AN EVALUATION OF THE MONTGOMERY COUNTY COMPREHENSIVE DELINQUENT YOUTH PROJECT

PRC Public Management Services, Inc.

AN EVALUATION OF THE MONTGOMERY COUNTY COMPREHENSIVE DELINQUENT YOUTH PROJECT

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TABLE OF CONTENTS

1.0 INTRODUCTION

This report documents an evaluation of a Dayton/Montgomery County Pilot City sponsored Law Enforcement Assistance Administration (LEAA) grant titled Comprehensive Delinquent Youth Project. The grantee for this project was Montgomery County, Ohio and the implementing agency was the Montgomery County Juvenile Court. The total amount of this grant was $209,052 of which $156,690 were LEAA funds and the remainder was local matching funds. The original grant period was for eighteen months but a six-month extension was granted. Thus, the grant extended from July 1, 1973 to June 30, 1975.

1.1 Project Goals and Objectives

This project was aimed at reducing the participation of persons under 18 years of age in the crimes of larceny, burglary and auto theft. While this was the overall goal of the project, its immediate objectives were stated in the grant application as follows:

1. To evaluate, analyze and develop information and management needs necessary for effective juvenile court operation.

2. To develop and implement a model behaviorally-oriented management and information system for use by various units within the juvenile court on a defined sample of juveniles.

3. To increase the juvenile court's ability to make effective diagnosis and referral.

4. To identify, as defined by the model information system and the resultant conclusions of the experimental demonstration, new forms of treatment that will reduce juvenile participation in crimes.

5. To compare recidivism rates between the experimental group--after implementation of the information and management system to aid in diagnosis and treatment and the control group within priority area #2 of the City of Dayton.

6. To demonstrate the value of a court management system to the total court community.

7. To determine the effectiveness of various diagnostic techniques within the experimental group sample.

1.2 Expected Impact and Results of the Montgomery County Juvenile Court Youth Project

The grant application stated that all project activities be designed to insure that an effective court information and management system will be established in the following:

1. Current juvenile participation in arsons, burglary and auto theft.

2. Montgomery County Juvenile Court operations that will result in:

   a. Improved diagnosis of delinquent behavior by the court.

   b. The establishment of specific requirements for community based treatment of juvenile offenders.

   c. Integration of diagnostic techniques within the educational system that will affect early detection of delinquent behavior.

   d. Interface with local and state information system.

e. The establishment of specific requirements for countywide youth services.

f. Improved court management techniques through the design and implementation of modern administrative, organizational and operational methods.

g. Determination of the roles of various court personnel in relation to the total system.

h. Identification of inter-relationships among various components interfacing with the juvenile justice system.

i. An increased capability to deliver a far more superior quality of service to delinquent youth.

3. Future juvenile recidivism.

4. Community resources and services provided to delinquent youth for treatment.

5. Future participation in crime as adults by former juvenile delinquents.

1.3 Background of the Project

The direct cause for the development of this project can be traced to a 1972 Pilot City study entitled Crime and the Community: A Preliminary Glance. This study, directed by Dr. John Cordrey, found that Dayton's crime problems were significantly concentrated in ten census tracts. These tracts, containing only 18 percent of the City's population, accounted for 34 percent of all assaults, 39 percent of all robberies, 30 percent of all burglaries, 22 percent of all larcenies, and 34 percent of the auto thefts. More significantly for this project, the Cordrey study that juveniles accounted for a number of these crimes grossly dispproportionate to their representation in the population. More specifically, juveniles were apprehended for over 40 percent of all breaking and entering arrests, nearly 50 percent of larceny arrests and over 60 percent of the auto theft in the City of Dayton.

Thus, this study pointed out the nature of the problem. Given this problem identification, Pilot City staff developed a project designed to deal with the juvenile delinquency issue with particular focus on recidivism among juvenile offenders.

It was decided that the most logical place to focus this project was within the Montgomery County Juvenile Court since it appeared that this was the best place to intervene in the lifestyle of troubled youth. As the grant application for this project pointed out:

> The solution to the problem... is earlier detection of juvenile delinquents, better diagnosis techniques and a greater variety of treatment facilities.

In the State of Ohio, the constitution vests judicial power in the Supreme Court, the District Court of Appeals, and the Courts of Common Pleas. There is a Court of Common Pleas in each of Ohio's eighty-eight counties. In Montgomery County, the Common Pleas Court is divided into three divisions: (1) Probate, (2) Common Pleas and (3) Family Court. The Juvenile Court is one part of the Family Court Division and the Domestic Relations Court is the other. The jurisdiction of the Juvenile Court involves matters involving persons under 18 years of age including: delinquent, neglected, unruly, dependent and juvenile traffic offenders.

Figure 1 illustrates the organization structure of the court.

The MCJC docketed 9,031 cases in 1974 and disposed of 9,063 cases. Of this total, 1,758 cases involved "unruly" children and 5,255 cases involved delinquent youth.

Sentencing data from the MCJC indicated that 140 children were incarcerated with the Ohio Youth Commission, 693 children were placed on probation, 38 children were placed in foster homes, group homes, or halfway houses, and 163 children were placed in diversion programs. The latest available data on total dispositions is from 1972 and shows the following dispositions on 6,156 delinquent and unruly children:

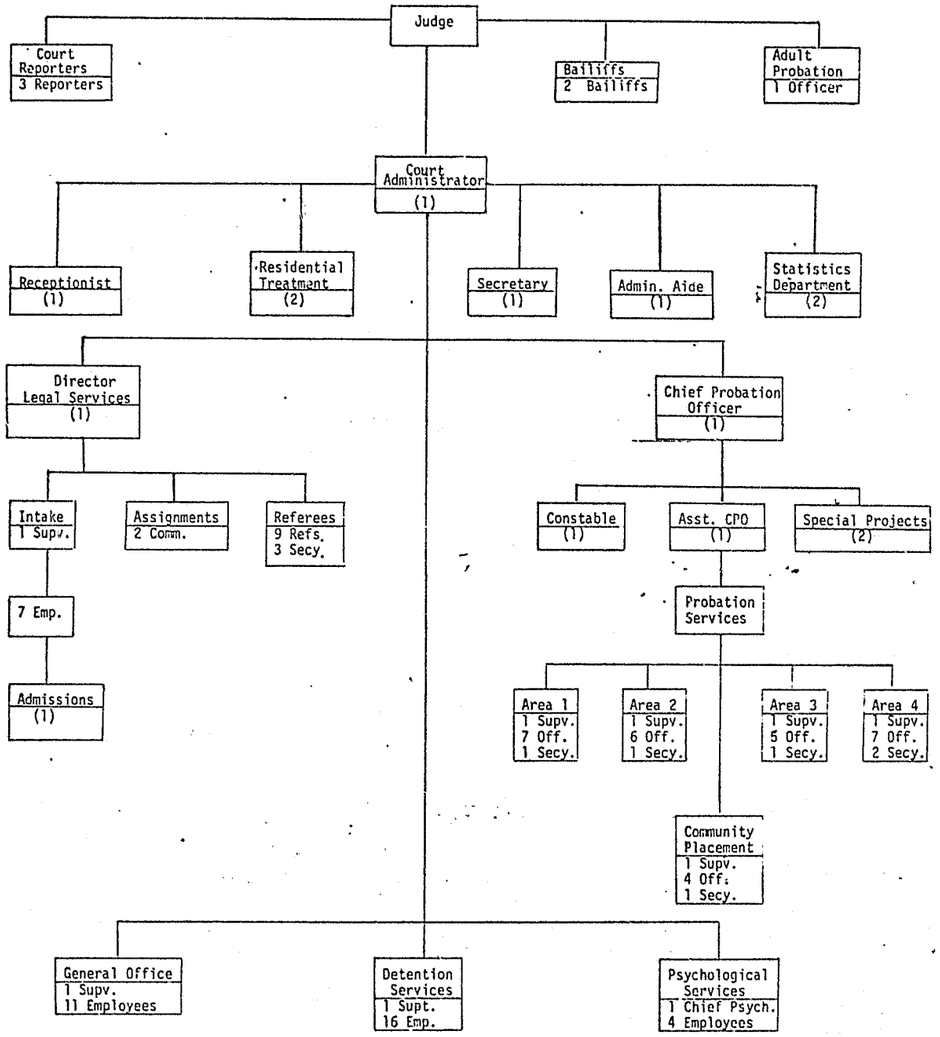


Figure 1
Organization Structure
Montgomery County Juvenile Court

- 217 were committed to the Ohio Youth Commission, an increase of 93 commitments over 1971.
- 3,129 were adjusted and admonished, an increase of 595 over 1971.
- 740 were placed on probation, an increase of 12 over 1971.
- 662 were referred to other services--a decrease of four referrals compared to 1971.
- 202 were given fines and costs, a decrease of 148 from 1971.
- 103 received suspended commitments to the Ohio Youth Commission.
- 26 were committed to other facilities, a decrease of 17.
- 865 cases were dismissed.
- 212 received a variety of other dispositions.

Given this background, the grant application noted the following in relation to the need for the proposed project:

> At present the Montgomery County Juvenile Court is lacking management techniques that supply court personnel with the quantity and quality of behavioral history information necessary to make adequate diagnosis and referrals. In addition, the court feels that present treatment resources need evaluation and perhaps revamping, and alternative treatments need to be identified.

In support of this assertion, the grant application set forth a variety of information on the problems of juvenile recidivism. The most salient points from this dissertation are paraphrased below:

- National data indicate that 77% of apprehended juvenile recidivate before age 18 and 90% of arrested persons over 18 have juvenile records.

- Juvenile arrests in Montgomery County for persons under age 18 doubled from 1960 to 1970 for Part I offenses.

- A Pilot City study of 400 juvenile offenders indicates a 56% recidivism rate; however, 95% had more than one official or unofficial contact with the court.

The application noted that these data show "that there is a definite need for more effective diagnosis and treatment of arrested juveniles." The grant asserts that an improved information management system would significantly increase its ability to determine accurate diagnosis and referral. Further, it is stated that such a system would allow the court to evaluate the effectiveness of available treatment modalities in the community.

The grantee proposed to develop such an information and management system in three distinct phases:

- Phase I was to be devoted to a survey of the existing system and development of the management information system design.

- Phase II was to consist of all tasks required to implement the information system.

- Phase III was to utilize the information system in a demonstration project.

The grant application provided a brief discussion of each of these phases. Prior to discussing each phase, it is first necessary to discuss project staffing. The application proposed to utilize a mix of court personnel and contractors to perform the work. The court staff was to provide operations skills and the contractor was to provide information systems and research skills. The grant provided for the hiring of a systems analyst as program coordinator. The duties of this analyst, as specified in the application, were to:

- Coordinate the efforts of the contractor consulting team.

- Develop guidelines for analyzing existing diagnostic and treatment services.

- Formulate alternative approaches to the diagnosis and treatment process and coordinate the demonstration project involving the experimental and control sample of juveniles.

The specific tasks of all comprehensive delinquent youth project participants were set forth in a time table in the grant application. This table is duplicated in Figure 2.

Phase I, as noted, was to encompass the following:

- Conduct of an extensive survey of existing information handling techniques for each unit with the juvenile court.

- Based on this survey, develop the detailed design specifications for the juvenile court management information system.

This design was to include specifications for input record formats, output report formats and file record layouts.

Phase II was to include translating the Phase I design specifications into an operational system. This phase was to include all writing, testing and debugging required computer programs.

Finally, Phase III was to be devoted to a demonstration project to test the operational management information system. The stated aim of this demonstration effort was to determine the effectiveness of existing and new diagnosis and treatment resources. Specifically, the grant application

proposed to utilize an experimental sample group of arrested juveniles from one of the City's high school districts and a control group from a comparable high school district. Both groups were to be drawn from the priority board #2 area of the City of Dayton. It was proposed that the experimental group would be subject to the "new and/or improved diagnosis and treatment procedures" developed under this grant and existing court procedures would be applied to the control group. A comparative analysis was to be performed at the end of Phase III to determine the efficacy of the new procedures.

In essence, the foregoing describes the intent of this project as set forth in the original grant application. A number of changes did, however, occur in the design intent and these will be described in the next section which presents the PMS evaluation plan for this project.

2.0 EVALUATION PLAN

PMS initially developed an evaluation design for this project based on the grant application itself. It should be specifically noted that this grant project began in June 1973 and PMS was not selected as evaluation contractor for this and other Pilot City Projects until almost mid-1974. Thus, the project had been in operation for almost a year prior to any PMS involvement. As consequence, much project activity, major decisions, and direction of the Comprehensive Delinquent Youth Project had taken place.

The initial evaluation design concentrated on determining the degree of achievement of the specific objectives set forth in the grant application. This was submitted to Pilot City and MCJC staff for review and comment. A copy of this evaluation design is shown in the Appendix. This review process disclosed that a number of changes had occurred in the project design that had to be accounted for in the evaluation. Each of the changes will be discussed below.

First, the stated overall goal of this project was to reduce participation in the crimes of larceny, burglary and auto theft by persons under 18 years of age. This goal was to be achieved in a specific target area. This target area was defined in the grant application as encompassing ity of Dayton Priority Area 2. The juvenile population of this area was 10,351 juveniles (under age 18) in 1970. The grant application estimated that "approximately 700 youth from this area will have contact with the Juvenile Justice System."

Given this overall goal, PMS requested that the court obtain baseline data on the reported rate of participation of persons under age 18 in the crimes of burglary, larceny, and auto theft. We assumed, on the basis of the grant application, that the data would be collected from the target area and other sections of the county.

The court then informed us that their investigations of exactly how many juveniles were placed on probation from Priority Area 2 disclosed that there were too few probation cases from this area to conduct a valid analysis.

Thus, for the research portion of the project, it was decided to obtain sample data on juveniles entering the court's jurisdiction from the entire county with the exception of Probation Sector 4 - which covers the outer reaches of the county.

A number of experimental and control group samples were established and data obtained on each sample.

However, as will become clear later in this report, Phase III of the project which was intended to conduct an experiment with the information system developed in Phase I and II was not accomplished.

Thus, our attempt to measure the impact of the information system on juvenile recidivism became a moot point. To be sure, this grant did create the conditions that will enable such an experiment to be conducted in the future, but it was not possible to conduct it within the time allotted for this project.

Given this situation, it was necessary to focus on other aspects of the project for evaluation purposes. Basically, the following activities were accomplished on this project.

1. A research project was conducted by a contractor, Arthur Young and Company which provides the court with profiles of juveniles entering the system to enable the court to develop treatment plans. This research project was based on a detailed statistical analysis of experimental and control group samples of juveniles and the effect of past treatments.

2. Automation of certain functions of the MCJC statistical office.

3. Development of a conceptual design of a management information system for the MCJS.

4. Design and implementation of an improved manual information system to support MCJC operations.

5. Initial programming of a computerized management information system.

Again, given that the above products represented the output of this project it was necessary to adopt a more "process" oriented evaluation approach to determine exactly what was accomplished by this project and how and why it was accomplished. In essence, this evaluation represents a case study of the introduction of computer and research technology into a juvenile court setting .

A number of data collection and interview techniques were used to conduct this evaluation. Each of these methods is described below.

1. Before/After Survey of Court Personnel: A questionnaire was developed (Appendix B) and administered to court personnel twice during this project. The baseline instrument was filled out in September 1974 and again in July 1975. The intent of this survey was to determine any change in the perception of court personnel as to the quantity and quality of data on juveniles they were receiving.

2. Evaluation of Documentation: A number of reports were produced by the contractor and grantee on this project. Each of these documents were critically reviewed and evaluated.

3. Personal Interviews: Interviews were conducted on an on-going basis throughout this project with Pilot City Project Monitors, and the Project Supervisor. One-time interviews were conducted with the Court Administrator, Contractor Project Manager, Court Referrees, and Court Probation personnel.

4. Evaluation Questionnaire: This PMS developed instrument was completed by the Project Supervisor at the end of the grant period.

In summary, the intent of this evaluation is to trace the chronology and processes of this project to determine what lessons can be learned from this type of effort.

3.0 PROJECT DESCRIPTION

3.1 Introduction

The purpose of this chapter is to provide a broad overview of the chronology and accomplishments of the Comprehensive Delinquent Youth Project. This description is drawn from materials developed by the grantee and its contractor Arthur Young and Company. The basic source documents used in this description include:

1. Arthur Young and Company: A Proposal to Design, Develop and Implement a Management and Diagnostic Information System for Montgomery County Commissioners, November, 1973.

2. Progress Reports by the Montgomery Juvenile Court to the U.S. Law Enforcement Assistance Administration.

3. Arthur Young and Company, First Quarterly Progress Report, submitted to the Montgomery County Juvenile Court, May 1974.

4. Arthur Young and Company, Second Quarterly Progress Report, Submitted to the Montgomery County Juvenile Court, August, 1974.

5. Arthur Young and Company: Comprehensive Delinquent Youth Project - Phase II Final Report, November, 1974.

6. Arthur Young and Company, Comprehensive Delinquent Youth Project - Detailed Research Documentation, November, 1974.

While several of the above cited documents will be reviewed in some detail later in this report, it is the intent of this chapter to use them simply to develop a descriptive chronology of the project.

3.2 PROJECT HISTORY

This grant was approved in July, 1973. Initial activities involved visits to other juvenile justice agencies to review systems similar to the proposed

"behaviorally oriented" management information system, and to assess project personnel requirements.

A search was conducted in August 1973 to select a Project Systems Research Analyst. By the first of September, Ms. Linda Deiner was hired to fill this position. Ms. Deiner's background was in Political Science, research, and similar fields with a strong interest in information systems.

A request for proposal to procure consultant services was developed by the grantee in August 1974. The RFP was sent out for bid in September. Five bids were received and oral presentations were made by the bidders. The court rejected all bids and decided to rewrite the RFP to make the consultant's activities more precise. During the second RFP procurement process, four bids were received within the dollar amount available for the project. The juvenile court eventually selected the firm of Arthur Young and Company to perform the desired work. Thus, the consultant firm began work in February 1974. During this period, the Systems Analyst conducted interviews with all court personnel in order to develop a detailed understanding of court procedures and functional unit activities. The consultant firm proposed to provide the MCJC with the following products. (quoted directly from their proposal):

- The first product, the Comprehensive Work Plan, would present the detailed work plan, a detailed time schedule and the roles and responsibilities of the personnel and organizations participating in the project for both the information system effort and the research project.

- The second deliverable product, the Progress Report completed at the conclusion of Task 6, also relates to both efforts. This report would present documentation of the current systems, the information needs of the Juvenile Court and our recommendations for the Project Steering Committee. While the most immediate effect of this product will be upon the conceptual design of the information system, the criteria matrix develop in the second task of the research project will constrain or at least prioritize the types of data to be considered as input for the information system.

- The Conceptual Design of the information system, the third deliverable product, relates primarily to the information system effort. The conceptual design will describe a computer oriented processing system that would include much of the statistical analysis to be performed in the research project. However, within the conceptually designed system, these types of analyses would be available on a regular basis for use in both evaluation and as feedback for potential system adjustments.

- The fourth deliverable product, the Detailed Design for the manual system to be implemented during this project, directly effects both the research project and the information system effort. The data base to be used in the research project will be accumulated using the manual system presented in this document.

- The fifth deliverable product, the Research Plan Draft Report will be developed concurrently with the Detailed Design. This report will present the proposed design for the research project, including the proposed statistical techniques, measures, and indices, the proposed treatment alternatives, a summary of the literature research, and the procedures to be used for completion of the research project.

- The final Research Project Documentation, the sixth deliverable product, will include all documentation necessary to complete the research project. Since it will be impossible to accurately evaluate the degree to which the recidivism rates have been effected within the eight month period of the project, it will be necessary for Montgomery County personnel to complete the final evaluation.

- The last deliverable product, the Final Report, will include documentation for both the information system and the research project.

The consultant firm also provided the following statement as to their understanding of the scope of work:

> Our interpretation of the RFP scope of work includes the requirement for an evaluative diagnostic model which necessitates a management information system and research project to evaluate alternative methods of treatment to reduce juvenile recidivism. The proposed model will include diagnostic, treatment and offender information designed to increase the Juvenile Court's ability to make effective diagnosis and referral. The total system developed will then be used as a demonstration project to compare recidivism rates between the experimental group and a control group within a specified priority area of the City of Dayton.

As a preliminary to this, it is essential that a precise determination to be made of the real information needs of the Court. This will insure that the study efforts are directed toward system design and plans that will provide tangible benefits for the courts.

The research component will define alternatives that are applicable and compatible with the needs and resources of the Montgomery County Juvenile Court.

Thus, the first six months of the project were devoted primarily to the hiring and orientation of the Systems Analyst performance of preliminary work, and to the selection of a consultant firm to provide technical services.

Also during this period, a Project Steering Committee held its primary organizational meeting. This Steering Committee consisted of 15 representatives from all of the various components of the MCJC. Flow charts were developed by the Systems Analyst depicting court procedures during this period.

During the third quarter of the Project, the following activities were undertaken:

- It was decided to centralize the statistical information of the court to assure that it would fit into the overall MIS design.
- The contractor began their analysis of the existing information resources of the court.
- The decision was made to implement the MIS on the County computer. However, certain portions of the research required access to a larger computer. Therefore, a duplicate tape of data on the sample of juveniles was developed for running on the University of Dayton's computer utilizing the SPSS (Statistical Package for Social Scientists) canned statistical programs.

Continuing into the fourth quarter of the project, Arthur Young and Company conducted a detailed collection of the data types and forms used by the court as well as extensive interviews with staff to aid in the MIS design.

At this time, a research design was also developed by the contractor. Three samples were to be analysed. One sample, referred to as the experimental group, contained probationers who have committed one of the three target

crimes. A control group of successful probationers who have not committed the target crimes and a randomly picked group from court files were also selected for comparative purposes. During this first phase of the project detailed demographic data were collected and coded for analysis. Concurrent with this effort, court personnel were trained in methods of rating juvenile offenders utilizing "personalogical" techniques developed by the contractor. This method will be discussed later in the report.

As work progressed, the contractor discovered that there was extensive uncertainty regarding funding for the detailed MIS at the county level. As they note in their first quarterly report (p. 1):

> ...the timing of a major committment to automation was unknown. Therefore, a detailed hardware-oriented conceptual design for a management information system seemed premature. After consultation with key personnel of the Montgomery County Computer Center (MCCC), a consensus to develop a general system design was reached. The MCCC would participate in this general system program design to the degree necessary to develop the system program design and program specifications.

Thus, a decision had been made to develop a general rather than specific design for the MIS. This decision, in effect, precluded the possibility that an MIS would be up and running within the period of this grant. This is not to say that this consensus decision was a "bad" one; only that it was realistic within the constraints existing.

At the same time, the first phase of the research project was nearing completion as the case and demographic data on 304 experimental and control juveniles was coded, punched, and transferred to tape for analysis. At this point, the contractor began the development of the "personalogical" rating portion of the research study. To this end, ten "judgement" panels of five members each drawn from the court staff reviewed case profiles on juveniles in the research sample groups and rated each case using 42 variables provided by the contractor.

These data were then coded for entry into the research project data base. The contractor pointed out the following problem in regard to this process in the Second Quarterly Report (p. 2):

> The success of Phase II of the research project depends, in a large part, on the common understanding of the descriptors and the accuracy of the rater. To assure common understanding, each panel was to hold a group session to review their ratings on each profile. These sessions were to provide a basis for common definitions of given traits, toresolve discrepancies, and to minimize individual bias. Due to the exigencies of court business, a decision was made to eliminate the panel review sessions made by the court.

As the contractor notes, and we can't help but agree, "the impact of this decision cannot be readily assessed, but an important project safeguard has been eliminated on the basis of logistical feasibility." This appears to be a typical problem encountered in conducting research in an operational environment. The contractor also produced an excellent analysis of legal, practical and ethical considerations concerning juvenile data collection during this period.

By July 1974, Arthur Young and Company had completed the development of a proposed conceptual design for the MCJC management information system and presented this design to the Steering Committee. In essence, this MIS consists of five basic modules:

1) Update File: Establishes a juvenile on the MCJC master file and allows the court to add, change, or delete information. Provides an active case report on all juveniles in the file and their status. Other outputs include preliminary and official disposition reports, and social history.

2) Inquiry Module: This is designed to allow the court to inquire about a particular juvenile via a computer terminal and immediately receive the information.

3) Expunge/Purge Module: Performs the function of expungement on the master file and purges particular records into the MCJC inactive file. Output lists these transactions.

4) Probation/Caseload and Intake Caseload Module: As the name implies, this provides management data on caseload for each court worker.

5) Statistics Module: Provides a variety of statistical reporting and management data.

Computer programs were developed by the contractor on this statistical module. A design for the interim manual procedure system, together with appropriate forms were also provided by the contractor.

During the period following this report, the MCJC systems analyst developed a procedures manual that was distributed to all court personnel on the operation of the manual system. Training was also provided to the court staff on systems operation.

Arthur Young's second quarterly report also described the status of the research. project. Four groups of juveniles encompassing a total of 304 individuals were used for analysis purposes:

Group I - This group is comprised of 154 juveniles from high crime rates areas of Dayton, who have recidivated in the crimes of burglary, larceny, or auto theft. They serve as the experimental sample of the research population.

Group II - This group includes 47 juveniles from the same geographic locations as those from the Group 1 experimental sample. However, these are cases which display successful probation patterns after a disposition on burglary, larceny, or auto theft. This group forms a segment of the control sample of the research population.

Group III- This group includes 32 juveniles, also from the same geographic location as those in Groups I and II. These cases were selected as samples of successful treatment for crime other than burglary, larceny, and auto theft. They form another segment of the control sample.

Group IV - The final group is a random sample of 71 juvenile delinquents, again, from the same geographic locations as the other groups. It completes the control sample of the research population.

At this point, the contractor stated that various statistical operations were being performed on the data on these 304 cases. More specifically, Arthur Young and Company noted that each variable will be tested to determine its significance in discriminating between the experimental and control groups. Significant variables will then be merged with those that appear to be important in predicting recidivism discovered in Phase II of the research project.

During the period while the research project was nearing completion, the court began the implementation of the new interim manual information system in January 1975. Computer programs for producing statistical data on court operations were also implemented in the Montgomery County Computer Center. It should be noted that this interim system uses the input specifically designed for the automated system to facilitate a smooth transition.

Arthur Young and Company delivered their final report on Phase II of the project as well as a massive report describing the research project. This document will be evaluated later in this report.

The contractor noted in the final report that the following results were achieved by their project team during the eight month period of their work:

- Documented the court processes involving juvenile delinquency and juvenile traffic in detail.
- Reviewed current major files maintained and suggested revisions to these filing systems.
- Reviewed the current forms generally utilized by the court and developed a revised instrument package.
- Documented the legal, ethical and practical considerations concerning juvenile data collection.
- Developed a research plan incorporating the use of social history data.

- Designed a management information system which will be implemented by the Montgomery County Computer Center.

- Conducted a research project which yielded eight major juvenile profiles and their suggested treatments.

- Automated portions of the Statistical Office to produce with computer assistance, selected monthly and annual reports.

The contractor provided excellent documentation on all of these results which are described in the reports referenced earlier in this section. In concluding their engagement with the court, Arthur Young and Company pointed out what the court has to do to fully realize the potential of this project as follows:

> The challenge confronting the court is the implementation of the system design and the expansion of treatments based on project results. In our view, this report is not an end in itself but rather a starting point in improving the operations of the Montgomery County Juvenile Court. As a result of this project, the court has been introduced to data processing. This introduction should yield positive benefits, but it will also present the court with many challenges.
>
> In order to extend project benefits, the prime objective should be the implementation of the full management information system. This process should be aided by the tangible results to be obtained from the Statistical Office System implemented as part of this project. To assist in implementation and to minimize personnel concerns, the court should establish the position of a data processing coordinator. This coordinator should be familiar with the operations of the court and have a general familiarity with electronic data processing.

The remaining months of the project were devoted to maximizing the efficiency of the manual system by the grantee and beginning the development of the automated system. As the project period ended, the court committed its remaining grant funds to the Computer Center for the latter purposes.

The court's official view of the project was contained in its final report the Law Enforcement Assistance Administration (LEAA). The conclusion of this report is quoted verbatim on the following page.

The only major problem encountered in this project was the selection of a consultant firm. As explained earlier, this took up a significant amount of time because of the manner in which the initial RFP was written. This problem was resolved with the rewritten RFP.

Currently the court is implementing a very successful interim manual system. To date, the major goals and objectives of this grant are in accordance with the practical implementation available at this time.

The research project was a major contribution toward the new system because of its capability of providing the court with profiles of various types of juveniles entering the system and as a result suggesting treatment plans which might reduce recidivism for these juveniles. These treatment plans were based upon analysis of past treatments of the experimental and control groups. As mentioned previously, new treatment plans at this point would require extensive planning and implementation for which this grant did not allocate funds or time to provide this type of resource.

This grant has been extremely effective in the way of management and implementation for the past two years. A tremendous impact upon the procedures and accountability of cases have been improved because of the new system. Various statistical reports are now being generated by the computer thus allowing the court to shift personnel to other areas.

As a result of this grant, there are unlimited possibilities in the way of further research, methodology, and an on-line juvenile court system which could very well be one of the best in the nation. Without the grant, this would have been impossible.

The grant is finished as far as LEAA is concerned requirementwise,, but the court is continuing this program to the point of a fully implemented on-line system which will have a significant impact on management of court proceedings, decision-making, and diagnosis of various treatment plans for juveniles, to help reduce recidivism.

4.0 PMS EVALUATION OF THE COMPREHENSIVE DELINQUENT YOUTH PROJECT

4.1 Introduction

The purpose of this chapter is to present the PMS evaluation of the Comprehensive Delinquent Youth Project. As noted earlier, this evaluation covers a two-year period (July 1973 - June 1975) of which PMS was involved in an evaluation capacity only since March 1974. We will begin our evaluation by reviewing the extent to which this project achieved its stated goals and objectives.

4.2 Overall Project Goal

The overall goal of this project, as stated in the grant application to LEAA was "to reduce the participation of persons under 18 years of age in the crimes of burglary, larceny and auto theft."

We can unequivocally state that this project had no impact whatsoever on these target crimes. This conclusion requires explanation.

First, this grant application was written during the period of LEAA's enchantment with crime-specific planning. Thus, to obtain approval of the grant proposal, it was necessary to couch the application in crime-specific terms in order to obtain LEAA approval. This approach was utterly alien to the original charter of the Pilot City Program to introduce meaningful change into the criminal justice system. Thus, Pilot City staff in following the direction of its charter was forced into using arbitrary crime reduction targets in achieving its own goal.

Second, it is quite conceivable that this project will exert a significant impact on the participation of juveniles in crime of any type in the future once the court manages to computerize all of its systems and obtains effectiveness data on treatment programs. However, it was not possible or practical to achieve this goal during this project.

Finally, the only possible impact this project could have achieved on juvenile crime would have occurred during the proposed third phases of the overall project when the "behaviorally-oriented" management information was to have been tested on an experimental and control group of youths. Since the project never reached this stage, the achievement of the overall goal--within the period of the project--is simply a moot point.

4.3 Achievement of Project Objectives

This project proposed to accomplish seven specific objectives. Project performance in relation to each of these objectives will be discussed here.

However, before discussing these objectives, it is necessary to provide an overall perspective. As proposed, the project was to be divided into three related phases. The first phase of the project was aimed at defining the requirements for the juvenile court information system and the development of an information system design plan. The second phase of the project was to encompass the programming, testing and implementation of this information system. The third phase was intended to test this operating system with a demonstration experiment.

The original evaluation design and the objectives themselves were based on the premise that all three phases of the project would be completed. This was not the case as only Phase I of the project was totally accomplished. Phase II is still in progress with the remainder of grant funds and county support. Phase III, if it is ever accomplished at all, will occur, at the earliest, in 1976. Neither the grantee nor the contractor can be faulted for this situation. In retrospect, the proposal was far too ambitious, seriously underestimated the scope of work and funds required, and was based on clearly simplistic assumptions.

To be more specific, the grantee proposed a three month (Phase I) schedule to hire project staff, develop specifications for a consulting request for proposal, place the job out for bid, select a consultant firm, analyze current juvenile court information processes and operations, design a

research methodology, analyse current treatment programs, identify current diagnostic techniques and tools, identify statistical techniques, determine additional information needs and resources, and design detailed specifications for a juvenile court management and information system.

To anyone familiar with the delays inherent in civil service hiring and procurement systems, this schedule was ludicrous. This is not to mention the purely technical problems involved in this project. One of the major problems which, in the opinion of the evaluator, compounded the difficulty of this effort was the implicit desire to link the research project and the information system together to provide a "behaviorially-oriented" management information system. If the project concentrated solely on automating the administrative record systems of the court, this schedule-- aside from the delays inherent in any government process--might have been reasonable.

As it was, it took the court one month from the date of grant award to hire a systems analyst to coordinate the project. The development of consultant specifications took an equal amount of time. The inexperience of the grant administrators resulted in an RFP that was useless and had to be redrawn. This inexperience resulted in a number of firms responding in good faith, and at considerable cost to themselves, to an RFP that was withdrawn. The RFP was then cleaned up and reissued, requiring the consultant firms to once again incur additional expense to prepare proposals, attend pre-bid conferences, and oral interviews for selection. The firm of Arthur Young & Company (AY) was eventually selected and a letter of intent to contract was finally issued to AY to start work in February 1974--seven months after the start of the grant. According to their original schedule, the grantee was supposed to have the MIS in operation by this time. The actual contract between AY and the County was signed in the middle of April 1974--almost ten months after the grant award.

The second phase of the project aimed at the overall development of the research and information system. As proposed, this phase of the project was to include: development of an operational information system; implementation of the system in the court, training of court staff in system

operation; collection of data for system input, implementation of the experimental design, and overall coordination of the effort. A total of four months was allotted for this phase. Also, as originally proposed, the conduct of the research project was the responsibility of the systems analyst. In fact, this task became the responsibility of the contractor.

Again, the scope of work to be accomplished in this phase of the project was incredible given the resources available. Needless to say, the information system was never made operational not only during this phase, but in the project itself. A conceptual design was developed and is being used to guide system development currently being performed by the county data processing center.

Finally, the tasks to be accomplished in the third phase of the project included the following: demonstrate information system; conduct comparative research of diagnostic techniques, identify new treatment needs; and coordinate project. Several of these activities were initiated but the major task of "demonstrate information system"--referring here to an automated system--simply was not completed within the time frame of this project. An improved manual system was developed and implemented in anticipation of the transition to the computerized MIS.

Therefore, based on the foregoing, it makes little sense to discuss the specific nature of objective attainment on this project. Instead, we will focus on exactly what products were provided on this project and try to determine what lessons can be learned.

4.4 Accomplishments of the Comprehensive Delinquent Youth Project

Based on our understanding of this project, we conclude that the following products were produced under this grant:

1. Documentation of court processes and flows of information and data related to juvenile offenders.

2. Analysis of court file structure and improvement and/or modification of filing systems.

3. Prepared a legal, ethical, and practical analysis of considerations related to the handling of juvenile data collection and use.

4. Automated portions of the statistical office (14 programs written, tested and in use) to produce, with computer assistance, selected monthly and annual reports.

5. Developed and carried out a research effort that resulted in the identification of eight major juvenile profiles and suggested treatments for each category. This research effort was based on objective social history data.

6. Reviewed forms used by the court and developed a revised set of forms known as an "instrument package."

7. Developed a conceptual design for a juvenile court management information system.

8. Developed and implemented an interim manual information system incorporating all input features for the proposed automated MIS.

9. Began the implementation of an automated MIS for the court.

10. Developed a procedures manual and provided training to court personnel on the operation of the interim manual information system.

11. Assessed treatment alternatives available to the court.

The project supervisor pointed out some subsidiary benefits of this project:

- Automation of the statistical reports saved the court an extensive amount of manpower formerly devoted to these tasks.

- The court now has a new information processing system oriented toward eventual automation. This system has the capability of collective common data elements on all juveniles entering the system. This data is essential to perform any type of research aimed at adding referrees and counselors in determining alternative treatment plans for juveniles in order to reduce recidivism.

In summary, the court has pursued the original goals of this grant to the best of its ability and has laid all of the essential groundwork for the eventual development of an automated MIS. At the present time, the court is in the process of developing the programs necessary to make this system a reality. As evidence of their commitment to the project, they have retained the systems analyst out of their own funds to continue to guide the project to its expected conclusion.

In the next section, we will discuss in some detail the quality of some of the more significant work products of this project.

4.5 Assessment of the Detailed Research Project Carried out under the Comprehensive Delinquent Youth Program

As part of the Pilot City program, Arther Young, Inc. was contracted to conduct an in-depth analysis of juveniles appearing before the Dayton Juvenile Court system. The undertaking was significant both in the amount of data to be collected and the expectations of court personnel. The project was originally intended to occur in three phases. Phase I was an analysis of descriptive statistics on variables with data routinely collected on juveniles brought to the attention of the juvenile system. The purpose of Phase II was to "investigate the predictive validity, relative to measures of recidivism of (1) those variables which show some form of covariation with the phenomena of recidivism from Phase I and (2) non-demographic or personalogical data commonly collected by the court such as in the social history or detention records." Finally, Phase III was to establish an evaluation phase in which the court was to apply the results of the two phases in terms of the potential of selected treatment methods in reducing recidivism among juveniles.

It is to be noted that the project started at "ground zero" since nothing of this scope and magnitude had ever been attempted. And all indications are that the court had never developed any statistical descriptions of the juveniles who came before it. With this project, the court evidently hoped to develop a complete and sophisticated management information system which would 1) collect all relevant data on juveniles in the system 2) analyze the data for descriptive purposes and 3) predict the most appropriate mode of treatment for a given juvenile.

The fact that the project was too ambitious is indicated by the overall results. Phase I was successful, Phase II yielded some information but fell short of its goal and Phase III was never started. Phase I and II produced three main documents:

- A general concept for a management information system
- A Macro Pedia
- A report entitled "Comprehensive Delinquent Youth Project -- Detailed Research Document."

The description of the management information system is presented in the Second Quarterly Progress Report by Arthur Young, Inc. data August 1974. The report describes (1) an instrument package for data collection within the court, (2) a set of recommended procedures relating to forms, files and flows, (3) a description of an automated system for data collection. The Macro Pedia is a massive document containing all the detailed statistical descriptions and tests generated during the project. The third report details the approach, techniques and results of Phases I and II. The fact that the objectives of Phase II were not met is indicated on page 60 of this report:

> "At this point, we (Arthur Young, Inc.) are limited to saying that indeed if the procedures so indicated in the earlier parts of the report are carried out, the court will indeed have a series of analyses which could lead to the original court objectives. They would tend to resemble those preliminary results obtained in the current study on a fairly high basis. However, as the court was interested in specific variables and their problems, the current study falls somewhat short of realizing these objectives. It would appear that the numerical patterns which derived are more successful than the many specific variable analysis result."

In the sections which follow, PMS presents an evaluation of the "Comprehensive Delinquent Youth Project." In the defense of Arthur Young, Inc., the report is definitely a contribution to criminal justice literature. PMS believes it fell short of its objectives because the objectives were simply too ambitious and the expectations of the court were too high.

The report by Arthur Young, Inc. was intended to be read by court personnel. While the project techniques were mathematically sophisticated, Arthur Young, Inc. attempted to orient the report to court personnel by providing considerable background information. Thus, there are explanations on topics such as correlation, t-test, chi-square test, contingency tables and factor analysis. PMS believes that in some parts of the report the explanations were successfully accomplished while in others they were not. An evaluation of the final report must include an assessment of the attempts to make the report readable. Thus, the following sections discuss this aspect of the project when appropriate.

ANALYSIS OF PHASE I

The entire project was aimed at studying recidivism of juveniles in Dayton. In particular, the grant application stated that the subjects under study would be juveniles who were on probation for larceny, burglary and auto theft. These crimes were selected because they were the most predominant juvenile offenses. Arthur Young, Inc. selected a very practical and realistic definition of "recidivism" for the project. Page 19 posed the following definition of recidivism as the criteria measure for the Phase I level of analysis:

> Did the juvenile return to the court on a charge which the juvenile was subsequently found guilty?

Under the circumstances of the project, this is the best definition to be used. The juvenile must be found guilty; he cannot merely be charged with an offense.

For the project, 153 juveniles were selected as an "experimental" group and 150 juveniles as a "control" group. Demographic data were than collected on each juvenile including age, sex, race, area of residence, highest grade completed, number of brothers and sisters, father's education, mother's education, income and previous court experience. Data were also collected on each offense including type of delinquency, area, time committed, care pending disposition, violence during apprehension and age at commission.

The selection of the variables to be included was not arbitrary but instead was based on an extensive analysis by Arthur Young, Inc. of the literature on recidivism. As described on page 17 of the report, an item was considered for inclusion in the data collection instrument on the following criteria:

- the potential utility of the item
- the availability of data from juvenile court records
- the protection of human subjects
- expedience relative to the time and resource frame of the research.

Items were selected as indicated to be relevant according to the literature search and the above criteria. Eighty-five items were selected as a result of the process.

Exhibit I of the report provides a summary of the statistics obtained in Phase I. This exhibit gives the average and standard deviation for each of the eighty-five variables. This exhibit is followed by a total of 31 two-by-two contingency tables describing the data collected. Table 9 from this group is a typical example:

TABLE 9
PREVIOUS COURT EXPERIENCES

	Experimental	Control	Total
Not dealt with	7	31	38
Previous to this year	64	87	151
Dealt with Last Year	82	32	114
TOTAL	153	150	303

Chi-square = 40.5

A particularly good aspect of this report is that each table is explained in detail for the reader. In fact, the table section is preceded by a description of one-way and two-way continqency tables. The reason for these explanations is clearly to orient court personnel to "numbers" and statistical manipulation. The descriptions associated with the tables give the reader a good "feel" for the total problem.

The disappointing aspect of the tables is that some are presented in coded form. Table 19 on the experimental group is an example:

TABLE 19

SECOND OFFENSE DATA

Age at Second Offense	Highest Grade Completed Low	High	Total
1	9	7	16
2	1	1	2
3	11	3	14
4	28	16	44
5	22	33	55
6	0	18	18
TOTAL	71	78	149

The numbers 1 thru 6 under age, represent age categories but the categories are never given in the text. It would have been no problem to present the age brackets in the table. As it stands, the table is confusing and tends to discourage the reader.

The same criticism must be made on the statistics in Exhibit 1. The following averages are presented in Exhibit 1 with no explanation:

Variable	Experimental Group Average
Sex	1.87
Race	1.37
Area	2.08
Father's Occupation	1.23
Father's Education	1.44

The reader is left with no idea of the meaning of the averages.

In spite of these criticisms, the results of Phase I are interesting and appear to be the result of a well-organized effort. The Phase I results are summarized very nicely on pages 49-53 of which the following is a typical excerpt:

> "Of all the relationships which emerge, the most consistent and impressive in the effect of grade completion on various aspects of the offense. It should be noted that there is a significant difference between the grade completion rate between the experimental and research group. The reader is reminded that the control group had a higher level of educational achievement than did the experimental group. One of the most persistent of the relationships to highest grade completed is age at first offense. For both the experimental and the control group it can be shown that the lower the educational achievement of the child the earlier the first and succeeding offenses are likely to occur. Given that there was a higher achievement rate among the control group than the experimental group, it is not surprising to find that there is a significantly lower number of total offenses among the control group than among the experimental."

It appears to PMS that this is exactly the type of result anticipated from this study. While the solution is beyond the court's jurisdiction, the result is a valid and important one. Failure to act on this result cannot be blamed on Arther Young, Inc., but rather on those who received this report.

In summary, PMS believes that with some notable exceptions, the Phase I effort is an impressive one. It produced information of relevance to the criminal justice field. More importantly, it provided the proper basis to the Phase II effort.

ANALYSIS OF PHASE II

As previously indicated, the purpose of Phase II was to

> "investigate the predictive validity of (1) those variables which show some form of covariation with the phenomena of recidivism from Phase I and (2) non-demographic or personalized data commonly collected by the court such as in the social history or detention records."

To accomplish the aims of Phase II, additional data were required of a non-demographic nature. Information was required, for example, on the following items for each juvenile in the experimental group:

RATING

1 2 3 4 5 6 7

SHORT ——→ TALL
THIN ——→ FAT
NON-ATHLETIC ——→ ATHLETIC
UNKEMPT ——→ NEAT
UNATTRACTIVE ——→ ATTRACTIVE
UNINTELLIGENT ——→ INTELLIGENT
LAZY ——→ INDUSTRIOUS
WITHDRAWN ——→ OUTGOING
ANXIOUS ——→ CALM
SUBMISSIVE ——→ AGGRESSIVE
COLD ——→ WARM

The intent was to eventually predict recidivism behavior using these variables and those developed in Phase I. The technique to be employed was "Factor Analysis."

The discussion in the report on Phase II begins with an explanation of factor analysis and then proceeds to describe the results of the factor analysis applied to all variables.

The description of factor analysis was intended to be understood by court personnel. PMS found the explanation to be too technical for easy comprehension. However, the results of the factor analysis were well presented by Arthur Young, Inc. and did not require the introductory technical description.

There are several good books and articles on factor analysis of which the following is a typical sample:

Raymond Bernard Cattell. Factor Analysis: An Introduction and Manual for the Psychologist and Social Scientist (New York: Harper, 1952).

Harry H. Haman, Modern Factor Analysis (Chicago: University of Chicago, 1960).

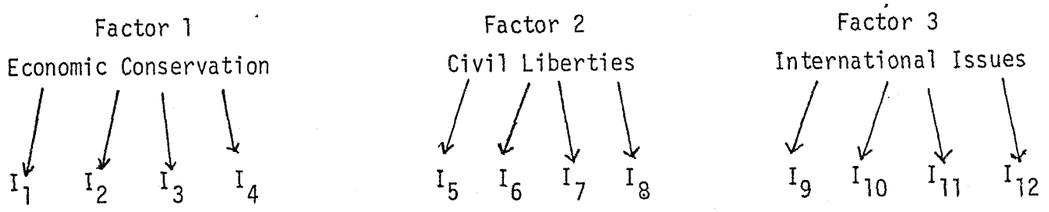
Frederick Mosteller, et. al. Statistic: A Guide to the Unknown (San Francisco: Holden-Day, 1972)

Hubert M. Blalock, Jr. and Ann B. Blalock, Methodology In Social Research, (New York, McGraw Hill, 1968.

Hubert M. Blalock, Jr. An Introduction to Social Research (New Jersey: Prentice-Hall, 1970).

Donald M. Morrison Multivariate Statistical Methods (New York: McGraw-Hill, 1967).

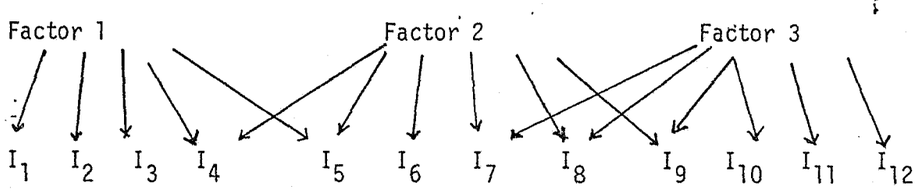
The following explanation of factor analysis is taken from the work of Blalock and Mosteller. Blalock gives an example in which an investigator wishes to measure political conservatism by asking 12 questions -- four on economics conservatism, four on civil liberties and four on international relationships. Assume for the moment that these three dimensions are completely unrelated to each other. That is, if we know that a person is economically conservative, that would tell us nothing about his attitudes on civil liberties or international issues. This situation can be diagrammed as follows:



The underlying dimensions are referred to as "factors" and the responses to the twelve questions as "indicators" of these factors. The lack of arrows between the factors indicates that the factors are completely unrelated. The underlying assumption is that these factors "cause" the individual to respond in predictable ways to items 1-12.

If these assumptions were correct, we would anticipate that items 1-4 would be intercorrelated with each other due to the common influence of Factor 1 but would have no correlation with items 5-12. The same would apply to items 5-8 and items 9-12.

In reality, we cannot expect such clear-cut relationships. A single item may tap more than one factor so that we may have the following relationships:



In complex examples such as this, a simple inspection of the correlations among items will not reveal the underlying future. Factor Analysis is a statistical technique to overcome this difficulty. With appropriate mathematical assumptions, factor analysis is a technique to construct from a large group of observed characteristics or items, a small set of more general characteristics or factors. Combinations of the factors can be used to predict the observed patterns of items.

Factor analysis has an analogy in the physical sciences. The three primary colors (red, yellow and blue) when suitably combined, yield thousands of different colors. If a scientist did not know this fact, he might begin with the thousands of colors and after analysis discover the three underlying factors.

Arthur Young, Inc. performed factor analysis on three sets of data:

Demographic Variables (Race, sex, area, parent's education, etc.)

Offense Variables (Age at commission, court contacts, time between offenses, etc.)

Non-demograpahic Variables (quite-outspoken, thin-fat, follower-leader, dependent-independent, etc.)

As an example of what the factor analysis producted, we will consider the non-demographic variables. The factor analysis revealed seven factor groups. Factor II was described as follows:

Factor II	Factor Loading
Lazy-Industrious	.49
Cold-Warm	.62
Rebellious-Friendly	.75
Blames Self-Blames Others	-.54
Accepts Consequences Resents Consequences	-.69
Shows Guilt-Shows no Guilt	-.58

The factor loadings are not the same as correlations but may be interpreted in a similar manner. The report offers the following explanation for Factor II:

> "In this factor, we have a number of positive and negative high loadings. This necessitates reversing and interpreting the scales according to those signs. In this case, reading down the list, we have a person who is regarded as being industrious, warm and friendly. Also, reading the negative loadings and reversing the items, he tends to blame himself, accepts the consequences and shows guilt. This combination of industrious, friendly, accepting consequences and showing guilt tends to portray a standard stereotype of remorse."

Arthur Young, Inc. discovered eight factors from the demographic variables, eight from the offense variables and seven from the non-demographic variables. PMS found the explanations of the factors to be clear and easy to understand. The explanations require only minimal mathematical background.

Factor I based on the demographic information is another good example:

	Variable	Factor Loading
Factor I	Race	.85
	Parent Discrepancy in Education	-.57
	Average Severity Code	.61
	Area 1	-.69
	Area 2	.73

As indicated in the explanation, Factor 1 has on the one extreme a description of a white family whose parents are approximately equivalent in education and an ascending severity code. This family structure generally occurs in Area 2 but not in Area 1. On the other extreme, we have a primarily black family with a large degree of discrepancy in parental education and a descending severity code. Such a family is generally from Area 1 but not Area 2.

As in Phase I, the factors obtained seem to be precisely what was expected from the project. All input information to the factor analysis is information on juvenile recidivists. Thus, the factor groups represent a classification of recidivists according to common characteristics.

It is at this point that the project falls short of its expectations. There is no attempt to relate various factors to recidivism in a predictive manner. Presumably this was to be accomplisned in Phase III. Unfortunately, at this point the report is a "paper study" with its findings yet to be validated in the real world.

In conducting this study, Authur Young & Company reached the following conclusion:

> The limitations and restrictions of the data base preclude the development of precise treatment alternatives. It does suggest that programs (e.g., probation counseling, foster homes, etc) generally exist in Montgomery County. The prevalent need is to effectively match the needs of the child with the appropriate treatment. It is hoped that the second-order profiles developed as part of this project succeed in facilitating that process.

The contractor also warned the court that:

> ...the limited sample size and the missing data problem restrict the generalizability of the data base. Although insufficient for policy making, the second-order factors and their associated treatment suggestions can be viewed as guidelines for case disposition.

Thus, in summary, PMS clearly agrees with the contractor's findings and commends them for doing an excellent job on a basically intractable problem given the resources available.

5.6 Review of Information System Development Activities

Early in its contract with the court, the contractor, Arthur Young & Company, prepared a revised workplan that required major decisions by court personnel. The underlying assumptions of this work plan were:

- The philosophy assumed in this approach is to intergrate the two areas of effort in this project, the MIS effort and the research project, so as to maximize the benefits to accure to the Montgomery County juvenile court.

- A de-emphasis on the detailed conceptual design will be necessary. This is necessary because there is uncertainty

as to when and if the court is going to make a major commitment to automation. A detailed hardware oriented conceptual design would seem premature at this time.

Based on these assumptions, AY indicated that the major deliverable products on this project would include:

- The development of a conceptual design for a management information system for the court which will serve as a masterplan for future automation.

- The design of an instrument package to be used both in the management information system and to develop a data base for the research project.

- The development of a series of recommended desk-level procedures relating to the files, forms and flows used for data collection in the court.

- The design and programming of an automated system for data collection and reporting for the statistical department of the court.

- The development of a research design necessary for fulfilling the requirement of the grant application.

- The completion of a research project based upon the hypotheses developed in the research design.

In support of this product development, the contractor pointed out the following:

- The departments to be included in the conceptual design and the implemented system would be intake, admissions, general office, detention, probation, assignment office, statistics, psychological services, referees and the Clerk of Courts. The

probation, detention and psychological services departments would be limited to include only information that is passed through to other departments. This would exclude internal departmental functions such as room assignment and education scheduling in the detention facility.

- An increased emphasis will be placed on the development of an instrument package to be used by the court. This instrument package will include an objectified social history which will be needed in the research project. We anticipate the participation of the psychological services department in developing this form, which will be a real innovation since we know of no existing objectified social history. The implemented MIS effort will also center on the instrument package, procedures relating to it, and procedures relating to the files, flows and other forms currently used by the court.

- Based upon our preliminary interviews, we suggest that portions of the statistical department information processing be automated as a part of our implementation which was not included in our proposal. However, we feel that this effort will provide for a better project in two ways. First, the data base needed for the research project hinges on the information gathered in the statistics department. Second, the automation will provide more data for the on-going operation of the court.

The contractor felt that by attempting to integrate the MIS and research efforts, the following benefits would be developed:

- The elimination of some of the duplicity existing in the various forms currently used by the court. This will be accomplished through the development of an instrument package. This package, while it will not replace all forms, should reduce the overall number of different forms.

- An improved flow of information through the various departments of the court. Through the introduction of the instrument package and its related procedures, information flows should be standardized to a degree.

- An operating, on-going, automated system for collecting, reporting and possibly expanding the statistical information processed by the statistics office.

- An improved capability for performing the analytical component of further research efforts through the development of a data base and through the development of either descriptive statistical routines or a liaison with an outside facility for processing more sophisticated analysis.

PMS systems analysts and designers have carefully reviewed all documentation prepared by the contractor and grantee. We conclude that these work products are of excellent quality and represent the best that could be achieved with the resources available for this effort.

In effect, PMS concludes that the grantee has developed a manual system for effecting a flow of information throughout the juvenile justice process. This new system clearly presents significant advantages over current practices by reducing the number of forms, reducing redundancy in data capture, and generally greatly streamlining data flow.

The manual system is designed to be consistent with a projected automated management information system (MIS) for the court, which is presented at a general conceptual design level. The MIS as designed promises to provide benefits by increasing the availability of information to personnel throughout the juvenile justice process.

We do have a question concerning the decision that the MIS is to provide on-line inquiry from a batch file update process. Since the time between discrete events in juvenile processing frequently can be less than 24 hours, and since a batch update process presumably includes batch data reduction,

CONTINUED

1 OF 2

production of error lists, recycling of corrected information, etc., it would seem that such a system would be expected to lag as much as several days behind subject processing, resulting in an inability to provide timely information. The solution, of course, is file updating in real time. In any case, however, this issue can presumably be dealt with at a more detailed design level.

Of greater concern are the issues inherent in the collection of juvenile data. The first quarterly project report (May 1974) includes an independent report on the "Legal, Ethical, and Practical Considerations Concerning Juvenile Data Collection." This thoughtful and provocative report clearly defines established "ground rules" of information gathering. It is curious that there is no assessment of the impact of this report on the proposed system. To the contrary, the data collection which is a part of the proposed system calls for the collection of data prior to adjudication which the report identified as illegal under Ohio statute. Certainly a greater integration of this report into the substantive recommendations of the project is required.

As previously noted, the manual system is now operating as designed and work is progressing at a slow--but not unreasonable--pace on the detailed programming and design of the automated system.

Of primary importance, however, is the court's decision to pursue full systems automation. Early in this project, there was considerable doubt that this decision would be made. A favorable decision has been made and, if this project accomplished nothing else, this decision and commitment to the adoption of modern management practices in a court setting justifies LEAA's investment in this project.

4.7 Interview Results

PMS conducted a series of interviews with:

- The Court Administrator
- The Project Supervisor
- Pilot City Personnel

- Two (2) Referees
- Two (2) Probation Officers
- The Authur Young & Company Project Manager

Without dwelling in detail on the results of these interviews, the following was reasonably clear:

- The court had never undertaken a project of this magnitude or complexity in the past.

- The court initially overestimated the benefits that would accrue from this project. They had hoped that a completely objective technique could be developed to determine the most effective treatment modality to reduce recidivism of juveniles. As the project progressed, they developed much more realistic expectations and saw research and computers as being aids to human decision processes.

- At the present time, both referees and probation people are still not sure of what the eventual benefits of this project will be. They see themselves as incurring more work in filling out forms and providing accurate data for entry into the system. As yet, they have not received the promised output of the systems.

- The court is committed to the completion of this project with their own funds.

- The contractor felt that the court initially had an inadequate understanding of the complexity of the work being performed particularly with regard to the research project. However, by the end of the project, the contractor had a high regard for the court personnel and felt that they now had a clearer conception of what they were doing.

- The court felt that the contractor had done an excellent job and had, in fact, done much more than the legal requirements of the contract.

In summary, the problems encountered by this project centered around an inadequate definition of the problem. The grantee had unrealistic expectations as to what could be achieved. Despite this difficulty, much productive work was accomplished and the court is now on the verge of receiving the benefits of this effort.

4.8 Conclusions and Recommendations

1. The Comprehensive Delinquent Youth Project did not achieve its stated goal of reducing the participation of juveniles under age 18 in the crimes of burglary, larceny, and auto theft. However, this was a clearly unrealistic goal and was developed principally to satisfy LEAA requirements for crime-specific programming.

2. The project suffered from inadequate problem definition in that the expected product of the project--an automated behaviorally-oriented management information system--was clearly pushing the state of the art in this field and inadequate resources and time were available to achieve this product.

3. Despite these shortcomings, this project is a good one in that the work that was accomplished was the best, in this evaluator's opinion, that could reasonably be expected given the nature and complexity of the problem addressed.

4. Products and outputs produced by the grantee on this project include: (1) documented court processes and information flow patterns; (2) upgraded and improved filing systems; (3) developed a paper on privacy and security of juvenile data systems; (4) automated the court's statistical reporting systems; (5) conducted a detailed and professional research project aimed at the identification of juvenile treatment

profiles; (6) developed revised forms and objective social history instruments; (7) developed a conceptual design for a court MIS; (8) developed and implemented a transitional manual information system; (9) assessed treatment alternatives available to the court; and (10) began the development of an automated MIS.

5. The automated management information system proposed to be developed by the grantee was not complete at the time this evaluation was written. However, the court has committed itself to the development of this system and work is currently proceding satisfactorily on full-systems development.

6. The research report produced by the grantee on the identification of diagnostic and treatment alternatives meets the highest professional standards and clearly represents a significant contribution to the technical literature of criminal justice.

7. The project has made important contributions to the more efficient, effective and timely processing and handling of statistical, case-related, and administrative data in the Montgomery County juvenile court.

8. It is recommended that the Montgomery County juvenile court continue this project to full implementation of an automated information system. It is further recommended, that once the system is in full operation, that the originally proposed demonstration experiment be conducted.

4.9 Implications for Replication

There are a number of important implications of this project for other juvenile or adult courts considering the development of a computerized management information system.

The most important implication is that a very clear and practical definition of the problem to be solved by such automation be developed. Such a problem

definition study should be conducted before any major investment decisions are made. In fact, it would be wise for a court to hire a competent systems consulting firm to conduct a problem definition and requirements study aimed at the development of very precise system specifications prior to putting the job out for bid. The requirements consultant should be precluded from bidding on the implementation of the system.

The project has important implications for funding agencies also. Such agencies should provide phased funding for this type of effort. No large-scale projects should be considered for funding unless a technically acceptable requirements study is submitted by the grantee for critical review. In retrospect, the decision by LEAA to provide funding for an incompletely developed concept--such as the comprehensive juvenile delinquency project--was not a wise one.

A major drawback at the conceptual level in this project was its total unfamiliarity with the technical literature on the subject of predictive techniques for decision-making related to juvenile offenders.* This situation was rectified by the hiring of Arthur Young and Company whose research personnel were quite competent in this area. However, the point is that this knowledge should have been available prior to undertaking this project. If such knowledge was considered, perhaps this project would have had a better chance of achieving its overall objectives. As it was, the project evidenced a distinctly "schizoid" character; e.g., on the one hand, the project sought to do research, on the other it sought to build an operating management information system. The main difficulty encountered was in trying to merge these distinctly different efforts into one integrated system.

Another implication relates to the need for providing adequate resources for a project of the scope originally envisioned here. Six PMS systems

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* See for example: Don M. Gottfredson: "Assessment and Prediction Methods in Crime and Delinquency" in Task Force Report: Juvenile Delinquency and Youth Crime, President's Commission on Law Enforcement and Criminal Justice, 1968.

staff personnel were asked to provide independent cost estimates for achieving the objectives of this project. The lowest estimate was six person-years of professional systems designer and programmer experience. The highest estimate was based on beginning a project with all administrative tasks completed and was solely for technical work. In short, we conclude that the scope of work was badly underestimated on this project. Further, all felt that a minimum of three years would be required to develop this type of system to the point where serious on-line experimentation could be conducted.

Finally, the aim of this project was really to modernize and make more effective the operational practices of the juvenile court. The arbitrary attempt to link this improvement to the specific reduction of crime was ridiculous. To be sure, crime reduction might result from full implementation of this system once it is operational, but it is far beyond the state of existing knowledge to assume this will actually be the case.

[redacted]

APPENDIX

EVALUATION OF THE GRANT FOR THE COMPREHENSIVE DELINQUENT YOUTH PROJECT, MONTGOMERY COUNTY, OHIO

I. GOALS AND OBJECTIVES

Quoting from the grant application itself "The primary goal of the Comprehensive Delinquent Youth Program is to reduce participation in the crimes of larceny, burglary, and auto theft by persons under 18 years of age."

Subsequently, the grant application defines the specific objectives of the project as:

1. To evaluate, analyze, and develop information and management needs necessary for effective juvenile court operation.

2. To develop and implement a model behaviorally-oriented management and information system for use by various units within the juvenile court on a defined sample of juveniles.

3. To increase the juvenile court's ability to make effective diagnosis and referral.

4. To identify, as defined by the model information system and the resultant conclusions of the experimental demonstration, new forms of treatment that will reduce juvenile participation in crimes.

5. To compare recidivism rates between the experimental group - after implementation of the information and management system to aid in diagnosis and treatment - and the control group within priority area #2 of the City of Dayton.

6. To demonstrate the value of a court management system to the total court community.

7. To determine the effectiveness of various diagnostic techniques within the experimental group sample.

II. DEVELOP MEASURES OF EFFORT AND EFFECTIVENESS

A. DEVELOP MEASURES OF EFFORT

Three types of measures which can be used are:

- Outputs, e.g., number of cases tried, number of persons under probation supervision, etc.
- Impacts, e.g., an increase in number of juvenile apprehensions, a decrease in the juvenile rate of recidivism, etc.

For this project the following measures of effort have been identified by objective or goal.

1. Objective 1. How many needs were identified? How many needs were included in the design?

2. Objective 2. What is the fill rate of those data items in the data base which are directly related to a "behaviorally-oriented management and information system".

3. Objective 3. How many "clients" are processed by the court? How many are given diagnosis? How many are given referrals?

4. Objective 4. How many forms of treatment are currently used? How many new forms were identified?

5. Objective 5. What is the recidivism rate for the control group? The experimental group?

6. Objective 6. How many people in the court system are aware of the project? How do they regard its value?

7. Objective 7. By diagnostic technique used what is the recidivism rate within the experimental group?

8. Overall Project Goal. What is the rate per thousand population of participation in larceny, burglary and auto theft for persons 10 to 18?

B. DEVELOP MEASURES OF EFFECTIVENESS

In general this project is difficult to relate to "cost-effectiveness" as most of the actual costs related to reducing juvenile participation in various crimes are wholly outside the control or purview of this project. What can be measured is whether or not changes did take place and the degree to which they took place. For example, if 17 specific information needs were identified and the final design included means to satisfy say 14 of them this could be regarded as "effective".

III. DATA COLLECTION AND ANALYSIS

A. DATA TO BE COLLECTED

There were seven objectives and a single concise goal identified in the grant application; the following discussion will be directed toward the data collection necessary to evaluate the degree to which these goals and objectives were met.

1. Objective 1. There is a task under the grant devoted to identification of information needs in the juvenile court. These identified needs should be collected in a check list and at project conclusion determine which needs can be satisfied as a result of this project.

2. Objective 2. From the data item definitions which are developed select those which best typify a "behaviorally-oriented management and information system." At project conclusion (or any suitable time thereafter) determine for the entire data base, what the fill rate is for these items.

3. Objective 3. Utilize the base line information already gathered to develop a by month profile of:

(1) total persons processed by the court,

(2) persons diagnosed, (3) referrals made. Similar data should be gathered during the life of the project and thereafter to allow comparison and degree of change.

4. Objective 4. Information should be collected on how many forms of treatment are currently being used. After completion of the portion of the project devoted to identification of new forms of treatment determine how many new forms were identified. Also determine cost of this portion of the project for measure of effectiveness determination.

5. Objective 5. After implementation of the information and management system, reports should be prepared comparing the recidivism rates for the experimental and control groups. The information and management system should be fully capable of collecting, analyzing and reporting this data.

6. Objective 6. Prepare an opinion survey for the court community related to their perception of the value of a "court management system". Administer the survey now, at the conclusion of the grant and

at a suitable time thereafter to determine if "value" has been demonstrated.

7. Objective 7. Use the facilities of the developed information and management system to compare recidivism rates between the various daignostic techniques used on the experimental group.

8. Overall Project Goal. Collect data on current participation by persons under 18 years of age in the crimes of larceny, burglary and auto theft and express as rate per thousand of population between 10 and 18. After project completion and at suitable times thereafter collect similar data and compare for change.

END