be analyzed separately for boys and girls.

We first analyzed these data by using a dummy variable for professional aspirations (Codes 1 and 2 in Table 5.3) and entering it in the regression analysis along with educational aspirations and expectations (controlling for background and treatment variables) as in Table 5.2. Treated in this way, professional aspirations have no effect on boys' arrests for either status or serious offenses; nor do they affect girls' status offenses. The probability of arrest for serious offenses, however, is significantly lowered for girls whose mothers aspire to professional occupations for their daughters.

5.5 Family Satisfactions and Reported Conflicts

We turn next to a set of reported attitudes and behaviors within families and to their relationships with the delinquent behavior (arrests) of our juveniles and to their relationships with the delinquent behavior (arrests) of our juveniles. The effects of the family relationship upon boys' and girls' delinquency were explored in a series of regression equations, controlling for the same background and treatment variables as in the previous analyses.*

Dependent variables for these analyses follow our previous practice, except for the timing of offenses; that is, juvenile's status offense and juvenile's serious offense refer to arrests subsequent to the measure of family variable. Most family variables reported were measured at the fourth

*Juvenile's age, black, site (Denver = 1, Seattle = 0), race-site interaction (Denver = 1, otherwise = 0), family's disposable income (at enrollment, in thousands of dollars), mother working at enrollment, father working at enrollment, mother's previous police contact (previous to start of experiment), father's previous police contact (previous to start of experiment), sibling's previous police contact (previous to start of experiment), juvenile's prior status offense (prior to measure of family variable), juvenile's prior serious offense (prior to measure of family variable), financial family, 3-year NIT program, estimated payment to financial family at enrollment (in thousands of dollars, 0 for control family).

and fifth periodic interviews (that is, roughly 16 to 20 months after enrollment). Therefore, only status or serious offenses committed after this point in time were considered as appropriate in determining the delinquency status of the juvenile for the purpose of this analyses. This decision was made out of consideration for causal sequence and because we do not know how stable our family measures are. If marital satisfaction and degree of conflict vary over time and if delinquency depends upon these family variables, then only offenses subsequent to the measures of these variables would be of interest to us.*

The effects of the following family variables upon subsequent delinquency were estimated:

(1) Responses by both male and female heads to questions concerning:

a. Satisfaction with affection provided by spouse.

b. Satisfaction with amount of leisure time spent with spouse.

c. Satisfaction with how self and spouse are raising children.

d. Satisfaction with amount of leisure time spent with children.

e. Seriousness of disagreements over money, how free time is spent, and responsibilities for children.

f. Seriousness of disagreement over responsibilities for the children.

*On the other hand, if these family variables are fairly stable, then we could have used offenses committed at any time during the experimental period as our dependent variable, while controlling for delinquency status prior to the experiment. We did the analysis both ways; that is, under the assumption that the family variables were stable and under the assumption that they were not. The coefficients did not differ substantially from one another, implying that our family measures are in fact fairly stable. However, we report here only the coefficients for delinquent acts subsequent to the family measures.

(2) Reports by female heads (of two-parent families) of:

g. The number of things she and spouse argue about (such as use of free time, household responsibilities, care/discipline of kids, amount of earnings provided, how income is spent, affection and understanding, employment situation of spouse).

h. How often in last year she and spouse wouldn't speak to each other for a while.

i. How often in the last year she or spouse actually left home for a while due to fight.

j. Thinking about separation from spouse.

k. Conflict index--sum of the occurrence of behaviors: arguing, periods of silence, one spouse left, thinking about separation. Ranges from 0 (none of these occur) to 4 (all have occurred).

l. Arguments about care and discipline of children.

The effects of each of these family variables upon the delinquency of the child was estimated separately, controlling for the background and treatment variables. Table 5.4 reports the effects of fathers' responses to items a-f on arrest probabilities, net of these background and treatment variables.

Fathers' reports of satisfaction and the seriousness of disagreements with spouse bear little relationship to the probability to their childrens' arrest for either status or serious offenses. The major exception concerns the increased probability of daughters' arrest for serious offenses, which is associated with fathers' reported satisfaction with leisure time with spouse, suggesting the possibility that such satisfaction may have as its price neglect, or at least lack of supervision of daughters. Alternatively a more psychodynamic interpretation might suggest that daughters may be resentful of their fathers' leisure time activities with spouses (many of whom are in a stepmother relationship with the daughter rather than a natural parent relationship). We will explore the importance of the stepmother relationship in future work.

Table 5.4

EFFECTS OF FATHER'S SATISFACTIONS AND DISAGREEMENTS WITH SPOUSE ON DELINQUENT BEHAVIOR, BY SEX OF CHILD AND SERIOUSNESS OF DELINQUENCY

Variables	Boys (N=297)		Girls (N=297)	
	Status	Serious	Status	Serious
a. Satisfaction with Affection	.001	-.001	-.01	-.01
b. Satisfaction with Leisure Time with Spouse	-.03	-.03	-.01	.07*
c. Satisfaction with Child Rearing	-.01	.004	-.01	-.0003
d. Satisfaction with Leisure Time with Children	-.01	-.03	.002	.03
e. Seriousness of Disagreements	.001	.01*	.001	-.01
f. Seriousness of Disagreements over Children	.01	.03	.004	-.03*

*.10 ≥ p > .05.

No such relationship exists for sons, where peer influences have been noted in the literature as being stronger than family influence. There is a slight tendency for seriousness of disagreements between spouses (as reported by the father) to be associated with arrests of sons for serious offenses.

Finally, and paradoxically, the more serious are reported disagreements over child responsibilities, the less likely girls are to be arrested for serious offenses. We will explore the seriousness of disagreements over children as it interacts with leisure time satisfaction to ascertain joint effects of these phenomena with their interesting psychodynamic potentialities. If it should be shown that girls' serious offensive behavior is jointly a product of fathers' satisfaction with leisure time with spouse (a positive relationship) and of seriousness of disagreements over children (a negative relationship), a psychodynamic interpretation would be strengthened; that girls are resentful over fathers' attention to their mothers or mother surrogates, and by the same token they might also be resentful concerning responsibilities for the children. The paradox would then be resolved. Conversely, their fathers' lack of satisfaction with leisure time spent with their mothers, and serious disagreements over children might be interpreted positively by daughters whose attachments to their fathers are dynamically related to behavior control or acting out in the form of serious delinquent behavior.

As was the case with father's reports of marital satisfaction and disagreements, mother's reports concerning these same matters have no significant effects upon either status or serious offenses committed by boys or girls, with but a single exception (see Table 5.5). The greater the mother's satisfaction with the way she and her husband are raising the children, the less likely their son is to commit a serious offense. This single exception might well occur by chance (1 out of 24 relationships for this series). We conclude therefore that these attitudinal variables bear little relationship to the behavior of the study youngsters, at least as these are reflected in police statistics.

Table 5.5

EFFECTS OF MOTHER'S SATISFACTION, DISAGREEMENTS WITH SPOUSE AND REPORTS OF CONFLICT WITH SPOUSE BY SEX OF CHILD AND SERIOUSNESS OF DELINQUENCY

Variables	Males (N=276)		Females (N=276)	
	Status Offenses	Serious Offenses	Status Offenses	Serious Offenses
a. Satisfaction with Affection	-.003	-.01	.002	-.01
b. Satisfaction with Leisure Time with Spouse	.01	.06	-.01	-.01
c. Satisfaction with Child Rearing	.003	-.04**	.001	-.01
d. Satisfaction with Leisure Time with Children	-.02	-.003	-.03	.02
e. Seriousness of Disagreements	-.003	.01	-.001	.01
f. Seriousness of Disagreements over Children	-.01	.01	.02	.002
g. Arguments	.01	.03*	-.01	.002
h. Didn't Speak	-.004	.05**	-.03**	.004
i. Left Home	-.01	.06	.06	-.05
j. Thinking about Separation	-.01	.34***	.004	.003
k. Conflict Index	.01	.06**	-.01	-.001
l. Arguments about Child Care	-.02	.07	.05	.04

*.10 $\geq$ p > .05
**.05 $\geq$ p > .01
***.01 $\geq$ p

We start with behavioral indicators of serious conflict in the marriage (as reported by mothers), however, have several significant effects. Again the major effects are cross-sexual, that is, the effect of conflict between spouses is on the child of the sex opposite that of the reporting parent. Once again the effect is on serious, rather than status offenses. We conclude that these family variables bear little relationship to the often trivial, and virtually ubiquitous, behaviors covered by the status offense rubric. That such observed effects are on arrests for more serious offenses is both more interesting and important from a policy as well as a theoretical perspective. Argument, silence between spouses, thoughts about separation--all significantly increase the probability of a boys' arrest for a serious offense. The significant positive effect of the conflict index also indicates the boy's responsiveness to serious disharmony in the home. The "separation-considered" coefficient is by far the largest observed in this phase of the analyses. The probability that a boy will commit a serious delinquent act increases by .34 under this circumstance. This finding becomes especially interesting, because of earlier findings concerning the effects of the experiment on marital dissolution (Hannan, Tuma, and Groeneveld, 1978). The dynamics of the relationship between mothers' reported conflicts and son' serious delinquencies appears to be quite different from that found between fathers' reported satisfaction and disagreements and serious offenses among girls. A control argument here seems more plausible. The conflicts reported on by mothers are both behavioral and attitudinal. They are likely to be known to children. Preoccupation with such conflicts may lead to diminished control over children. But why are boys affected and not girls? The answer may lie in an intervening step; that such conflicts push--or allow--boys (more than girls) the freedom to be outside the home, subject to diminished control on the street and to peer influences conducive to delinquency.

The delinquency of girls is little effected by conflict in the home. Only "not speaking" has an effect, and this variable only reduces the probability that a girl will commit a status offense. Again, psychodynamic interpretations seem plausible. Regrettably we cannot with SDX data pursue the intriguing possibility that girls may exhibit higher symptoms of stress, tension, or psychopathology, instead of delinquency.

6. SUMMARY AND RECOMMENDATIONS

This final chapter has two purposes. First, we want to summarize the findings of our study. Second, we want to evaluate the research we have conducted and make some recommendations for further research. This second purpose is particularly important in light of the exploratory nature of the research project.

6.1 Sources of Delinquency Data

In the course of our research we evaluated a number of sources of delinquency data. The source that we examined most carefully was the local police department records. We also examined the records of surrounding police jurisdictions, juvenile courts, and other juvenile justice agencies as potential sources of data. We investigated the feasibility of obtaining self-reports of delinquency directly from the juveniles. It is our conclusion that the local police records data are the most fruitful for studying delinquency in the SIME/DIME population. The shortcomings of the other data sources are detailed in Chapter 2. The advantages of the police records data are that they are relatively inexpensive to collect, coding is fairly straightforward, and the record-keeping systems in the two sites are very similar. The analysis we have conducted using these data demonstrates their utility for the study of delinquency. We recommend that any further study of delinquency in the SIME/DIME population focus on police records data for measures of delinquent behavior.

6.2 Experimental Impacts on Delinquency

The majority of the analysis we conducted focused on the question of whether or not the income maintenance experiments had any impact on juvenile

delinquency. The strategy we employed was to use ordinary least squares regression with dependent variables that indicated whether or not the juvenile had a recorded police contact during the first 3 years of the experiment. We distinguished between contacts for status offenses and contacts for serious offenses. Males and females were analyzed separately with whites and blacks pooled. A number of nonexperimental variables were included in the regression equations to adjust for differences between the experimental and control groups. The effects of these independent variables on delinquency were, in general, consistent with the findings of other studies.

We found no consistent pattern of experimental-control differences in the levels of delinquency. The coefficients for the experimental treatment were always small and seldom statistically significant. Given our sample sizes, we would have been able to detect experimental-control differences in the proportion delinquent on the order of .03 to .05. These would be differences of 30% to 50% of the overall proportions in the sample. Thus, with the sample used in this exploratory study, only relatively large experimental effects could be detected. Thus we can conclude with some confidence that the experiment did not change the delinquency rates by as much as 50% during the period studied. It is possible, however, that the experiment did have lesser, but still substantively important, effects on delinquency. Our findings indicate this possibility in two ways.

First, we did find significant experimental effects on male status offenses when the treatment variable was interacted with family income or with a variable indicating that the mother was employed in the year before the experiment. Because we did not find similar effects for males' serious offenses or for either status or serious offenses for females, we are reluctant to conclude that we have strong evidence of an experimental effect. However, the significant effects occur in equations in which the experimental treatment is interacted with variables known to be affected by the experiment. The experimental treatment itself is a manipulation of family income and the amount of change in family income depends on the income level before the experiment. The experiment has also been shown to

affect the participation of wives in the labor force (Robins and Tuma, 1978). This suggests to us that the effects of the experiment on delinquency may be indirect effects mediated by other experimentally induced changes in behavior. Estimation of such effects requires more complicated models than we have utilized in this project.

The second way in which our findings indicate that there may be an experimental effect is when we examine the change in the proportion of the samples with police contacts over time (see section 4.5). For males the experimental group was twice as likely as the control group to have had police contacts before the experiment, but 4 years after the experiment began the control group had more contacts than the experimental group. Constraints of time and budget prohibits us from pursuing this difference analytically. Analysis focusing on age of onset of delinquent behavior or that takes the timing of contacts into account some way might well detect some experimental effects.

Our conclusion with respect to experimental effects on delinquency is that further research is warranted. This research should increase the sample size and employ different analytic techniques than the present project. The sample size can be increased by adding the Chicano juveniles in Denver and by taking a broader age range than the present study. The analytic techniques to be considered in a further study should include the use of estimation techniques that are more properly suited to dummy dependent variables than ordinary least squares and techniques that emphasize the timing as well as the occurrence of events. Indirect effects of the experiment on delinquency also should be investigated. The major effects of an income maintenance program on delinquency may prove to be mediated by the experimental effects on mothers' employment, marital stability, or some other behavior.

6.3 Using SIME/DIME Data to Study Delinquency

One important aspect of our research project was to determine the feasibility of using SIME/DIME data to investigate the causes and correlates of delinquency apart from experimental effects. As with any secondary analysis of data the SIME/DIME design has shortcomings for such a study. However, our experience convinces us that the SIME/DIME data base combined with measures of delinquency such as those collected from police records is a fruitful data set for studying delinquency in a low-income population.

Our analyses demonstrated significant effects of mother's expectations and aspirations for her children on delinquency as well as significant effects of parents' satisfaction with marital relationships on delinquency. While we found few significant effects of environmental variables on delinquency we believe that further analyses would reveal more about the relationship between residential mobility and delinquency.

There is a large body of SIME/DIME data that we could not investigate within the time and budget constraints of the present project. We believe that the analyses reported in Chapter 5 demonstrate that these data can be used to address theoretically meaningful questions about delinquency. Our findings encourage us to expect that further analysis of these data may provide important insights into aspects of delinquency that are now only incompletely understood.

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CONTINUED

1 OF 2

APPENDIX A. THE SEATTLE AND DENVER INCOME MAINTENANCE EXPERIMENTS

In this appendix we provide an overview of the Seattle and Denver Income Maintenance Experiments (SIME/DIME). A detailed description of the experimental design is available in Kurz and Spiegelman (1972).

A.1 The Experimentally Manipulated Variables

SIME and DIME are true experiments with experimentally manipulated conditions and subjects assigned either to one of the experimental treatments or to the control condition according to a stratified random design. Under the SIME/DIME negative income tax program, a family's support level depends on the program to which it is assigned and the number of family members. The support level (or guarantee) is the amount of money available to the family over the period of a year if it has no other source of income. The amount of the actual grant to the family depends on both the support level and the family's other income. As the other income increases, the grant declines at a rate stipulated by the program.

The support levels are $3,800 per year, $4,800 per year, and $5,600 per year (all in constant 1971 dollars) for a primary family consisting of four persons. To provide roughly equivalent real support on a per capita basis, these levels are adjusted by a family size index. The support levels were adjusted regularly throughout the experiment to reflect increases in the cost of living.

The tax function determines how the grant to the family changes in response to other income available to the family. If G represents the

amount of the grant, S the support level, Y the amount of taxable income received by the family, and t(Y) the tax funtion, then:

$$G = \text{Max}\ \ 0,\ S - t(Y)\ \ Y \quad .$$

The tax function t(Y) depends on two quantities: t' the initial tax rate on the first dollar of income, and r the rate of decline of the tax rate with increases in income:

$$t(Y) = t' - r \quad Y \quad .$$

The initial tax rates used are 0.50, 0.70, and 0.80; the rates of decline used are zero (i.e., a constant tax rate) and 0.000025 (i.e., a tax rate that declines by 2.5% per $1,000 of earned family income). Of the six possible tax systems resulting from the combination of these initial tax rates and rates of decline, only four are actually used: the 50% constant tax rate, the 70% constant tax rate, the 70% declining tax rate, and the 80% declining tax rate. Combining the three support levels with the four tax systems gives a total of 12 negative income tax treatments (also called financial plans). The $5,600 per year support level with a 70% declining tax rate is not used because under this combination the declining tax does not exhaust support before a zero tax rate is reached.

During the design of the experiment, it was anticipated that families who viewed the income maintenance program as transitory would adjust their behavior differently from those who viewed the program as permanent. Since an income maintenance experiment should measure long-term responses such as would be expected on a permanent national program, the duration of the experiment must be sufficient for families to make long-term behavior adjustments after a period of initial adjustment to the program. Although a 3-year period was expected to fulfill these purposes, a portion of the

families were enrolled for 5-year periods to ensure that long-term adjustments would in fact be observed.

Another aspect of the experiment is a manpower program that has four treatment levels. The first treatment provides only counseling services. Counseling, which is voluntary in both sites, is provided by local community college counseling staffs. The second treatment provides counseling plus a subsidy of 50% of the direct costs of any training taken during the experiment. The third treatment consists of counseling plus 100% of the direct costs of training. The fourth treatment consists of manpower controls who receive neither counseling nor subsidies. The manpower treatment is available to all members of eligible families who are 16 years of age and older and are mentally and physically capable of gainful employment. Families were assigned to include all combinations of financial treatments, manpower programs, and control families on neither a financial nor a manpower program. No 5-year families are on the 100% subsidy program to avoid the expensive possibility of providing full support for 4 years of college.

A.2 The SIME/DIME Sample

Families were enrolled in the Seattle and Denver experiments on the basis of information gathered during preexperimental interviews conducted during 1970 in Seattle and during late 1971 and early 1972 in Denver. The interviews in the two cities were the result of a house-to-house canvass of lower income areas that identified households eligible for the experiment.

Participation in the experiment was limited to families who are likely to be eligible for a national program, and families whose responses have particular policy importance. These considerations led to the following eligibility requirements for experimental families:

(1) The family had to contain a unit of at least two members consisting of either a husband and wife or an adult and a dependent child. These groups were selected as being the most likely targets of a national income maintenance program.

(2) The male head of a two-parent family or the head of a one-parent family had to be at least 18 years old and not more than 58 years old. This restriction is based on the a priori assumption that the time horizons (and hence experimental response) of heads between 18 and 58 years of age would differ significantly from those older and younger; therefore, families with older or younger heads would require separate analysis beyond the scope of the present experiment.

(3) The 1970 earnings of the family had to be less than $9,000 for a family of four with one working head and less than $11,000 for a family of four with two working heads. The maximum permissible income for families with other than four members was obtained through an adjustment using standard of living differentials related to family size. The basis for this restriction is the a priori assumption that the alternatives supplied by the negative income tax program are not sufficiently attractive to families with higher incomes for the experimental treatments to have a detectable effect on their family stability or the labor supplied by the family heads.

(4) The family heads could not be permanently disabled. This requirement rests on the a priori assumption that the labor supplied by disabled persons is essentially zero and thus not subject to change by a negative income tax program.

Thus, the selection of families to the experiment results in a non-representative sample in that families with high incomes are not included, few never-married adults are included, and few unmarried males are included. The first restriction is not a disadvantage for assessing the effects of income maintenance, but it is from the more general perspective of understanding the dynamics of the relationship between income and delinquency. The second and third mean that we are unable to make inferences about the effects of income maintenance on single males. The only unmarried males in the experiment are dependents of enrolled families, males who have ended a marriage since being enrolled as part of a family with both husband and wife present, and the few unmarried males who were enrolled with dependents. While it is unlikely that these are representative of the population of unmarried males--the most crime-prone population--unmarried males aged 15-18 are well represented in this study. Although older single males are an important potentially criminal group, an income maintenance program would be expected to have little impact on their behavior since their benefits would be small under most proposed plans.

To assign families to experimental treatments, the eligible families were stratified along two major dimensions having particular policy importance: family type (oneor two-parent family), and race/ethnicity (black, Chicano, or white). Families were allocated to experimental treatments (financial plans) so that 75% of the total predicted payment costs would come from the 3-year program, and the remaining 25% from the 5-year program and the total predicted payments would be equal for the different racial groups in each city. Payment costs were predicted on the basis of family type, race, normal earnings of the family, and the generosity of the financial plan.*

An important consequence of the assignment model is that families varying in normal earnings were not randomly assigned to different financial plans. In particular, families with low normal earnings had a higher probability of being assigned to the less generous experimental programs, and families with higher normal earnings were more likely to be assigned to the more generous programs. For this reason, the effects of the income maintenance experiment cannot be accurately assessed through direct comparison of control and financial families, but must be analyzed through multivariate techniques that take into account the stratification of the sample resulting from the assignment model.

Approximately 2,000 families were enrolled in Seattle and 2,800 in Denver. Approximately equal numbers of blacks and whites were enrolled in Seattle; and approximately equal numbers of blacks and whites, and Chicanos were assigned in Denver. Approximately 60% of the families have two parents present.

*For details see J. Conlisk and M. Kurz, "The Assignment Model of the Seattle and Denver Income Maintenance Experiments," Research Memorandom 15.

APPENDIX B. DENVER DATA COLLECTION*

The data collection in Denver involved two levels of effort. Police records were searched for recorded contacts with the juveniles in our sample and for recorded contacts with their parents and siblings. The second level of effort was more exploratory. The records of various other agencies in Denver and the surrounding counties were examined as possible supplements to the police record data. We describe the police records data collection first and then the explorations of other data sources.

B.1 Juvenile Police Records

Permission to access juvenile police records and juvenile court records was obtained from the Presiding Judge of the Juvenile Court, The Honorable Orrelle R. Weeks. The Presiding Judge and her staff were very cooperative and provided assistance and encouragement to our staff. We also received excellent cooperation from William Threlkeld, Chief of the Juvenile Division, Denver Police Department.

Police records in the Juvenile Division are maintained on 4 x 6 inch cards called Case History Cards (Figure B.1). The front of the card contains identifying information. The reverse side and subsequent cards on a particular individual contain the arrest record. This information is limited to the date of arrest, offense(s), disposition, arresting officer's name, and arrest number.

Information found on these cards originate from a Juvenile Case Summary Sheet (Figure B.2). This sheet contains information about the incident;

*This appendix was prepared by Eleanor Myers of SRI International who supervised the Denver data collection.

DENVER POLICE DEPT.

JUVENILE CASE HISTORY

Computer # _____

Name _____ DOB _____

Alias _____ Place of Birth _____

_____ DPD# _____

Address _____

_____

_____

_____

Phone No. _____

Father _____ Address _____

Mother _____ Address _____
(First) (Maiden) (Last)

Guardian _____ Address _____

Parents' Place of Emp. _____

Brothers _____

Sisters _____

School _____ Grade _____

Race _____ Height _____ Weight _____

Build _____ Comp. _____ Hair _____

Eyes _____ Marks.Scars,etc. _____

_____

DPD 106 (7/77)

Date	Offense	Disposition	Off. Case No.	# Arr.

FIGURE B.1 DENVER'S JUVENILE CASE HISTORY CARD

DENVER POLICE DEPARTMENT

JUVENILE CASE SUMMARY

Probation Officer _____

DCD Referral # _____ DJC Folio # _____

□ Not brought in □ DPD Case # □ "J" # _____ Investigating Det. _____

CUSTODY AND INCIDENT INFORMATION (To be completed by officer effecting custody)

Name _____ Address _____ Phone _____
(Last) (First) (Middle)

DOB _____ Sex _____ Race _____ Height _____ Weight _____ Hair _____ Eyes _____

Juv. Detained: □ Juv. Hall □ City Jail □ Other _____ □ Order In: Date _____ Time _____

Person Notified _____ By whom? _____ Date _____ Time _____

Not notified because _____

Officers Eff. Custody _____ # _____ _____ # _____ Car _____

Taken into custody at _____ Date _____ Time _____

Taken into custody for _____

Taken into custody with (1) _____ □ Detained □ Referred □ Released

(2) _____ □ Det. □ Ref. □ Rel. (3) _____ □ Det. □ Ref. □ Rel.

Offense Report made? □ Yes □ No Reported Offense _____

Location of Offense _____ Date _____ Time _____

Complainant _____ Address _____ Phone _____

Witness #1 _____ Address _____ Phone _____

Witness #2 _____ Address _____ Phone _____

Witness #3 _____ Address _____ Phone _____

'ence Held _____ Cust. # _____

Property Recovered (previously reported stolen) _____

_____ Cust. # _____ Value: $ _____

DETAILS OF INCIDENT (Include probable cause for custody, substantiation of charges, injuries to victim (name) and/or offender and other COMPLETE details of incident.)

D"TENTION-REFERRAL INFORMATION (To be completed by Receiving Officer/Investigating Detective)

Reason for Detention _____

□ May be released □ May be released with Order In: Date _____ Time _____ □ Order In attached

Request Detention pending Detention Hearing - □ Yes □ No If Yes, Reasons _____

(If detention beyond Detention Hearing is required, officer shall appear at Detention Hearing.)

Referred Juv. Court - □ Yes □ No □ Pending Reason for Non-referral - □ Lec. & Rel. 1st Offense □ Lec. & Rel. Other

□ Insuff. evidence □ Refusal to prosecute □ Not involved □ Refused by D.A. □ Referred Other Agency □ Run-away □ Other _____

REPORTED OFFENSE: □ Unfounded □ Cleared by Arrest □ Exceptionally Clear □ Inactive □ Change to: (Over)

Copy must accompany Juvenile to DCD and place of detention.
If "ordered in", copy must be sent immediately to DCD.
DPD 107 (Rev. 7/77)

Processed by _____
DCD Receiving Officer

FIGURE B.2 DENVER'S JUVENILE CASE SUMMARY SHEET

INVESTIGATION - REFERRAL INFORMATION (To be completed by Investigating Detective)

Offense-Incident Charged ______

Reasons for Referral ______

______

______

Suspect at Large - ☐ Yes ☐ No ______ Pick-up Placed - ☐ Yes ☐ No

TRANSFER HEARING Recommended - ☐ Yes ☐ No Reasons ______

______

Witness #1 can testify to ______

______

______ Statement attached - ☐ Yes ☐ No

Witness #2 can testify to ______

______

______ Statement attached - ☐ Yes ☐ No

Witness #3 can testify to ______

______

______ Statement attached - ☐ Yes ☐ No

OTHER DOCUMENTS ATTACHED - ☐ Offense Report ☐ Case History ☐ Advisement ☐ Statement of Defendant
☐ Property Invoice ☐ Other

DETAILS OF INVESTIGATION (Include other witnesses not listed above, elements of offense(s)/incident charged and other COMPLETE details of the investigation.)

______

Investigating Detective ______ Signature   Approved by ______ DCD Review Officer

FIGURE B.2 DENVER'S JUVENILE CASE SUMMARY SHEET (concluded)

custody information; follow-up investigation, if warranted; and the final police disposition (not including the court disposition of a case). The final disposition reflects whether the juvenile has been referred to the court through the District Attorney for possible court action or not. Cases not referred to court receive one of the following dispositions:

(1) Lectured and Released First Offense. This disposition is used when the juvenile has been arrested for the first time for a nonserious offense and the child's attitude about being arrested demonstrates to the police officer an understanding about the offense committed.

(2) Lectured and Released Other. This disposition is used on subsequent arrests where the offense does not require more than a verbal reprimand.

(3) Insufficient Evidence. There is not enough evidence to refer to the prosecutor.

(4) Refusal to Prosecute. The complaintant refuses to press charges.

(5) Not Involved. When a juvenile is in the vicinity where an offense was committed but did not take part in the activity.

(6) Refused by DA. Indicates that the police feel there is sufficient evidence to warrant sending the case to court but the district attorney refuses to prosecute. The reason for the refusal is not indicated.

(7) Referred to Other Agency. The police may at the discretion send a juvenile directly to a youth service organization. This disposition is used infrequently.

(8) Runaway. This disposition is always used when the juvenile has run away from home, school, or a youth service institution.

(9) Other. This disposition is used primarily when a juvenile under 10 years of age commits an offense. The child is lectured and released regardless of the offense.

The schematic drawing (Figure B.3) follows the information about a juvenile arrest through the police system to the court system.

An arresting officer fills out a Juvenile Case Summary Sheet concerning the custody and incident information and the details of the incident. This information is given to the Receiving Officer who determines what immediate

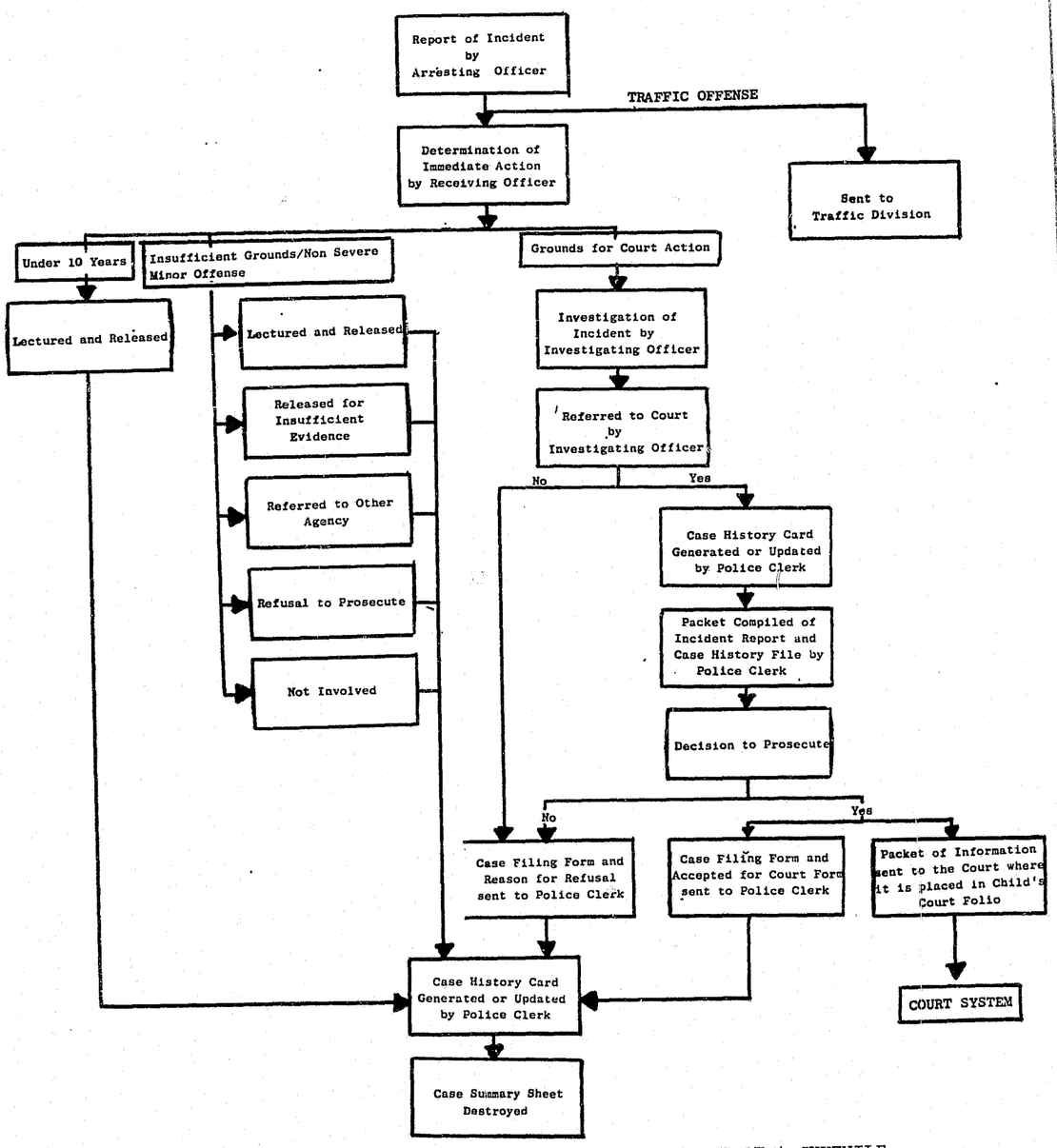

FIGURE B.3 DENVER'S INFORMATION SYSTEM FOR AN ARREST OF A JUVENILE

action will be taken with the juvenile. If the juvenile has a good attitude, the offense is not severe, and the juvenile does not have a criminal history, the Receiving Officer may call the parents and lecture and release the juvenile. The Receiving Officer would then complete the detention-referral information on the case summary sheet. This sheet is given to the clerk who records the information on a Case History Card. Once a card has been generated for an individual, information about additional arrests are added and personal history is verified and, if necessary, updated.

If the Receiving Officer feels there are grounds for court action, the summary sheet is turned over to an Investigating Officer who follows up on the investigation of the incident in greater detail. The Investigating Officer determines the involvement of the juvenile, completes the back of the summary sheet, and marks the disposition accordingly. If he feels there is sufficient evidence for a conviction, he will refer it to the district attorney's office and indicate on the summary sheet that the case has been referred to the court. This summary sheet, along with any other paperwork on the juvenile, is given to the clerk who then pulls the case history card (or generates one for first offenders), enters the offense, and reproduces the card for inclusion in the packet of information. This packet is reviewed by the district attorney. If he feels there is a strong enough case against the juvenile, it is forwarded to the courts. If, however, he feels there is not a strong enough case, the summary sheet and a reason for refusal sheet are returned to the clerk. The clerk pulls the case history card and changes the disposition from "Referred to Court" to "Refused by DA." The reason for the district attorney's refusal is not recorded.

An average of 280 Juvenile Case Summary Sheets are filled out each week; about 25 are referred to the district attorney's office each week and of those, about 5% are refused.

Much information about a particular offense is lost since the case summary sheets are destroyed by the police department once the final disposition is reached. If, however, the case goes to court, a copy of this sheet

is placed in the child's court folio record. With only 8% of the total number of cases filed at the police station reaching the courts, there is not a sufficient amount of data to conduct a valid study on the details of offenses in our study. The accuracy of the data found on the case history card is as reliable as the original information taken from the case summary sheet. It is checked several times for accuracy by the clerks before the case summary sheet is destroyed.

Traffic offenses are not recorded on the case history cards. This information is, however, recorded in the Traffic Division of the police department along with the adult traffic offenses. These files were not examined.

Police data for this project was collected from the case history cards. Civilians employed by the juvenile division to maintain their records were employed by SRI to code this data. Information obtained included the arrest number, date of arrest, offense(s) and police disposition. The information was copied from the case history card to a specially designed coding form (Figure B.4).

The search of the police records of our sample population of juveniles and their siblings revealed the following information (see Table B.1). Siblings who may have turned 18 years old during this study period were not followed through into the Denver adult police records.

Table B.1 DELINQUENCY AND INCOME MAINTENANCE JUVENILE POPULATION FOUND IN THE DENVER POLICE FILES

	Juveniles			Siblings		
	Searched	Found	Percent	Searched	Found	Percent
Male	335	115	34	399	141	35
Female	300	62	21	394	89	23

Last name first

Date of Birth

SRI No.

DPD No.

Page No.

Coder

DENVER JUVENILE POLICE FILES

ARR. No.	DATE MO DA YR	OFFENSE	Leave Blank	DISPOSITION (Circle One)	Leave Blank
				R/F LR1 LRO IE RP NI RDA ROA RA Other	
				R/F LR1 LRO IE RP NI RDA ROA RA Other	
				R/F LR1 LRO IE RP NI RDA ROA RA Other	
				R/F LR1 LRO IE RP NI RDA ROA RA Other	

Continued

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1-76

DISPOSITION: R/F = Referred to Juvenile Court LR1 = Lectured and Released-First Offense LRO = Lectured and Released-Other IE = Insufficient Evidence RP = Refusal to Prosecute
NI = Not Involved RDA = Refused by D.A. ROA = Referred to Other Agency RA = Runaway

B-9

FIGURE B.4 DENVER'S JUVENILE CODING FORM

B.2 Adult Police Records

Permission to access the adult police records was obtained from Albert R. Sestrich, Chief of the Adult Division; and Nelson R. Love, Commander of Records and Identification, Denver Police Department. Their cooperation and help in this portion of the data collection was greatly appreciated. Adult police records (rap sheets) are maintained in manila folders, arranged numerically. To access them, the name of an individual is located in the card index file first by sex, then alphabetically. The card lists the name of the individual, any known aliases, birth date, Denver Police Department ID number, FBI number (if any), brief physical description and sometimes the last known address. Not all cards relate to criminal offenses. For example, individuals who are city or county employees, or who have applied for a business license, will be included in this card file.

With the police ID number, the individual's manila folder can then be pulled. The rap sheet (Figure B.5) contains the same identifying information as well as information on any date of arrest, the name the individual used, the offense(s) the individual is charged with, and when available, the date and disposition of a particular offense. Rap sheets prior to 1968 are kept on microfilm. The rap sheet information is generated by the Denver Police Department from arrest reports made out by the arresting officer and recorded by police technicians and clerks. Raps sheets may also be supplemented with arrests by other police departments or the FBI if information is received by the Denver Police Department. This information is entered on the rap sheet only if it relates in some way to Denver's proceedings, such as being a Denver resident or a continuation of a particular arrest which the Denver Police have been following.

Data on the parents of the study's juveniles was collected by police technicians. A coding form similar to the one used for the Denver juvenile records was used (Figure B.6). It contained of the Denver ID number, FBI number, if any, date of arrest, and offense(s). The date of disposition and the final disposition of an offense was coded if it could be determined.

NAME: FBI No.:

AKA: DENVER ID No.:

(Birth Date, Physical Description, Last Known Address)

DATE	NAME	OFFICER'S NAME	CHARGE	DATE	DISPOSITION

FIGURE B.5 DENVER'S ADULT RAP SHEET

NAME ______________
Last Name First

Date of Birth ☐☐☐

SRI No. ☐

Coder ______________ ☐

DPD No. ☐

☐
Page No.

FBI No. ☐

· DENVER ADULT POLICE FILES

ARREST NO	ARREST DATE (MO DA YR)	CHARGE (Original)	Leave Blank	DATE	CHARGE	PENALTY	Fine	Prison/ Jail	Leave Blank
___	☐☐☐	______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	$ ___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
___	☐☐☐	______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
___	☐☐☐	______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
___	☐☐☐	______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐
		______	☐	☐☐☐	R O I	A D F J Pe Pr R RO S No Info	___	___	☐

DISPOSITION (Circle appropriate response(s))

Continued ☐

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1-78

PENALTY: A = Acquitted D = Dropped, Dismissed F = Fined J= Jailed, Prison Pe = Pending Pr = Probation R = Restitution RO = Referral to Other Agency S = Suspension

CHARGE: R = Reduced O = Original I = Increased

FIGURE B.6 DENVER'S ADULT CODING FORM

Where earlier offenses were recorded on microfilm, the microfilm records were accessed.

When coding the disposition from adult rap sheets, the charge was put into one of three categories: original, reduced, or dropped. An individual may have been arrested on suspicion of grand theft and later charged with grand theft. The suspicion of grand theft would have been coded as dropped and and grand theft would have been coded as original. If, however, the arrest was for grand theft but the charge had been theft, it would have been coded as a reduced charge. The penalties were collapsed into 10 categories.

1. Acquitted: Released; absolved; purged of an accusation; judicially discharged from accusation; released from debt; not guilty.

2. Dropped, Dismissed: Insufficient evidence; victim refuses to press charges.

3. Fined: To sentence a person convicted of an offense to pay a penalty in money.

4. Jailed; Prison: Whenever an individual spends time in a secured facility.

5. Pending: When the disposition of a particular charge has not been resolved.

6. Probation: Whenever an indiviudal has been convicted of an offense but is allowed to go at large and may or may not be under the supervision of a probation officer.

7. Restitution: The act of making good or giving equivalent for any loss, damage, or injury.

8. Referral to Other Agency: Whenever a person is referred to a community agency, i.e., an alcohol program, defensive driving program; a state agency, i.e., mental hospital, division program; federal agency, i.e., federal prosecutor, police.

9. Suspension: Whenever an individual has been convicted and sentenced for an offense but does not have to pay either the fine or serve time.

10. No Information: When the disposition for a particular offense was left blank.

A search of the 738 parents of the juveniles disclosed 160 or 22% had some type of police record.

Table B.2 DELINQUENCY AND INCOME MAINTENANCE ADULT POPULATION FOUND IN THE DENVER POLICE FILES

	Parents		
	Searched	Found	Percent
Male	250	104	42
Female	488	56	11

One of the difficulties encountered during the coding of the adult data was the matching of the disposition with the proper offense. Other problems encountered included missing data and the continual change in the way offenses and dispositions were entered on the rap sheet. Also some records had been destroyed by vandalism.

It is recommended for future studies that the coding form used for collecting data from the adult rap sheets be either expanded to reflect more accurately the disposition of an offense or collapsed to a few basic categories. At present SRI's limited categories of dispositions do not allow for the variety of dispositions found on the rap sheets. When coding the dispositions, they were forced into categories that did not reflect their true meaning. A more realistic approach to coding the dispositions would be to have only three categories: (1) dropped, (2) found guilty, or (3) no information available. With most of the coding time being spent determining the type and extent of guilt, this procedure would be more cost effective.

B.3 Juvenile Court Records

Juvenile court records were examined to determine their usefulness for the project. It was decided that the records would not be coded but the system would be studied carefully. The juvenile court records are filed by folio number and indexed by an alphabetical card file. Youths who have been referred to the court system because of a criminal offense, CHINS (Child in Need of Supervison) in special cases, and ruaways also in special cases have court records.

The single most important sheet in the juvenile's court folio is the "History Sheet" that lists all of the individual's court encounters. It contains the following information.

- The charge from the district attorney. This charge is not always the offense the individual was charged with by the police.
- Date the complaint was received in Central Records of the Juvenile court. (This date could be as long as a month after the offense was committed.)
- Docket number if the case goes to court, or an unofficial number if the youth is reprimanded, given informal supervision, or referred to CHINS.
- Disposition, which is generally, but not always, the complete disposition.
- Date of completion.

Using the history sheet as a guideline, the rest of the folio can be searched for information pertaining to the particular offense. The folio may include any of the following:

- Mittimus (a warrant of commitment to prison)
- Court orders
- Terms and conditions of probation
- Motions and other legal documents

- Writs
- Petitions
- Summons
- Informal adjustment forms
- Waiver of service
- Police complaint and DA's analysis sheet
- Detention referral sheet
- Denver Police Department's case summary sheet
- Social history sheet
- Progress notes
- Case dictation
- Predispositional reports
- Agency reports
- Psychological evaluation
- Medical reports
- School reports (very rarely are these included)
- Detention reports
- Referral forms
- Permission forms.

It is the responsibility and up to the discretion of the probation officer to maintain as complete a folio as necessary.

A number of records were examined using the list of male juveniles. This court information was recorded on the police file data sheets to examine the compatability of offenses the juvenile was charged with. For every police disposition of "Referred to Juvenile Court" there should be a court disposition. The exceptions to this rule include the police

department's prerogative of sending a juvenile to a Youth Service Camp on their first offense, the youth moving to another county prior to their court hearing, the youth being an out-of-county resident at the time of the offense, or for any unknown reason the data was never included in the folio.

There are unique aspects to the information when a youth is either a nonresident of Denver County or a Denver resident who has committed an offense in another county. The nonresident can be tried in the Denver County court system or can be sent to the county court of their residence. The general procedure is as soon as the court's Record Division receives the paperwork from the DA's office, the county of residence is notified of the offense and a request for handling the case is sought. The county of residence can ask to try the case themselves, or have Denver County try the case up to disposition or try the case through disposition. At whatever point the request if made, all paperwork on the case is sent to the county of residence, leaving none on that case in the folio.

The same procedure is followed for a resident of Denver County committing an offense that is brought to the attention of the courts in another county. Denver County prefers the youth be tried in the county the offense was committed up to the disposition hearing. Dispensing their own disposition allows for easier handling of the youth.

B.4 Juvenile Hall Detention

One other type of information that we investigated was the amount of time a juvenile is kept off the street by being in a locked facility. Information on each youth held at Juvenile Hall is maintained on cards. Each time a youth enters the system, a new card is made and theoretically stapled to any previous card(s). These cards, however, are often misplaced, misfiled, or lost. If a card which they need cannot be found on an individual, another is made up. We concluded that measurement of time "off the street" using Juvenile Hall records was too unreliable to be of use in this project.

Discussions with Juvenile Court and Central Records officials indicated a juvenile actually spends very little time "off the street." Sixty-five percent of the juveniles taken to Juvenile Hall are released within 48 hours and 17% are never booked if their parents come for them immediately. CHINS are held an average of five to seven days since they usually cannot make bond or they cannot be placed. "Overflow" juveniles, those from other counties where they have run out of facilities to house them, are held a longer period of time because the respective county does not come for them.

B.5 Other Agencies

With the ease of travel and close proximity of counties surrounding Denver city and county, the likelihood of juveniles committing offenses in areas outside Denver would seem to be quite high. To examine this hypothesis, two of the police departments and two of the three county juvenile court systems were contacted.

Cities in Jefferson County, located to the south and west of Denver, are required to send to their county's juvenile court contact cards on each juvenile. These cards are filled out by all police departments when they do not want to file (i.e., haven't enough evidence to send the juvenile to court). The contact card system, however, is not uniform. Some cities will send in a contact card on all offenses except status offenses, some only on delinquent offenses, some only where the juvenile has been taken into custody. In addition, the police departments may use their discretion in forwarding the cards. If, after the juvenile contact card is received by the county other cards are found on file, the probation department may notify the police and request they file changes on the juvenile. This action may not be carried out if the previous offenses are not of a serious nature.

When a nonresident juvenile commits an offense, the police departments are more likely to reprimand and release the juvenile than to refer them to court since it requires much more paperwork. Thus, these cases might never

be recorded except in the police files. Police departments generally maintain an alpha card file on all juveniles committing an offense whether resident or nonresident. The information on the card varies from city to city.

Court filing papers are filled out on all juveniles being referred to court. Both court filings and multiple contact card listings are sent to the probation department where folders for each juvenile are made or updated. Jefferson County logs all court filings alphabetically by last name on roll-a-dex wheels and places all contact cards in files. The same information is also entered in the state-wide computer system that is currently being implemented.

Adams County, located northeast of Denver, has been using an alpha card index and is presently using a computer system to record all contacts sent to them by their police departments. During the summer of 1976, Adams County began putting all of their court case information on-line. Between 1970 and 1976 some of their court cases were put on-line but all information was kept on card files in alphabetical order also. As juvenile comes to the attention of the courts now, any previous information kept on file cards is put on the computer as well as the most recent offenses. Their card file will remain active until all juveniles are either placed on the computer because of renewed police contact or they reach their 18th birthday.

B.6 Computer System

The computer system being implemented throughout Colorado has been in development since 1970. There are seven counties at present who have computer facilities: Adams, Arapahoe, Boulder, Denver, Jefferson, Pueblo, and Weld. They are in various stages of entering their data on the system. It is anticipated that it will be some time before this system is state-wide and completely functioning.

Information retrieved from the two county's court systems consisted of whether the juveniles and siblings in our study had appeared in their courts on delinquent offenses.

The following table indicates the number of youth found in the county's court system outside Denver. The Denver data may include charges other than delinquent offenses, i.e., abused child, nonsupport.

Table B.3 DENVER YOUTH FOUND IN COURT SYSTEMS

	Sample Size	Jefferson County Number of Juveniles	Jefferson County Percent	Adams County Number of Juveniles	Adams County Percent	Denver County Number of Juveniles	Denver County Percent
Juvenile							
Male	335	8	2.4%	4	1.2%	60	17.9%
Female	300	3	1.0	2	0.7	23	7.7
Sibling							
Male	399	5	1.3	8	2.0	72	18.0
Female	394	1	0.2	1	0.2	35	8.9

APPENDIX C. SEATTLE DATA COLLECTION*

C.1 Juvenile Police Records

Police records in the Juvenile Division of the Seattle Police Department were searched for recorded contacts with the 776 juveniles and 968 siblings so designated in the sample. Captain E. E. Knechtel, Chief of the Juvenile Division, Seattle Police Department, and his staff were extremely cooperative and rendered invaluable assistance.

Police records in the Juvenile Division which are "current" include all juveniles born January 1, 1960 or later. In addition, the Department had retained the record cards on all clients born in 1959, 1958, or 1957 in separate drawers. These Juvenile Police Records, which are filed alphabetically are maintained on 4 x 6 inch cards, called "Juvenile Name Card" (Figure C.1). In addition to identifying information, both sides of the card, and any subsequent cards, contain the arrest record. This information includes: (1) date of offense; (2) violation; (3) disposition; (4) case number; (5) school; and (6) name of arresting officer. The 4 x 6 card is prepared from information obtained from the arresting officer's citation or detective's report. In addition, a packet is maintained for each juvenile which contains the arresting officer's citation, the detective's report, and any other pertinent information about the violations(s).

*This appendix was prepared by Doris Cottam who supervised the Seattle data collection.

FORM 11.9
REV. 1-16-62
CSS 21.4

JUVENILE NAME CARD

MUG NO.

LAST NAME	1ST NAME	MIDDLE INIT.	ADDRESS
NAME OF PARENTS			ADDRESS
J NO.	DATE OF BIRTH		PHONE

DATE	VIOLATION	CASE NO.	SCHOOL	OFFICER

FIGURE C.1 JUVENILE NAME CARD

The disposition indicated on the Juvenile Name Card refers only to police disposition, not Juvenile Court disposition. Cases not referred to Juvenile Court receive one of the following dispositions:

(1) Adjusted. This disposition is usually made with the cooperation and knowledge of the parent or guardian. It is normally used when a juvenile has been arrested the first time for a nonserious offense, or subsequent minor offenses, where the officer feels that the child's attitude demonstrates his awareness of what he has done and his regret. There is an exception to this. If adjusted is indicated where offense was "Minor Consuming" or "Possession of Marijuana," then the adjustment is a referral to Human Resources Alcohol and Drug Informnation classes.

(2) Investigate and Release. There is insufficient evidence to charge the juvenile.

(3) Exceptional Clearance. Usually the victim refuses to prosecute.

(4) Information. This disposition is not currently used. When it was used, it meant the child had been involved in an offense but the officer made a decision to take no action. However, the officer wanted a record of the involvement should the child have a police contact in the future.

(5) Referred to Other Agency. The police may refer a juvenile directly to a youth service organization. In Seattle this is an infrequent practice. The following constitute the direct referrals:

a. R/CPS--Referred to Child's Protective Service.

b. R/NEJCC--Referred to Northeast Juvenile Court Conference Committee.

c. R/MBYSB--Referred to Mt. Baker Youth Service Bureau.

d. R/BFYSB--Referred to Ballard/Fremont Youth Service Bureau.

e. R/WSJCC--Referred to West Seattle Juvenile Court Conference Committee.

f. R/SEYSB--Referred to Southeast Youth Service Bureau.

g. R/QAJCC--Referred to Queen Anne Juvenile Court Conference Committee.

Traffic offenses are not recorded on the juvenile's cards if the juvenile completes classes at traffic school, to which he has been referred. If he fails to complete classes, the offense is listed on the card and the juvenile is normally referred to Juvenile Court.

The arresting officer has great discretionary powers when making contact with a juvenile. He may release the child and make no report of the incident; he may issue a citation and release the child to parents or guardian, or he may present the child to a Juvenile Division detective for detention. The detective, with concurrence of the Sgt. of Detectives, may call in the parents and child and adjust the offense, or he may refer the child to detention and/or Juvenile Court. The information on the detective's report is entered on the Juvenile Name Card and then filed in the juvenile's packet. Copies of the detective's report are forwarded to the prosecutor's office in those cases where the juvenile is referred to Juvenile Court.

Police data for this project were obtained by Xeroxing the Juvenile Name Cards. These Xerox copies were forwarded to SRI where the information was transferred to a specially designed coding form (Figure C.2).

The search of the police records of our sample population of juveniles and their siblings revealed that 40% of the juveniles and 28% of the siblings had police records. Juveniles and siblings who turned 18 years old during this study period were followed through the Seattle adult police records. One hundred twenty siblings, or 12.4%, and 43 juveniles, or 6%, were found to have adult records.

C.2 Juvenile Court Records

Permission to access King County Juvenile Court records was obtained through the King County Superior Court. Edna Goodrich, Director, King County Department of Youth Services and her records staff went out of their way to be cooperative and rendered invaluable assistance.

NAME _____
Last name first

Date of Birth [ ][ ][ ]

SRI No. [ ][ ][ ][ ][ ][ ][ ]

SPD No. [ ][ ][ ][ ][ ][ ][ ][ ] Page No. [ ]

Coder _____ [ ]

SEATTLE JUVENILE POLICE FILES

ARR. No.	DATE MO DA YR	OFFENSE	Leave Blank	DISPOSITION (Circle One)	Leave Blank
	[ ][ ][ ]			R/F LRI LRO IE RP NI RDA ROA RA Other _____	
	[ ][ ][ ]			R/F LRI LRO IE RP NI RDA ROA RA Other _____	
	[ ][ ][ ]			R/F LRI LRO IE RP NI RDA ROA RA Other _____	
	[ ][ ][ ]			R/F LRI LRO IE RP NI RDA ROA RA Other _____	

C-5

Continued [ ]

6/67
1-76

DISPOSITION: R/F = Referred to Juvenile Court LRI = Lectured and Released-First Offense LRO = Lectured and Released-Other IE = Insufficient Evidence RP = Refusal to Prosecute
NI = Not Involved RDA = Refused by D.A. ROA = Referred to Other Agency RA = Runaway

FIGURE C.2 SEATTLE JUVENILE CODING FORM

The King County Juvenile Court records are filed alphabetically on color coded 3 x 5 cards. The color code is as follows:

Blue Card--Parent Card. This card is filed under the parent's name and theoretically any of their children who have been processed through the Court System are listed on the card. In practice, this is not always observed, and some juveniles do not have a parent card in the file.

Salmon Card--This card indicates the child has been adjudicated by the Juvenile Court. The card is filed under the child's name and lists date of birth, parent's name and the social service file number.

The Social Service file includes a "Summary of Court Referrals" form (see Figure C.3). The data for those in our sample population who had been adjudicated were taken from this form, including identifying information, date referral received, date of violation, source of referral, the violation, the disposition date and disposition. The dispostions notice on the files examined were:

(1) Adjusted--the child is released to parent or guardian with no penalties stipulated.

(2) Adjusted with conditions--The child is released to parent or guardian but is required to meet certain conditions such as community service or restitution.

(3) Probation (informal)--The child is placed on probation for a stipulated period but is not required to report to a probation officer.

(4) Probation (supervised)--The child is placed on probation for a stipulated period but is required to report at regular intervals to an assigned probation officer.

(5) Suspended commitment to Department of Institutions.

(6) Placement in group homes or foster homes.

(7) Diagnostic commitment to Cascadia.

(8) Commitment to institutions.

SUMMARY OF COURT REFERRALS (Form No. 6082 R 4/76)

Last Name	First Name	Middle Name	Social No.	Legal No.

Date Received	Date Occurred	Referred by and Reason	Disp. Date	Disposition

FIGURE C.3 SUMMARY OF COURT REFERRALS

(9) Offense reduction.

(10) Granting or revocation of parole.

(11) Declines or removals--The child is waived as a juvenile and sent to adult court.

There seems to be little consistency in some of the dispositions; for example, "Adjustments" seemed to be imposed for first offenses or subsequent minor offenses. The disposition also seemed to be used as some type of informal probation.

When the juvenile is referred to Juvenile Court, he/she is assigned to a case worker who is responsible for completing and updating the "Summary of Court Referral" form which is the first form in the Social Service File.

In addition to the "Summary of Court Referrals" the Social Service File may include any or all of the following:

- Mitimus (a warrant of Commitment to an institution)
- Court orders
- Terms and conditions of probation
- Motions and other legal documents
- Writs
- Petitions
- Summons
- Formal adjustment forms
- Waiver of service
- Police citation
- Juvenile Division Detectives' report
- Arresting Officer's report
- Social history sheet
- Progress notes
- Case dictation
- Predispositional reports
- Agency reports

- Psychological evaluation
- Medical reports
- School reports
- Referral forms
- Permission forms.

There is one Social Service File number assigned to each family. The first child to enter the system receives the original number, and any additional children receive the same number followed by an A, B, C, D, etc. A separate file is made for each child, but all family files are banded together and filed.

White Card--This card is filed under the juvenile's name and indicates date of offense, referral source, and violation. This card, almost without exception, indicates a diversion and the card indicates the agency to which the child was referred.

Green Card--This card is filed under the juvenile's name and indicates the matter was adjusted and an adjustment letter sent to the parents. It includes information on the date of violation, referral source and the nature of the violation.

Hot Pink Card--This card is filed under the juvenile's name and indicates one of two procedures: 1) Traffic violation where juvenile has been referred to Traffic School, and 2) "Permit"--This indicates the court has granted permission to the police department for photographing and fingerprinting of juvenile. When this notation is present the research assistant searched an alphabetical file of Court Orders and ascertained what violation was involved.

The data collected for this project came from the Social Service File and those color coded cards which contained information regarding offenses. The information for juveniles in our sample on the "Summary of court Referrals" was copied onto a blank "Summary of Court Referrals" form as was the information from the color coded cards. The source of referral on these

records, in addition to Seattle Police Department, included other cities in King County, other Counties, King County Sheriff's Office, parent or guardian of the juvenile or the juvenile. These forms were transmuted to SRI for processing and analysis.

C.3 Adult Police Records

Permission to access the adult police records was obtained from Chief R. L. Hanson and Captain D. G. Daniels, of the Records, Evidence, and Data Processing Division of the Staff Services Bureau. Ms. Carol Nichols, Supervisor of Records, worked closely with the Research Assistant and her help was greatly appreciated.

Inasmuch as the researchers were not allowed to collect the data, the internal system of records in the Adult Division is not known. Data on the parents, and other siblings and juveniles, were calculated by police technicians. The Social Research Center submitted a form No. 5.4 "Seattle Police Department Records Request" for each parent and older juvenile or sibling to the Records Division. Police technicians xeroxed each rap sheet (Figure C.4) that was located, attached it to the Records Request and returned it to the Social Research Center. The rap sheets included identifying information, as well as any alaises used, date of arrests, case number, the offense(s) the individual was charged with, and the date and dispositions of particular offenses. These data were forwarded to SRI for coding on a special form.

A search for the 885 individuals who were parents of the juveniles at the time of enrollment disclosed 108, or 12.2% had some type of police record. In addition a search for 43 additional parents (i.e., parents who were not in the household at the time of enrollment but subsequently lived in the household during the period the clients were active in the program) revealed 16, or 37.2% had some type of police record.

SEATTLE POLICE DEPARTMENT
POLICE RECORDS DISCLOSE THE FOLLOWING LISTED ARRESTS FOR:

DATE	B/A	CHARGE	D.O.B. DISPOSITION

FIGURE C.4 RAP SHEET

END