DOCUMENT RESUME

ED 133 044 PS 008 907

AUTHOR Kogan, Leonard S.; And Others
TITLE Children and Their Families in Two Counties of New York State: An Exploration of the Ecological Utility of the DIPOV Index.
INSTITUTION City Univ. of New York, N. Y. Center for Social Research.
SPONS AGENCY Children's Bureau (DHEW), Washington, D.C.
PUB DATE Apr 76
GRANT OCD-CB-18
NOTE 243p.; For related document, see PS 008 905

EDRS PRICE MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS Census Figures; *Child Welfare; Demography; Economic Disadvantagement; Environmental Research; *Family Environment; Illegitimate Births; *Measurement Instruments; Multiple Regression Analysis; One Parent Family; Premature Infants; Public Health; *Social Environment; Social Planning; *Socioeconomic Influences; *Surveys; Venereal Diseases; Welfare Recipients
IDENTIFIERS *DIPOV Index; New York

ABSTRACT

The DIPOV Index as an indicator of "the state of the child" in various ecological settings is examined in a study based on extensive interviews with mothers or mother-surrogates of children aged 1 to 10. Several hundred households were sampled in two upstate New York counties with strongly contrasting DIPOV Indices. Developed as an instrument for measuring the quality of child life, the DIPOV Index consists of five variables related to an underlying dimension termed "disorganized poverty." These five are concerned with incidence of: (1) dependent children among families receiving Aid to Families with Dependent Children, (2) children living in incomplete families, (3) premature births, (4) out-of-wedlock births, and (5) venereal disease among persons under twenty. In the major anlaysis of the study, a hierarchical multiple regression model was used to determine relationships between several DIPOV Indices and a large number of child and parent variables. Evaluation took the form of a distal-to-proximal ecological progression: from counties to Primary Sampling Units (sub-county areas), to neighborhoods and families. It was found that the DIPOV Index is related to many child and parental problems at the sub-county and family levels, but is not as broadly successful as a county-level indicator. (BF)

CHILDREN AND THEIR FAMILIES IN TWO COUNTIES OF NEW YORK STATE: AN EXPLORATION OF THE ECOLOGICAL UTILITY OF THE DIPOV INDEX

Center for Social Research
Graduate Center, The City University of New York
33 West 42 Street
New York, New York 10036

April 1976

This project was supported by Grant OCD-CB-18 from the Children's Bureau, Office of Child Development, U. S. Department of Health, Education, and Welfare.

Dedication

Professor Leonard S. Kogan, the co-director of this project and the director of the Center for Social Research, CUNY, died before this report was completed. We dedicate this report to him and hope its final form would have pleased him.

CHILDREN AND THEIR FAMILIES IN TWO COUNTIES OF NEW YORK STATE: AN EXPLORATION OF THE ECOLOGICAL UTILITY OF THE DIPOV INDEX

Leonard S. Kogan, Jesse Smith and Lawrence A. Jordan
with the assistance of
Constance Shuman and Rebecca Finnell

Center for Social Research
Graduate Center, The City University of New York
33 West 42 Street
New York, New York 10036

April 1976

Acknowledgements

We wish to thank Dr. Charles Gershenson and Dr. Edith Grotberg of the Children's Bureau, Office of Child Development, U. S. Department of Health, Education and Welfare for their generous counsel and support of this project.

Our appreciation also goes to Dr. Martin Frankel of the National Opinion Research Center of the University of Chicago who aided us in designing the county samples.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

TABLE OF CONTENTS (cont'd)

LIST OF FIGURES

LIST OF TABLES

TABLE OF CONTENTS (cont'd)

LIST OF TABLES (cont'd)

TABLE OF CONTENTS (cont'd)

LIST OF TABLES (cont'd)

CHILDREN AND THEIR FAMILIES IN TWO COUNTIES OF NEW YORK STATE: AN EXPLORATION OF THE ECOLOGICAL UTILITY OF THE DIPOV INDEX

I. BACKGROUND*

If we are to determine what social tasks need doing and where they need to be done, it is necessary to have a detailed picture of the social state of the nation and of its politico-geographical subdivisions. Variables or sets of variables which can be measured repeatedly over time and are reliable (i.e., do not fluctuate inordinately over short periods of time), and which are socially important and normative (i.e., range from "bad" to "good" states) can serve potentially as indicators revealing the social state of the nation. If additional criteria are met, such variables may have even greater implications for social policy and program planning. This would be true, for example, if the variables were available and could depict differences in the goodness of circumstances among successively smaller geographical units (e.g., states of the nation, counties of a state, districts of a city), and if they could be demonstrated to reveal social conditions somewhat more general than those which the variables measure directly.

These additional criteria are important since, if they are satisfied, information would be available for a chain of decisions descending from the national level to, potentially, the sub-county or even neighborhood level. Unfortunately, the data for many variables are presently readily available only for regions or states, and other data which are routinely presented at the county level and other small geographic areas

---

*Section I in this report, which describes the general background of our work, is the same as Section I in our concurrent report: The state of the child: National perspectives, DIPOV Indices and related indicators of child health and welfare for each state and county of the United States, 1970-1972.

are frequently available only on a decennial rather than on an annual basis. If such information were available annually and could be disaggregated so that state data could be used at the national level, county data at the state level, and sub-county data (e.g., by such census divisions as enumeration districts and block groups) at the county level, the ability to make informed policy decisions at all these levels about the allocation of funds and the placement of programs would be strengthened. Of course, such disaggregated data would be useful at each level only to the extent that they differentiate comparable geographical units. Without doubt, some indicators will differentiate at one level but not at others; for example, among states but not among smaller geographical units. In general, the most useful indicators will be those that depict differences at every level. Finally, with regard to these additional criteria, measurement of indicators which are found to be linked to a broader network of problems and needs is more generally useful than measurement of indicators which are narrower in scope. Indicators which can serve as surrogates for a relatively large set of problems and needs should ordinarily be preferred to indicators which represent only themselves. However, it should be added that it may be necessary to measure a narrow indicator also if it uniquely provides a piece of critical information.

Indicators which meet the qualifications mentioned above, and therefore possess considerable descriptive power, can point to the existence of social problems and needs and can provide information about their comparative incidence and/or prevalence in various politico-

geographical units. Such information would constitute useful input to decisions concerning the allocation of resources and the placement of programs and services, while, at the same time, they could also serve to define baselines against which program impact may be judged [1].

Indicators of Child Health and Welfare

For several years the Center for Social Research of the City University of New York has been engaged in an attempt to develop a set of indicators that would describe "the state of the child." The condition of the nation's children, of course, is an extremely important aspect of the social state of the nation. It is critical to have indicators that will permit monitoring of the physical health and the social, emotional, and cognitive functioning of children, as well as associated phenomena such as the scope and quality of programs of child care.

Some data relevant to these concerns are available from many sources, in many forms [2]. For example, data concerning children are provided by the Census Bureau, by the Health Interview Surveys and Health Examination Surveys of the Public Health Service, by the National Assessment of Educational Progress of the Education Commission of the States, and by many state, county and city agencies, but there have been

---

[1] For a general review and critique of the merits and demerits of social indicators see: Sheldon, E. B. and Parke, R. Social indicators. Science, 1975, 188, 693-699. For a discussion of the interrelationship between social indicators and decision-making see: De Neufville, J. Social indicators and public policy. New York: Elsevier, 1975.

[2] For an overall compilation of national data on children see: Snapper, K. et al. The status of children 1975. Washington, D.C.: George Washington University, 1975.

few systematic attempts to draw together data from many such sources and explore the relationships among the data.

In our earlier work we employed factor analyses to examine the patterns of relationship among a set of child-related variables separately for two time periods (1960 and 1970) and three sets of geographical units (the 50 states of the United States plus the District of Columbia, the 62 counties of New York State, and the 62 community districts of New York City)[3]. One major aim of this study was to identify the variables which were highly related in all six data sets and that, therefore, seemed to describe the state of children reliably both over time and across sets of geographical units.

The variables included in these analyses were selected with the aid of a schema which attempted to distinguish attributes and characteristics from resources and services, child from context, and health from general welfare (see Table 1). A severe restriction on the selection of variables was the necessity that they be available for the three sets of geographical units. Unfortunately, many potentially valuable variables are not readily available for units smaller than states. In addition to the 25 variables in Table 1, several demographic variables were employed in the analyses to aid in the interpretation of the results. These were White Population, Average Family Size, Divorced Marrieds, Under 18 Population, and Urbanization. Most of the 30 variables were expressed

---

[3] For a detailed description of this earlier work see: Kogan, L. S. and Jenkins, S. Indicators of child health and welfare: Development of the DIPOV Index. New York: Columbia University Press, 1974.

TABLE 1

SELECTED VARIABLES AND THEIR CLASSIFICATION

Classification			Variable
Attributes and Characteristics	Child	Health	Infant Mortality Premature Births Juvenile Venereal Disease
		Welfare	Out-of-Wedlock Births Living with Both Parents School Achievement
	Context	Health	Measles All Ages Tuberculosis New Cases Home Accident Deaths
		Welfare	Overcrowded Housing Working Mothers with Children Under Six Family Income
Resources and Services	Child	Health	Pediatricians Children in Mental Hospitals Prenatal Neglect
		Welfare	High School Enrollment AFDC Under 18 Juvenile Delinquency
	Context	Health	All Admissions Mental Hospitals Physicians Psychiatric Clinic Terminations
		Welfare	Crime Index Homicides Public Assistance Recipients Limited Adult Educational Attainment

as rates per unit population.

Of the 25 normative variables, 5 showed high loadings (above a criterion of .60) on the first principal factor[4] in all six independent analyses. We interpreted this first factor to represent an underlying dimension associated with poverty and discrimination since percent white population was always very highly but negatively loaded on the first factor and welfare dependency was also highly loaded. We called this first factor DISORGANIZED POVERTY (describing the negative pole of the factor) and labeled an index, which combined the five highly intercorrelated indicators, the DIPOV Index. The letters in DIPOV form an acronym based on the initial letters of the five indicators: D for Dependency (proportion of children under 18 in families receiving Aid to Families with Dependent Children); I for Incomplete Families (proportion of children under 18 not living with both parents); P for Premature Births (rate of infants with birth weight under 2501 grams per 1000 live births); O for Out-of-Wedlock Births (proportion of live births designated out-of-wedlock); and V for Venereal Disease, Juvenile (usually defined in our data as rate of reported cases of primary or secondary syphilis or gonorrhea among persons under age 20 per 100,000 population under age 20).

---

[4] A first principal factor is an underlying dimension which accounts maximally for common variance among a set of variables. For general discussion of factor analytic procedures see: Harman, H. Modern factor analysis. Chicago: University of Chicago Press, 1967. Principal factor analysis with iteration for communalities was used in all analyses. See: Buhler, R. P-Stat. A computing system for file manipulation and statistical analysis of social science data. Princeton: Princeton University Computation Center, 1974.

It appeared to us that the DIPOV Index might serve as a first approximation for the representation of "quality of child life" for designated geographical areas. We suggested that relative standing on this index is a measure of the goodness of circumstances concerning children in these geographical subdivisions. For example, a state, county or city district with high rates of AFDC children, children in incomplete families, premature births, out-of-wedlock births, and juvenile venereal disease can certainly be considered an area with substantial problems for children and persons interested in children.

II. THE PRESENT STUDY

The DIPOV Index can be further examined in a number of ways to explore its utility. We have chosen two directions. One, represented in this report, employs sample surveys in two contrasting New York State counties in order to determine the relationship between DIPOV Indices and a substantial number of child, parental and family characteristics and behaviors. The second approach, described in a concurrent report[5], extends the factor analyses previously mentioned to the counties of a large number of states in each of three years in order to analyze further the generality of the DIPOV cluster.

Available Indicators and Sample Surveys

The factor analytic work that resulted in the development of the DIPOV Index and tested its generality in counties across the nation used "available" data, obtained from such sources as the Census Bureau and state and local agencies. We have suggested that such DIPOV Indices derived from available data provide, in a gross way, a measure of the general state of child health and welfare in sets of geographical units. The counties of New York State, for example, can be characterized and ranked according to their DIPOV Index values, and we would expect that the relative degree of "needs" and/or "social problems" of the children in a county would be reasonably in line with the county's DIPOV-Index rank. However, although we hypothesize this to be true, without test we do not know the extent to which the DIPOV Index can serve as a surrogate for a larger set of needs and

---

5 Kogan, L. S., Smith, J. and Jordan, L. A. The state of the child: National perspectives, DIPOV Indices and related indicators of child health and welfare for each state and county of the United States, 1970-1972. New York: Center for Social Research, City University of New York, April 1976

problems. The indicators which compose the DIPOV Index are five particular measures with considerable variance in common with school achievement, overcrowded housing, prenatal neglect and juvenile delinquency. For the most part, however, they are remote from children's actual health and behavior. Four of the DIPOV indicators either directly characterize family conditions (Dependency, Incomplete Families) or conditions of birth and parental behavior (Prematurity, Out-of-Wedlock status). Only Juvenile Venereal Disease directly measures children after birth and this indicator, of course, principally characterizes teen-age children. Furthermore, even if it were granted without test that the DIPOV Index is a broad surrogate, lacking further study we would neither know specifically which needs, problems, and conditions are related to the Index nor the strength of the relationships. To obtain this information,therefore, additional study is necessary and since a broad range of data concerning a representative sample of children was not available for counties, our study collected new data. This took the form of in-depth sample surveys of families with children in counties which differ in their DIPOV Indices.

Subsequently we shall describe in detail what we shall call a distal-to-proximal ecological model, the most distal component of which involves the ability of county of residence to predict the health and psychosocial functioning of children within the county. To the extent that monies and resources are allocated differentially on a county basis, there is an underlying assumption that counties differ in their needs and problems.

Interview Instruments

For the purpose of the sample surveys, interview schedules were developed for use with the mothers or mother-surrogates of sample children. The

schedules were constructed employing the measurement model presented in Figure 1 as an organizational guide and a framework for examining the range of information sampled by the items.

Originally, five different age-level schedules were devised, spanning birth to 18 years of age. Finally, however, these were reduced to three age-level instruments covering the ages one to ten years. Considerations such as sample homogeneity, the mother's ability to report reasonably fully and knowledgeably about the child, and the existence of a sufficiently developed repertoire of behavior caused us to narrow the age range studied by this approach.

The largest portion of each instrument is composed of items designed to tap the children's health status and functioning in the cognitive, emotional, social, and educational domains. These child items primarily ask about current, age-appropriate behavior and generally attempt to obtain descriptions of specific behaviors rather than broad, evaluative judgments from the mother. Some child items, however, are historical, especially in the area of health. A substantial portion of each interview schedule is designed to measure parental behavior and attitude, family background characteristics, and aspects of the social and physical environment. In addition there are items directly concerned with the DIPOV variables, so that the mother is asked about the family's welfare status (Dependency), the composition of the household (Incomplete Families), the birth weight of the child and his siblings (Prematurity), the children's dates of birth and the mother's marital history (Out-of-Wedlock Births), and the occurrence of venereal disease among family members under age 20 (Juvenile Venereal Disease).

The individual items were selected, adapted, or devised after a search

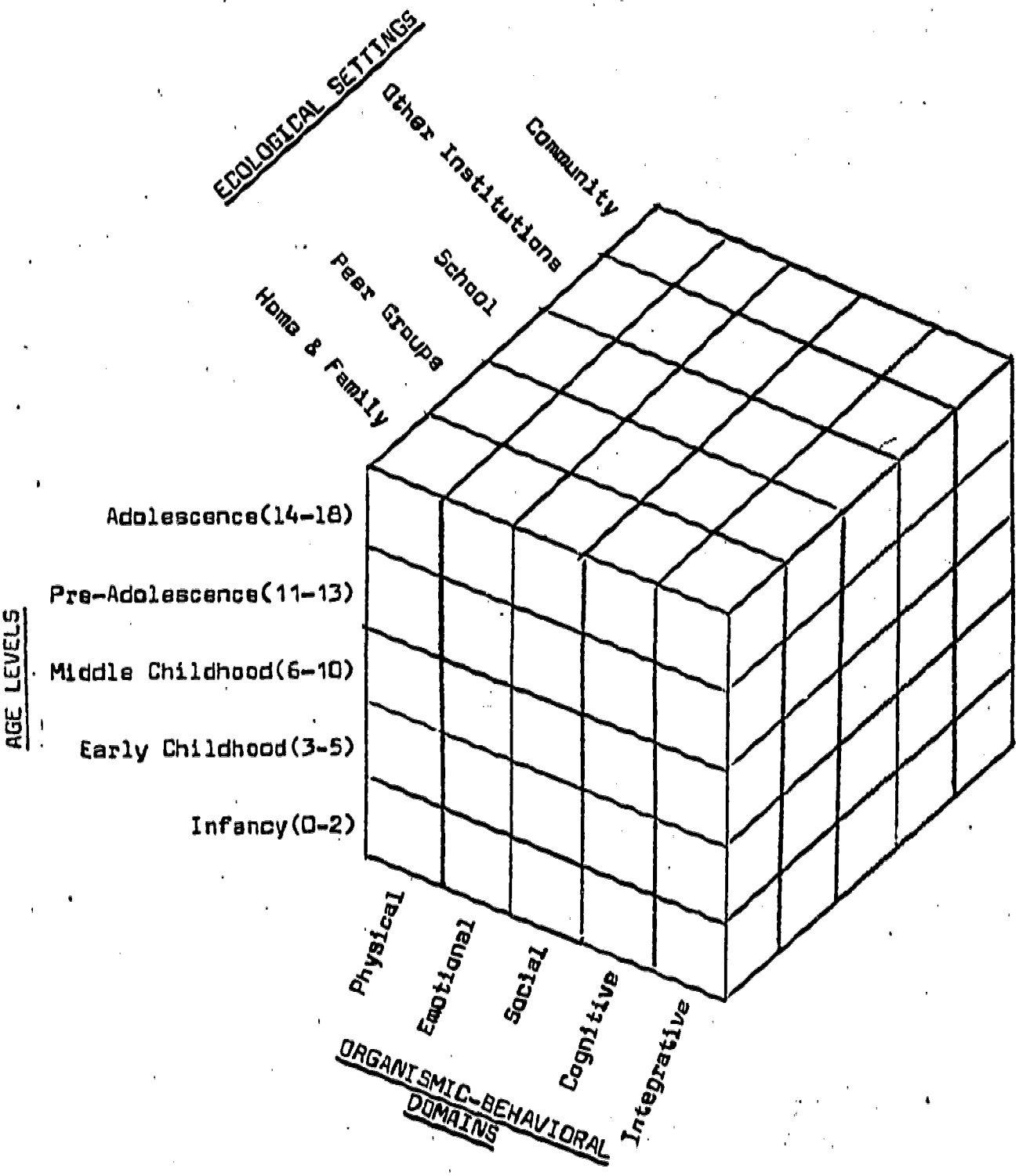


Figure 1. A Measurement Model for Assessing the State of the Child

of the literature, discussions with knowledgeable persons, and an examination of many research instruments, ranging from those with a relatively narrow focus, such as the measurement of temperamental characteristics of young children[6], to fairly broad instruments, such as those employed in the Health Interview Surveys and Health Examination Surveys of the Public Health Service.

Initially, the five age-level schedules (age 1, ages 2-4, 5-10, 11-14, 15-18) were subjected to field testing by our staff in New York City. Potential respondents were approached by various means. For example, several nursery schools and daycare centers permitted us to distribute letters to parents requesting volunteers. About 50 interviews were conducted in this phase of the pretesting and on the basis of the interviewing experience and the responses, the schedules were revised. Through the assistance of the Texas Office of Early Childhood Development[7], the revised instruments were used to obtain about 50 additional interviews from several urban and rural areas in Texas. After further revision, we contracted for the National Opinion Research Center of the University of Chicago to conduct 60 interviews in the New York Metropolitan area and to assist in the final revision of the interview schedules. At the start of the pretesting phase we had five rather detailed, complex schedules, each of which required an average of about two

---

[6] For example: Carey, W. B. Measurement of infant temperament in pediatric practice. In J. C. Westman (Ed.) Individual differences in children. New York: Wiley, 1973.

Carey's items are based on the New York Longitudinal Study which is described in such works as: Thomas, A., et al. Behavioral individuality in early childhood. New York: New York University Press, 1963., and Thomas, A., et al. Temperament and behavior disorders in children. New York: New York University Press, 1968.

[7] We would like to express our appreciation to the staff of the Texas Office of Early Childhood Development and especially to its Director, Jeannette Watson, and its Director of Planning, David Nesenholtz, for their generous aid in planning and conducting these interviews.

hours to administer. At the end of this process we had three relatively direct and simple age-level instruments (age 1, ages 2-4, ages 5-10), each of which required from one hour to an hour and a half to administer.

Selection of Counties for Sample Surveys

The DIPOV Indices for the 62 counties of New York State in 1970, 1971 and 1972 were examined with the purpose, originally, of selecting for study from three to six counties covering the range of DIPOV values. Considerations of time and cost, however, cause us ultimately to restrict the selection to two counties, one with a high DIPOV value and one with a low value. Furthermore, special problems of methodology and cost made necessary the arbitrary exclusion of the counties of New York City, even though Bronx, Kings (Brooklyn), and New York (Manhattan) counties had the most extreme DIPOV values.

Albany county was designated on the DIPOV scale as one of the "worst" counties and Saratoga county as one of the "best" counties, and these were chosen for study by means of the sample surveys. The comparative data for 1970 on the DIPOV Indices, DIPOV indicators, and related variables for Saratoga and Albany counties are presented in Table 2. For further contrast, the comparable data for New York county and New York State are also included.

Survey Sampling in Albany and Saratoga Counties

Each of the two selected counties was subjected to a form of probability area sampling in order to obtain representative samples of families with at least one child between the ages of one and ten years. The entire sampling process, summarized below, can be viewed as a four-stage sequential procedure. The details of sampling are presented in

TABLE 2

DIPOV INDICES, DIPOV INDICATORS AND RELATED VARIABLES (1970)
FOR SARATOGA COUNTY, ALBANY COUNTY, NEW YORK COUNTY AND NEW YORK STATE*

Index, Indicator or Variable	Saratoga County	Albany County	New York County	New York State
DIPOV Index**	-1.03	1.19	4.34	0.87
Children in AFDC (per 100)	1.5	5.9	32.0	14.0
Incomplete Families (per 100)	10.1	15.0	34.8	18.4
Premature Births (per 1000)	66.0	95.0	114.0	89.0
Out-of-Wedlock Births (per 100)	4.2	10.8	26.7	14.0
Juvenile VD (per 100,000)	4.0	283.0	461.0	135.0
Infant Mortality (per 1000)	17.0	20.1	22.2	19.2
Median Family Income	10,500	11,038	8,983	10,617
Physicians (per 100,000)	46.0	128.0	356.0	123.0
Under 18 (per 100)	37.3	31.2	21.5	32.0
White Population (per 100)	98.9	94.1	70.8	86.8

*Some of these values differ from data presented in earlier publications. These data are the most current and accurate.

**Each county DIPOV Index is a mean standard score based on the standard scores of the five DIPOV indicators. The standard scores for each indicator are based on the overall mean and standard deviation, which for the values in this table were the mean and standard deviation of all the over 3000 counties nationwide. In earlier publications concerning the counties of New York State, the DIPOV Indices were based on the mean and standard deviation of all the counties of New York State. The state DIPOV Index is the mean of the county DIPOV Indices, weighted by the county populations.

High positive DIPOV Indices indicate an unfavorable status since this reflects a greater proportion of Children in AFDC, etc. Conversely high negative DIPOV Indices indicate a favorable status.

Appendix A.

First-Stage: A Sample of Primary Sampling Units

Primary Sampling Units were created from Enumeration Districts and Block Groups, which are divisions defined by the Census Bureau, and which when taken together comprise the entire area and population of a larger geographic area such as a county. Enumeration Districts are population areas averaging about 250 housing units, and Block Groups are combinations of contiguous blocks having a combined average population of about 1000.

Population data from the 1970 census for these Primary Sampling Units were updated for 1975 after consultation with local officials. These corrections were estimates based on reports of new residential construction in the towns, villages and cities of each county. In Albany this update almost entirely involved a shift of population since the county population increase was estimated at only about 1% by the Census Bureau. Saratoga, however, had a substantial population increase between 1970 and 1974, probably about 15%. After correction, the Primary Sampling Units in each county were stratified by urban-rural status, proportion of white population, and median income. A systematic sample of Primary Sampling Units in each county was then drawn with probability proportional to size. ("Size" in this instance refers to number of households.)

Second-Stage: A Sample of Segments and Blocks

Each selected Primary Sampling Unit was subdivided for a second-stage sample. Segments were constructed in Enumeration Districts by the use of aerial photographs and survey maps, and block divisions within Block Groups were obtained from census publications. Segments or blocks were then selected with probability proportional to size (number of households).

Third-Stage: A Sample of Households

Each selected segment or block was surveyed in the field and a proportion of the households was selected systematically according to a predetermined sampling ratio. Address lists were compiled in this process. Subsequently, interviewers were sent to the selected addresses. Those households with at least one child between the ages of one and ten years were "qualified" for the study and, when possible,an interview was obtained.

Fourth-Stage: One Randomly Sampled Child

In each "qualified" household, the interviewer, by use of a set of prepared tables, randomly selected one child of those in the age range one through ten years.

In Albany county about 2250 households were approached but about 1750 of these did not contain a child in the study population. Completed interviews were obtained from about 425 families, yielding a response rate of approximately 85%. (See Appendix A for the exact numbers.)

In Saratoga county about 2000 households were screened, about 1360 were not "qualified" and about 550 families were interviewed. This resulted in a response rate of approximately 86%. (See Appendix A for the exact numbers.)

The field work for this study required about six months, from January to July of 1975. Interviewers were hired in Albany, were trained and then conducted interviews in both counties. The economically and methodologically satisfying procedure of using the same intervewers in both counties was made possible by geography. Albany and Saratoga counties are contiguous. At various times from 15 to 20 interviewers were employed in this task, supervised by two people from our office, who were first stationed in the city of Albany and later in Saratoga Springs.

III. PLAN OF DATA ANALYSIS

Overview

The logical structure of our entire sequence of studies can be characterized as an attempt to develop a set of "quality-of-child-life" indicators and then to evaluate the ability of these indicators to depict life quality ecologically (i.e., in successively more proximal environments represented by smaller and smaller geographical units). Our earlier work, which employed "available" data exclusively, identified five indicators (the DIPOV indicators) that reliably formed a highly intercorrelated cluster both over time and within sets of successively smaller geographical units: states, counties, city districts. The present study, which by means of sample surveys and household interviews in two counties has collected "new" data concerning children and their families, seeks to cross-validate the available-data DIPOV indicators and to evaluate the relationship between, on the one hand, DIPOV indicators and other variables for various ecological units, and, on the other hand, such child variables as physical health and cognitive, social and emotional functioning. In line with the logical structure of our studies, our evaluation takes the form of a distal-to-proximal ecological progression: counties, Primary Sampling Units (PSUs), neighborhoods, and finally families. PSUs had been used in obtaining probability samples of the counties, as discussed earlier, and the sampling frame enabled us to use census data for PSUs to characterize ecological settings which would be smaller than counties, but larger than neighborhoods. In rural areas PSUs are approximately the size of small communities, while in urban areas they are approximately the size of city districts. In Albany county 249 PSUs had been created and in Saratoga county, 82 PSUs. The final sample was composed of 98 PSUs, 49 in each county.

A distal-to-proximal progression of ecological settings may be represented statistically by a "hierarchical" multiple regression model[8], which indicates the extent to which measures of the quality of child life can be predicted from county membership, and then successively indicates the added predictability afforded by PSU, neighborhood,and then family variables. This analytic scheme allows the most distal unit (county) to account for as much variability in each child measure as it can, then permits the next most distal unit (PSU) to account for as much of the remaining variability as it can, and finally allows the more proximal units (neighborhood and family) to account for as much of the remaining variability as they can. We recognize that in much research analysis focusses primarily on the smallest aggregates available, exploring relationships among variables characterizing the individual child and his family, say. We are certainly interested in analysis at the family level, but our research arose historically from an interest in social indicators. Since social indicators are normally available on an aggregated basis and since planning is usually done in terms of aggregated units, it is sensible for us to employ a distal-to-proximal analysis. To the extent that the state of children can be predicted from the data available at the county and PSU levels, the need for expensive surveys of individual families will be reduced.

The first step in the analysis was to determine whether proxies for the DIPOV variables which were derived from the survey data would provide the same picture of the two counties as was provided by the available-data DIPOV variables. As was described earlier, Albany and Saratoga counties were selected because they are at opposite extremes on the scale of DIPOV

---

[8]Cohen, J. and Cohen, P. Applied multiple regression/correlation analysis for the behavioral sciences. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1975.

Indices derived from available data. Compared to Saratoga county on these available data, Albany county has a higher rate of Dependency, Incomplete Families, Premature Births, Out-of-Wedlock Births and Juvenile Venereal Disease, and, of course, a DIPOV Index at the unfavorable end of the scale. As a result of the sample surveys in these two counties, we have the aforementioned proxies for the DIPOV variables, which can be related to the available data. If the DIPOV Indices and the component DIPOV indicators based on available data provide an accurate picture of the counties, and if the county samples are representative, we would expect county membership to predict relative status on the DIPOV proxies. If this is so, we can consider that the available-data indicators have been cross-validated. On the other hand, a substantial difference between the available-data and the survey-data indicators would be troubling and would complicate any further analyses. A test of whether county membership predicts relative status on the survey-data DIPOV variables is accomplished in one phase of an analysis employing a hierarchical multiple regression model. The details of this model (Analytic Model 1) are presented in the next section.

If expectations are confirmed in the first step, the next step is to determine the extent to which a large number of variables, describing such things as the physical health and the cognitive, social and emotional functioning of children, are predictable from successively more proximal sets of ecological variables. This is accomplished by, again, employing a hierarchical multiple regression model (Analytic Model 2). That is, first, county membership, the most distal of our variables, is used to predict status on the health and social/emotional functioning variables. Then, after the variability due to county status is removed, the next most proximal sets of

variables, representing PSU characteristics, are used to predict status on the health and functioning variables. After the variability due to the PSU sets is removed, a "neighborhood" set is entered into the model, and then, in turn, seven successively more proximal "family" sets of variables are entered.

The details of our basic analytic models are presented in Sections IV and VI. Analytic Model 1 is for predicting survey-data indicators from available-data indicators, and Analytic Model 2 is for predicting a wide variety of child health and behavior and parental variables from an extensive group of county, PSU, neighborhood and family variables.

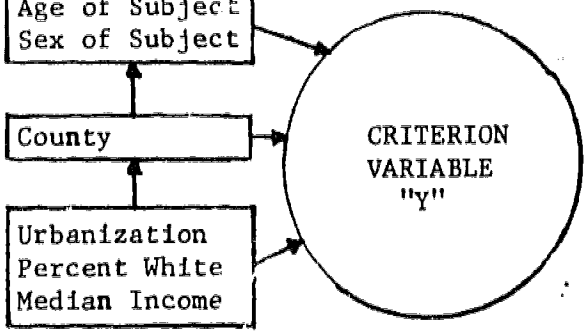
IV. ANALYTIC MODEL 1: PREDICTING SURVEY DATA FROM AVAILABLE DATA

This analysis employs a single hierarchical multiple regression model for predicting each of ten criterion variables from six predictor variables. The predictor variables are grouped in sets which generally represent the research issues to be explored in the data, and the analysis takes the form of testing whether each set accounts for significant criterion variance after the preceding sets have been partialled out. Figure 2 displays this basic regression model in schematic form. The six predictor variables are grouped into three sets, ordered from top to bottom in Figure 2. The set of criterion variables, each of which is separately predicted, contains seven variables of primary interest to us: the five DIPOV proxies and two indices based on these proxies. The other three criterion variables are included principally for the purpose of comparison.

The rationale for this model is that we want, first, to partial out the subject variables (Set I). We have little interest in these variables as such, but since the county and PSU samples vary in Age and Sex of study children (even though the census data we have do not show population differences), and since Age and Sex are related to some of the criterion variables, it is advisable to partial out these effects. Next we want to test the difference between counties (Set II). This constitutes a determination of the cross-validity of the DIPOV indicators and the DIPOV Index. The criterion variables are based on sample survey data, so that if county membership predicts the DIPOV proxies significantly and in the expected direction, we can consider the available data to be cross-validated. The next set of predictor variables (Set III) allows us to determine the extent to which certain variables for smaller, relatively homogeneous geographical areas (PSUs) will predict the criterion

PREDICTORS

SETS		VARIABLES
I.	Subject variables	Age of Subject Sex of Subject
II.	County	County
III.	PSU variables	Urbanization Percent White Median Income



CRITERION VARIABLES

Dependency
Incomplete Families
Premature Births
Out-of-Wedlock Birt
Venereal Disease,
Juvenile

DIPOV Index
DIPO Index

Infant Mortality
Prenatal Neglect
Father and Substitu
Father Absent

Figure 2. Schematic representation of hierarchical multiple regression model for predicting survey data from available data.

variables. These PSU variables are the census-derived measures we employed in the stratification process: Urbanization (urban-rural status), Percent White, Median Income. If the DIPOV variables were available by PSU we would have used them in this analysis, but since such variables are not provided below the county level, we employed the best set available.

In the hierarchical regression model, the statistical strategy consists of testing the incremental variance accounted for by each successive set of variables, using the well-known test for significance of an incremental $\underline{R}^2$. When the incremental $\underline{R}^2$ is significant at the .05 level, we attempt to interpret the results. An examination of the regression coefficients for variables in the set will usually determine which of the variables in the set are responsible for the observed effect, and enable us to interpret the direction and approximate size of effects.

First, we will discuss each of the predictor sets, and then we will describe the criterion variables that appear in this analysis.

Predictor Variables

Set I: Subject Variables

Some of our criterion measures vary with the Age and Sex of the sample child, as mentioned earlier, so we have included these two subject variables first in the model. All later effects may be interpreted as effects which are independent of the Age and Sex of the child. Strictly speaking, they are effects which are independent of the linear effect of Age, but we judged that nonlinear effects of Age were not likely to be important for our data.

Set II: County

To test whether the counties (coded: 1 = Albany, 2 = Saratoga) differ

on the criterion variables, the county variable was included next in the model. The county effects are interpreted exactly as they would be in an analysis of covariance, with Age and Sex as covariates. As a matter of information, we tested whether there were significant Age x County and Sex x County interactions by creating the appropriate crossproducts and including them as a set following Set II. The crossproduct set was not significant for any of the ten criteria, and we dropped the crossproduct terms from the model. We conclude that there is no evidence that relationships between the criterion variables and either Age or Sex can be said to be different in the two counties.

Set III: PSU Variables

The final set in this analysis includes the three variables employed in stratifying the PSUs prior to sampling in Albany and Saratoga counties. For each of the 98 PSUs yielding completed interviews[9], we have census data or census-derived data on Urbanization, Percent White, and Median Income. The test of this set, then, determines whether any of the criterion variables are predictable from the three PSU variables for the 98 units of analysis.

Criterion Variables

Each of the criterion variables was derived from information supplied by the respondents in the household interview. First, there are the five DIPOV proxies. Dependency is based on a question asking if any of the

---

[9] Two of the 100 sampled PSUs yielded no interviews. One of these no longer contained any residential structures. The other contained only one "qualified" household in the sample and the mother refused an interview.

1974 family income was from Welfare; Incomplete Families on whether the household enumeration included both "parents"[10]; Premature Births on whether the sample child or any siblings weighed less than 2501 grams at birth; Out-of-Wedlock Births on a determination of out-of-wedlock status for any of the children based on the correspondence between their birth dates and the dates contained in the mother's marital history; and Juvenile Venereal Disease on a question asking if anyone in the household under age 20 ever had a venereal disease.

The next two criteria are proxies for the DIPOV Index. For each family a DIPOV Index was created by counting "1" for the occurrence of welfare income, incomplete family status, premature and out-of-wedlock status for any of the children, and venereal disease for any juvenile, and counting "2" for the absence of each of these. The resulting variable ranges from 5 to 10, with high scores indicating absence of the five conditions.

The DIPO Index differs from the DIPOV Index only in the omission of the Juvenile Venereal Disease variable. This was done because there were few reported instances of juvenile venereal disease (9 cases in the entire sample of 976). We anticipated this result since the target population consisted of families with a child between one and ten years of age. To a great extent this excluded families with teen-age children, who are at the greatest risk for juvenile venereal disease. In addition, since many cases of juvenile venereal disease are treated without parental knowledge, the respondents may not have had the information to answer the item correctly. Also, the question is quite sensitive and some respondents may have chosen not to respond accurately. In any event, we decided to form an index based on only four components -- hence, "DIPO" rather than "DIPOV."

---

[10]The "parents" did not have to be the natural parents. If the mother or primary female caretaker had a husband in the household, both "parents" were considered to be present.

Finally, there are three additional variables included mainly for comparison with the DIPOV variables. Infant Mortality is based on the death before the age of one year of any live-born child of the sample child's mother (coded: 1 = occurrence, 2 = non-occurrence); Prenatal Neglect is based on medical care received by the mother during pregnancy (coded: 1 = no medical care in first two trimesters or no medical care at all, 2 = initial medical care in second trimester and care less than every two months thereafter, 3 = all others); and Father and Substitute Father Absent is based on whether the father (or the respondent's husband) was a member of the household and, if not, whether the respondent reported that someone acted very much like a father to the sample child (coded: 1 = no father or substitute father, 2 = either father or substitute father). Of course, the Father and Substitute Father Absent variable overlaps considerably with the Incomplete Families variable.

V. RESULTS: PREDICTING SURVEY DATA FROM AVAILABLE DATA

A summary of the results of this regression analysis appears in Table 3. For each of the ten criterion variables, the proportion of variance accounted for (R^2) or the incremental proportion of variance accounted for (ΔR^2) by each predictor set is presented. In addition, if the predictor set as a whole is significant, the beta values (standardized regression coefficients) and their signs are noted. If the significant predictor set contains more than one variable, betas are presented for each variable in the set.

To illustrate what this analysis reveals, let us first consider two of the criterion variables: Dependency and Prenatal Neglect.

Dependency

Dependency is not predictable from the first predictor set, Subject Variables. This indicates that there is no relationship between, on the one hand, the Age and Sex of the sample child and, on the other hand, the Dependency status of the family.

The second predictor set, which is composed of a single variable, county membership, does predict Dependency ($\Delta R^2 = .013$, $p < .001$). The beta value of this predictor is positive, and since the coding of Dependency was 1 = welfare income, 2 = no welfare income, and the coding of county membership was 1 = Albany, 2 = Saratoga, the positive beta indicates that Saratoga has fewer dependent families than Albany. The magnitude of beta (.117) is not large but we would not expect it to be since there is considerable overlap between the counties -- e.g., most of the families in both counties had no welfare income. The available data on Dependency indicated that in 1970 the percentage of children in AFDC in Albany County

TABLE 3

SUMMARY OF THE RESULTS OF REGRESSION ANALYSIS
PREDICTING SURVEY DATA FROM AVAILABLE DATA

	PREDICTOR SET									
	I Subject Variables			II County		III PSU Variables				
CRITERION VARIABLE	R^2	Betas at Step 2 Age	Sex	ΔR^2	Beta at Step 3 County	ΔR^2	Betas at Step 6 Urb.	% White	Mdn.Inc.	Final R
Dependency	.005	--	--	.013***	.117***	.202***	-.089*	.387***	.154***	.469***
Incomplete Families	.000	--	--	.029***	.169***	.125***	-.127**	.284***	.141***	.393***
Premature Births	.021***	-.144***	-.014	.000	--	.009*	.026	.041	.065	.172***
Out-of-Wedlock Births	.014***	.114***	-.033	.015***	.122***	.128***	-.006	.327***	.099**	.397***
Juvenile Venereal Disease	.002	--	--	.000	--	.012**	.087*	.088*	.002	.118**
DIPOV Index	.000	--	--	.027***	.163***	.235***	-.066	.411***	.182***	.511***
DIPO Index	.001	--	--	.027***	.163***	.232***	-.077*	.407***	.183***	.509***
Infant Mortality	.002	--	--	.000	--	.011*	.121**	.048	-.014	.113
Prenatal Neglect	.010*	-.055	-.083*	.001	--	.002	--	--	--	.115
Father and Substitute Father Absent	.001	--	--	.008**	.088**	.031**	-.062	.152***	.051	.200***

*p < .05
**p < .01
***p < .001

was 5.9%, and in Saratoga county, 1.5%. (The percentages are essentially the same in 1971 and 1972.) The survey data, which provided a Dependency proxy (percentage of families with welfare income in 1974), show 10.7% in Albany county and 4.6% in Saratoga county. For the purpose of cross-validating the available data, it is necessary that the regression coefficient be significant and have the appropriate sign, but the magnitude of beta need not be large. Both of the necessary conditions are met in this case.

The third predictor set also predicts Dependency (ΔR^2 = .202, $p < .001$). Of the three variables in the PSU set, Percent White is the strongest predictor (beta = .387). The positive sign indicates that as the census-derived variable, Percent White, increases among the PSUs, Dependency decreases. (This is so because, recall, the coding was 1 = welfare income, 2 = no welfare income). Median Income, the next strongest predictor in this set, also has a positive sign. This indicates, as we would of course expect, that as Median Income in the PSUs increases, Dependency decreases. The last variable in this set, Urbanization, also predicts Dependency. The sign in this case is negative, and since the coding was 1 = Rural, 2 = Urban, a negative sign is interpreted to indicate that the urban PSUs show more Dependency than the rural PSUs.

Note that the ΔR^2 associated with the PSU set is substantially larger than the ΔR^2 associated with county membership. This illustrates a finding which will be repeatedly met in the data-- namely, that far more of the criterion variance is accounted for by PSU membership (indexed here by the three demographic variables) than by county membership. In a sense, this pattern arises because PSUs are more homogeneous than counties, just as counties are more homogeneous than states and larger aggregates.

When we correlate the dichotomous variable "County" with a criterion, the correlation is solely a function of the mean difference between counties on the criterion -- as the calculator formula for a point-biserial correlation reveals. That mean difference, in turn, may be considered a function of differences in urbanization, ethnicity, income, and a host of other variables which discriminate the counties and also have a relationship with the criterion. To the extent that urbanization, ethnicity and income predict our criteria, we can expect measures of these variables at the family level to account for more variance than measures at the PSU level, and measures at the PSU level to account for more variance than the single variable "County."

The "Final R," in the last column of Table 3, is the multiple correlation obtained using all three predictor sets. For Dependency, $\underline{R} = .469$ ($\underline{p} < .001$), and $\underline{R}^2 = .220$ is the proportion of variance accounted for by these predictors at the County and PSU level. (Considerably more variance may be accounted for using measures at the family level, of course. By carrying the analysis further and including selected family variables in the model for predicting Dependency, $\underline{R}^2$ may be raised to .494.)

Prenatal Neglect

Prenatal Neglect is predictable from the first predictor set ($\underline{R}^2 = .010$, $\underline{p} < .05$), but only one of the subject variables, Sex, is a significant predictor. The beta value of this predictor is negative, and since the coding of Prenatal Neglect was 1 = extreme neglect, 2 = moderate neglect, 3 = no neglect, and the coding of Sex was 1 = female, 2 = male, the negative beta indicates that male sample children tended to be neglected prenatally. No reasonable interpretation of this effect

suggests itself. If taken seriously, it might imply that sex-typing begins earlier than anyone has supposed. Of course, it is probably a sampling artifact, and our primary reason for including the subject variables Age and Sex in the model is for purposes of partialling them out rather than for interpreting them.

Neither the County nor PSU set is significantly related to Prenatal Neglect, and the multiple correlation after all three sets are entered ($R = .115$) is not significant. Prenatal Neglect is difficult to predict, even with measures at the family level. Selected family measures raise R to only .249. This overall R is significant ($p < .001$), but indicates that only .062 of the variance is accounted for. The absence of a relationship between Prenatal Neglect and County is not surprising, since the available data for these two counties in 1970 show Prenatal Neglect rates per 100 of 2.4 for Albany county and 3.2 for Saratoga county with a standard deviation for the 62 New York State counties of 5.7. When the county rates are so close, we would not expect prediction to be possible. On the other hand, even in this sort of instance, it is possible that the PSU set would be able to predict. It does not in this case.

DIPOV Variables

Considering the seven DIPOV variables together, Table 3 indicates that both indices and three of the five DIPOV components are predictable from county membership. Furthermore, since all the signs are positive indicating that Saratoga is "better," we can consider that for these variables the available data have been cross-validated.

The two criterion variables that are not predictable from county membership are Premature Births and Juvenile Venereal Disease. As described before, Juvenile Venereal Disease was probably not adequately

measured in the survey, most likely because our sample tended to exclude families with teen-age children. Premature Births presents a different problem. The 1970 rates of Premature Births are quite different for the two counties: 95.0 per 1000 in Albany county and 66.0 per 1000 in Saratoga county, with a standard deviation of 13.6 for the counties of New York State. However, the sample children in our study were between one and ten years of age in 1975. Therefore, they were born between approximately 1964 and 1974. The only earlier Prematurity rate we have for the two counties is the 1960 rate and that is not very different at all: 72.0 per 1000 for Albany county and 70.0 per 1000 for Saratoga county, with a standard deviation of 11.1. It is possible, then, that the Prematurity rates for children born, say, in the middle and late 1960's were not particularly different for the two counties, and since about 60% of our sample is composed of children born in the 1960's, perhaps this accounts for the lack of a difference in Prematurity rates in the survey data. Support for this interpretation appears in the comparative Prematurity rates in families with sample children between ages one and four (15.0% in Albany county, 10.0% in Saratoga county) and ages five and ten (19.5% in Albany, 21.1% in Saratoga).

Employing the PSU set, all seven of the DIPOV variables are predictable. However, not all of the variables in the PSU set are significant predictors, and in the case of Premature Births although the ΔR^2 is significant, none of the individual betas are significant. Percent White predicts six of the seven DIPOV variables, all in the same direction -- the greater the Percent White in the PSU, the fewer the problems. Median Income predicts five of the seven variables, all in the same direction -- the higher the Median Income in the PSU, the fewer the problems. Urbanization predicts

four of the variables, three in the direction of urban status associated with more problems. The exception is Juvenile Venereal Disease which shows rural status associated with more problems.

Again it might be noted that in general the magnitude of the betas is greater for the PSU predictors than for County, demonstrating the comparative strength of PSU and County predictors.

Other Variables

In general, prediction of Infant Mortality, Prenatal Neglect, and Father and Substitute Father Absent is less successful than prediction of the DIPOV variables. Only one, Father and Substitute Father Absent, is predictable from county membership. This variable is closely related to the Incomplete Families variable, considered above. When the "Father" was not listed as a member of the household, the family was considered an Incomplete Family but the respondent was also asked if someone (in or out of the household) acted like a father to the sample child. If the answer was "no," the family was considered to have Father and Substitute Father Absent. Thus, for this variable, the contrast is between families with and without a "Father" or "Substitute Father." Though predictable in the same way as Incomplete Families, the size of the betas and the final R are lower for Father or Substitute Father Absent. Prenatal Neglect was discussed earlier, and Infant Mortality is similar to that variable in that the county difference in the available data for 1970 is relatively small -- 20.1 per 1000 in Albany county and 17.0 per 1000 in Saratoga county, with a standard deviation of 4.0.

The PSU set predicts Father and Substitute Father Absent as well as Infant Mortality. However, the former variable is predictable only from Percent White, and the latter only from Urbanization with urban

status associated with less infant mortality.

The multiple correlation after all three predictor sets are entered is significant for only one of these variables, whereas all seven of the DIPOV variables are predictable.

VI. ANALYTIC MODEL 2: PREDICTING CHILD HEALTH AND BEHAVIOR AND SELECTED PARENT VARIABLES

Our second set of analyses also uses a single hierarchical multiple regression model for predicting, in this case, each of 101 criterion variables from 28 ecological and family predictor variables. In the first set of analyses, we attempted to show how well the proxies for the DIPOV Index and DIPOV components could be predicted from county and certain PSU variables. In this second set of analyses, we will show how DIPOV and other variables predict a wider set of normative variables bearing on the quality of child life. As before, the predictor variables are grouped in sets which represent the research issues to be explored in the data, and the analysis takes the form of testing whether each successive set accounts for significant criterion variance, after variables in the preceding sets have been partialled out.

Figure 3 displays Analytic Model 2 in schematic form. The 28 predictor variables are grouped into 13 sets, ordered from top to bottom in Figure 3. Thus, Set I contains the "Subject Variables," Age and Sex, and Set XIII contains the "Family Discipline" variables, Consistency of Punishment and Respondent Strictness.

As we did in Analytic Model 1 we want, first, to partial out the subject variables (Set I). Again, we have little interest in the subject variables as such, but many of our criterion measures vary naturally with Age and Sex. (Older children can perform more cognitive tasks than younger children; older children are more likely than younger children to have had any given illness during their lives; boys are generally more active than girls; and so on.) Next we want to test the differences between counties (Set II), since our original reason for selecting the two counties was that they were at opposite extremes on the DIPOV Index, and we want to test the prediction that children in the "better" county are healthier, happier, brighter, and so on. Predictor Sets I and II are identical in Analytic Models 1 and 2.

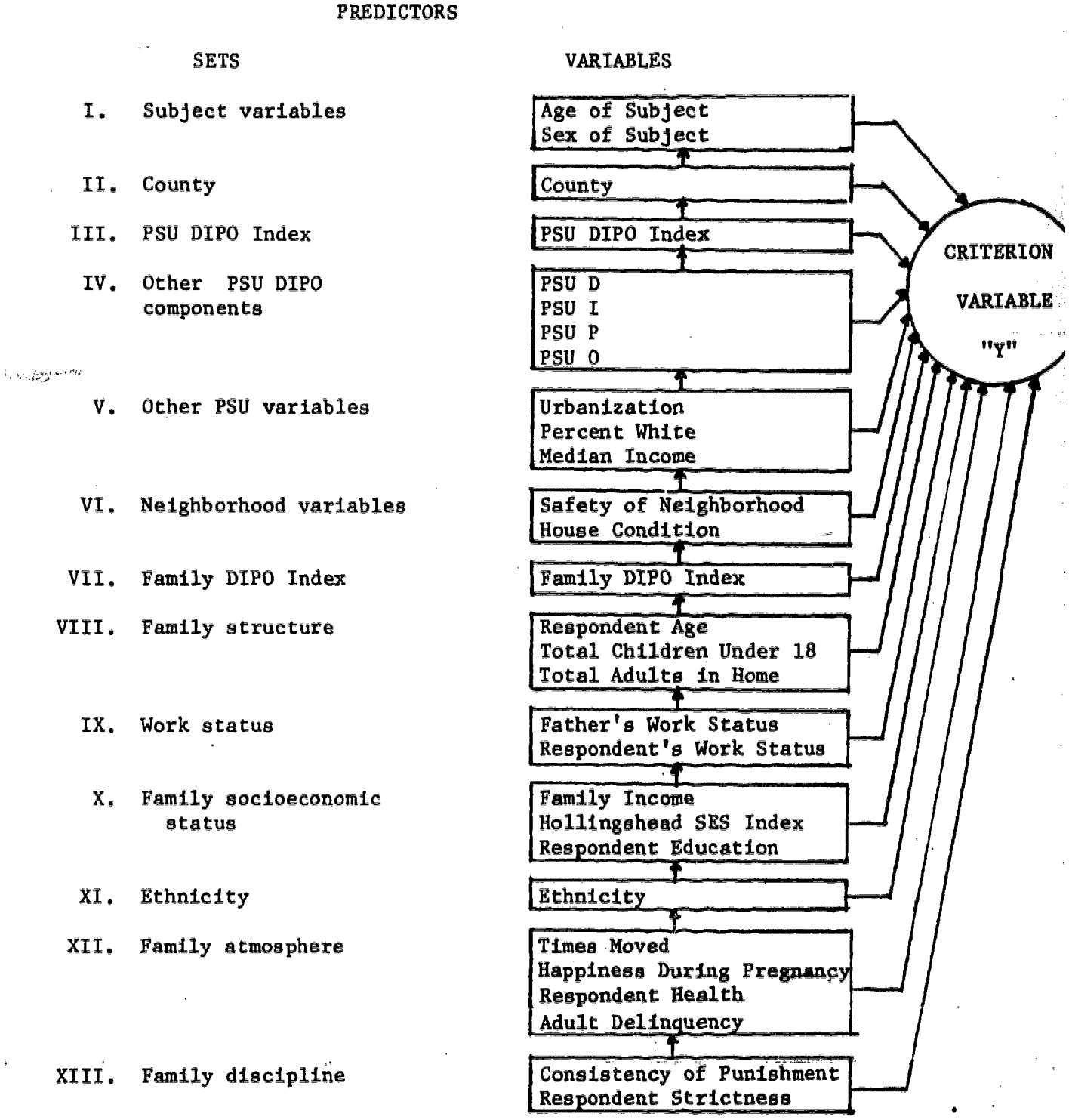


Figure 3. Schematic representation of hierarchical multiple regression model for predicting child health and behavior and selected parent variables.

After examining the between-county differences, we want to know the extent to which smaller, homogeneous geographical areas will vary among themselves, and the extent to which differences between areas are predictable from a proxy for the DIPOV Index which was developed from the interview material (Set III). The single predictor in Set III is the DIPO Index proxy measured at the PSU level. The model also includes three additional sets (IV, V and VI) which contain measures of other characteristics of PSUs and neighborhoods. Finally, we want to know how well the criterion variables can be predicted from variables which characterize the individual family (sets VII-XIII). Thus, once again, the logic of our research dictates a regression model in which we ask how much criterion variance is accounted for by smaller and smaller aggregates, moving from county to PSU to neighborhood and, finally, to family.

In the remainder of this section, we will briefly discuss each of the predictor sets. The individual predictors are described in connection with the sets of predictors, and a detailed table of the individual predictors is contained in Appendix B. The 101 criterion variables are also presented in a detailed table in Appendix B.

Set I: Subject Variables

Many of our measures vary normally with the Age and Sex of the child, as mentioned earlier, so we have included these two subject variables first in the model.

Set II: County

To test whether the counties differ on the criterion variables, the county variable was included next in the model. As we indicated for Analytic Model 1, the county effects are interpreted exactly as they would be in an analysis of covariance, with Age and Sex as covariates. As a matter of

information, we tested whether there were significant Age x County and Sex x County interactions by creating the appropriate crossproducts and including them as a set following Set II. The number of such effects was at the chance level (about 5 out of 100 such effects were significant), and we dropped the crossproduct terms from the model. We conclude that there is no evidence that relationships between the criterion variables and either Age or Sex can be said to be different in the two counties.

Set III: PSU DIPO Index

The method of creating a Family DIPO Index was described earlier. To recapitulate briefly, a Family DIPO Index was created by counting "1" for the occurrence of welfare income, incomplete family status, and premature and out-of-wedlock status for any of the children, and counting "2" for the absence of each of these. The resulting variable ranges from 4 to 8, with high scores indicating absence of the four conditions. The mean Family DIPO Index score for families in a particular PSU, then, was used as the PSU DIPO Index variable, and assigned to each family in the PSU. We would stress that this variable is not the same as the DIPOV Index variable referred to in earlier research, and used to select the two counties chosen for intensive study. The original DIPOV Index variable was based entirely on official or semi-official records available on a continuing basis. The PSU DIPO Index variable used in this study is, nevertheless, a reasonable proxy for the original DIPOV variable, and it is of interest to ask whether the PSU DIPO Index accounts for any variance after County (and Age and Sex) is partialled out.

Set IV: Other PSU DIPO Components

This next set was used to determine whether the set of four PSU DIPO components accounts for significant variance after the PSU DIPO Index is partialled out. That is, scores to represent PSU D, I, P, and O status were

created, in addition to the PSU DIPO Index variable in Set III. Since the latter is equal to the sum of the four components, it is sufficient to include any three[11] of the components in Set IV, and test for significance the incremental variance accounted for by the set.

Set V: Other PSU Variables

This set includes the variables Urbanization, Percent White, and Median Income, available by PSU and used in the stratification for sampling discussed in an earlier section. Notice that Sets II-V contain 9 variables measured at the level of county or PSU. We could have formed 97 linearly independent dummy variables in any manner, representing the 98 PSUs, in order to show how much sample variance is accounted for by PSU (i.e., as in an analysis of variance, $J-1$ dummy variables can be used to show how much variance is accounted for by J treatments[12]). However, we consider that the 9 variables in Sets II-V tap the major dimensions along which the PSUs vary, so it will be of interest to note the incremental R^2 accounted for by variables in these sets. (That incremental R^2 indicates how much of our sample variability is between-PSU variability, and the remainder is within-PSU variability and error of measurement.)

Set VI: Neighborhood Variables

This set contains two variables measured at the family level--Safety of Neighborhood and House Condition--which may be considered to be variables characterizing neighborhoods. (We assume here that a respondent's judgment about the safety of her neighborhood will resemble that of her neighbors, and that the condition of the respondent's dwelling will also resemble that of

---

[11] This is why we spoke earlier of 28 predictor variables, even though 29 variables are listed in Figure 3.

[12] Cohen, J. and Cohen, P. op cit., p. 186.

her neighbors.)

Set VII: Family DIPO Index

Recall that a proxy measure of Family DIPO status is available for each respondent (as discussed in connection with the PSU DIPO Index measure of Set III). The incremental variance accounted for by the Family DIPO Index indicates whether the Family DIPO Index remains a useful predictor after partialling out the various PSU and neighborhood measures.

Set VIII: Family Structure

This set contains three variables (Respondent Age, Total Children under 18, and Total Adults in Home) which might be considered contaminants of the later family measures. For example, Family Socioeconomic Status would be expected to be higher with increasing Respondent Age and Total Adults in Home. Accordingly, this set of family variables is included next.

Set IX: Work Status

This set includes measures of Father's Work Status (coded: 2 = full-time, 1 = other) and Respondent's Work Status (coded 2 = not working, 1 = other). Note that we have (approximately) adjusted the Father's Work Status variable for father absence, by including the Total Adults in Home variable in the previous set, so that the results obtained for Father's Work Status are interpretable as the effect of the father working full-time in homes where the father is present.

Set X: Family Socioeconomic Status (SES)

This set includes three overlapping measures of SES: Family Income, Hollingshead SES Index[13], and Respondent Education. The Hollingshead SES Index is a weighted sum of the father's occupational and educational status (as discussed further in Appendix B), so Father's Education is indirectly included in this set.

---

[13]Hollingshead, A. B., and Redlich, F. C. Social class and mental illness. New York: Wiley, 1958.

Set XI: Ethnicity

This set includes the single variable Ethnicity (coded: 2 = White, 1 = other). The Ethnicity variable is correlated with the SES variables in Set X, and our intent here was to attempt to isolate effects of ethnicity from the independent effects due to socioeconomic status, single-parent status, and so on.

Set XII: Family Atmosphere

This set includes four rather heterogeneous variables: Times Moved, Happiness During Pregnancy (intended as a proxy measure of parental satisfaction with parenthood), Respondent Health (a self rating), Adult Delinquency (a measure of drug use, excessive drinking, and trouble with the police for adults in the home).

Set XIII: Family Discipline

The final set includes two respondent self-ratings, Consistency of Punishment and Respondent Strictness, which were considered particularly relevant to prediction of the personality variables.

VII. RESULTS: PREDICTING CHILD HEALTH AND BEHAVIOR AND SELECTED PARENT VARIABLES

The results of the first regression analysis (by Analytic Model 1), presented in Section V provide a cross-validation of the DIPOV indicators at the county level. That is, the contrast between the two study counties that appears in the available-data DIPOV variables is substantially duplicated in the survey-data DIPOV proxies. Therefore, these two sets of data can be considered mutually reinforcing--our confidence in the available data is strengthened and our assumption concerning the representativeness of the survey sample is supported. Now the question becomes--Can the DIPOV proxies at county, PSU and family levels, or certain other "neighborhood" and family variables predict the health and the social-emotional and cognitive functioning of children, as well as parental behaviors associated with these child organismic-behavioral domains? The answer to this question is the focus of the second regression analysis (by Analytic Model 2).

Regression Analysis

Predictor and Criterion Variables

As described in considerable detail in Section VI, Analytic Model 2 employs 28 predictor variables grouped in 13 sets. Table 1B in Appendix B lists and describes these predictor variables. In this analysis all 13 sets are used to predict each of the 101 criterion variables, so that there are actually 101 separate regression analyses. Table 2B in Appendix B contains a brief description of the way in which each criterion variable was obtained, and the schedules to which each variable applies. Owing to differences in coverage provided by the three schedules, some of the criterion variables are available for only one of the three schedules, some for only two of the three, and some for all three. The three age-level schedules are symbolized by A (1 year), B (2-4 years), and C (5-10) years.

The criterion variables were conceptualized as falling into several broad domains and subdomains, as follows:

		Number of Variables
I.	Health	
	A. Prenatal, Perinatal	2
	B. History	12
	C. Present Condition	12
	D. Parental Care	5
II.	Social-Emotional	
	A. Temperament Scales	13
	B. Temperament Types	5
	C. Indices and Traits	29
	D. Parental Discipline	8
III.	Cognitive	
	A. Child Ability	9
	B. Parental-Institutional Support	6
		101

The list of criterion variables in Table 2B and the results of the regression analyses are presented in terms of this basic framework. Most of the criterion variables are straightforward indices or direct answers from the interview material, and need little elaboration here.

In the regression analyses, cases missing a score on the criterion variables were omitted from the analysis of that criterion. There were relatively few cases of missing data on the predictor variables, and we used "pairwise deletion" to handle missing data on the predictors.

Results

A complete presentation of the results of the 101 regression analyses would be excessive and forbidding. Instead, summary tables have been prepared to extract the essence of these analyses. Table 4 indicates what percentage of the 101 criterion variables was found to be significantly predicted by each of the 13 predictor sets. For example, Set III (PSU DIPO Index) successfully predicts 28% of the criterion variables at better than the .01 level and 44% at better than the .05 level. In general, it can be seen that all of the sets successfully predict at least a fair percentage of the criterion variables and some sets predict a very substantial percentage, in spite of the fact that variance is partialled out set by set. Set XII, for example, predicts 29% of the criterion variables ($p < .05$) even though the variance associated with the 11 preceding sets was removed before Set XII was entered.

A more complete picture of successful prediction appears in Table 5. All of the criterion variables, within their categories, are listed in this table, and the Xs in the body of the table indicate which criteria are successfully predicted ($p < .05$) by each of the predictor sets.

The most complete presentation of these results appears in Tables 1C-13C in Appendix C. Each of these tables deals with one of the predictor sets (e.g., Table 1C with Set I, Subject variables; Table 2C with Set II, County, etc.). For each predictor set, only the criterion variables found to be significant for that set appear in the table, so that Table 1C contains the 58 criterion variables predictable from subject variables (age and sex). These tables include the following information:

(1) The number and name of the criterion variable

(2) The number of families included in the analysis (N)

(3) The specific age-level schedules included in the analysis.

(4) ΔR^2 (R^2 in Table 1C) which is the incremental proportion of

TABLE 4

PERCENT OF THE 101 CRITERION VARIABLES SIGNIFICANTLY PREDICTED BY EACH OF THE 13 PREDICTOR SETS

		SIGNIFICANCE LEVEL	
	PREDICTOR SET	$p < .05$*	$p < .01$
I	Subject	57	48
II	County	17	8
III	PSU DIPO Index	44	28
IV	PSU D,I,P,O	10	5
V	Other PSU Variables	21	10
VI	Neighborhood Variables	31	20
VII	Family DIPO Index	14	6
VIII	Family Structure	29	12
IX	Work Status	11	4
X	Family SES	27	22
XI	Ethnicity	13	4
XII	Family Atmosphere	29	15
XIII	Family Discipline	26	10

*These percentages are cumulative, i.e., they include all the variables significant at better than the .01 level.

TABLE 5

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
HEALTH													
PRENATAL, PERINATAL													
1. Major Pregnancy Problems											x	x	
2. Birth Problems							x					x	
HISTORY													
3. Disease Index	x		x		x								
4. Severe Measles or Mumps	x		x					x			x		
5. Illness Index													
6. Major Health Problems												x	
7. Major Disorder with Extreme Behavioral Implications		x	x			x							
8. Eye Problems	x		x										x
9. Ear Problems	x												
10. Operations	x												
11. Accidents	x					x		x					
12. Hospitalization			x	x									

PREDICTOR SETS

I	Subject
II	County
III	PSU DIPO
IV	PSU D,I,P,O
V	Other PSU
VI	Neighborhood
VII	Family DIPO
VIII	Family Structure
IX	Work Status
X	Family SES
XI	Ethnicity
XII	Family Atmosphere
XIII	Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
HEALTH (cont'd)													
HISTORY (cont'd)													
13. Hospitalization for Major Problem			x									x	
14. Dental Problems	x			x									x
PRESENT CONDITION													
15. Weight	x						x			x			
16. Height	x		x				x						
17. Breakfast			x			x							
18. Regular Use of Medicine													
19. Physical Health Rating of Child			x			x	x	x				x	
20. Sleep Problems (2-4)	x	x					x						
21. Sleep Problems (5-10)												x	
22. Eating Problems (2-4)													
23. Eating Problems (5-10)										x			
24. Digestive Problems													x
25. Headaches													
26. Possible Motor Problems			x				x					x	

PREDICTOR SETS

I Subject

II County

III PSU DIPO

IV PSU D,I,P,O

V Other PSU

VI Neighborhood

VII Family DIPO

VIII Family Structure

IX Work Status

X Family SES

XI Ethnicity

XII Family Atmosphere

XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
HEALTH (cont'd)													
PARENTAL CARE													
27. Immunization	x					x							
28. Regular Medical Caretaking	x		x		x	x	x	x	x	x		x	
29. Lay Advice	x	x	x			x	x	x			x	x	
30. Professional Advice	x					x							
31. Institutional Service		x	x	x	x	x	x				x	x	
SOCIAL-EMOTIONAL													
TEMPERAMENT SCALES													
32. Activity (1-4)	x		x		x								x
33. Activity (5-10)	x		x										
34. Intensity (1-4)	x		x										
35. Intensity (5-10)		x											
36. Regularity (1-4)			x									x	x
37. Mood (1-4)												x	
38. Mood (5-10)			x							x		x	
39. Adaptability (1-4)		x	x										
40. Approach (1-4)													
41. Approach (5-10)											x		

PREDICTOR SETS

I Subject
II County
III PSU DIPO
IV PSU, D,I,P,O
V Other PSU
VI Neighborhood
VII Family DIPO
VIII Family Structure
IX Work Status
X Family SES
XI Ethnicity
XII Family Atmosphere
XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
SOCIAL-EMOTIONAL (cont'd)													
TEMPERAMENT SCALES (cont'd)													
42. Distractibility (1-4)			x			x						x	x
43. Persistence (1-4)	x												
44. Persistence (5-10)	x					x				x			x
TEMPERAMENT TYPES													
45. Difficult Children (1-4)			x										x
46. Difficult Children (5-10)	x												
47. Slow-to-warm-up Children (1-4)													x
48. Slow-to-warm-up Children (5-10)											x		
49. Distractible-Non-Persistent Children (1-4)	x												
INDICES AND TRAITS													
50. "Introverted"	x				x			x					
51. "Asocial"								x				x	
52. "Unresponsive"													
53. "Internalized"			x		x			x	x	x		x	x
54. "Self-Destructive/ Non-compliant"	x		x	x	x	x		x				x	x
55. "Destructive"	x					x			x				x

PREDICTOR SETS

I Subject
II County
III PSU DIPO
IV PSU D,I,P,O
V Other PSU
VI Neighborhood
VII Family DIPO
VIII Family Structure
IX Work Status
X Family SES
XI Ethnicity
XII Family Atmosphere
XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
SOCIAL-EMOTIONAL (cont'd)													
INDICES AND TRAITS (cont'd)													
56. "Antisocial"	x		x			x						x	
57. "Selfish"	x		x		x							x	x
58. "Tics"	x		x							x	x		
59. "Moody"								x			x	x	
60. "Argumentative-Moody"	x		x					x					x
61. "Attention seeking"	x							x	x	x	x		x
62. "Dependent"	x				x			x		x			x
63. Anger			x					x		x		x	
64. Fearfulness	x							x					x
65. Neighborhood complaints	x												
66. "Delinquency"		x				x	x		x			x	
67. Runs Away (2-4)	x											x	
68. Runs Away (5-10)	x		x										x
69. Toilet Problems	x						x						
70. Annoys Mother					x			x					x
71. Annoys Father		x	x				x	x					
72. Quality of Sibling Interaction	x		x			x		x		x			

PREDICTOR SETS

I Subject
II County
III PSU DIPO
IV PSU D,I,P,O
V Other PSU
VI Neighborhood
VII Family DIPO
VIII Family Structure
IX Work Status
X Family SES
XI Ethnicity
XII Family Atmosphere
XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
SOCIAL-EMOTIONAL (cont'd)													
INDICES AND TRAITS (cont'd)													
73. Quality of Interaction with Other Children (2-4)													
74. Quality of Interaction with Other Children (5-10)			x	x									
75. Isolation from Other Children		x						x		x			
76. Isolation from Other Adults	x	x			x	x		x	x		x		
77. Preschool Problems	x												
78. School Problems	x									x			
PARENTAL DISCIPLINE													
79. Positive Discipline	x		x										
80. "Strong" Negative Discipline	x	x	x	x		x		x		x			x
81. "Weak" Negative Discipline	x	x			x			x					x
82. Warmth of Discipline (1)				x		x				x			
83. Warmth of Discipline (2)	x		x			x				x		x	
84. Respondent Strictness	x		x	x		x		x		x		x	x
85. Respondent Watchfulness (1-4)	x				x	x		x		x			x

PREDICTOR SETS

I Subject
II County
III PSU DIPO
IV PSU D,I,P,O
V Other PSU
VI Neighborhood
VII Family DIPO
VIII Family Structur
IX Work Status
X Family SES
XI Ethnicity
XII Family Atmosphere
XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
SOCIAL-EMOTIONAL (cont'd)													
PARENTAL DISCIPLINE (cont'd)													
86. Respondent Watchfulness (5-10)	x		x		x			x	x			x	
COGNITIVE													
CHILD													
87. Speech Problem	x												
88. General Cognitive Competence (2-4)	x		x		x	x		x		x		x	x
89. General Cognitive Competence (5-10)	x		x		x	x				x			
90. General Numeric Competence	x					x							
91. Arithmetic Ability 1	x					x							
92. Arithmetic Ability 2		x	x					x	x	x			x
93. Writing Problem	x					x	x				x		
94. TV Watching	x						x						
95. TV Viewing Time	x	x									x		
PARENTAL-INSTITUTIONAL SUPPORT													
96. Educational Aspiration		x	x		x	x		x	x	x			
97. Educational Expectation	x		x	x	x	x			x	x		x	
98. Preschool Experience	x	x		x	x	x		x		x			

PREDICTOR SETS

I Subject
II County
III PSU DIPO
IV PSU. D,I,P,O
V Other PSU
VI Neighborhood
VII Family DIPO
VIII Family Structure
IX Work Status
X Family SES
XI Ethnicity
XII Family Atmosphere
XIII Family Discipline

TABLE 5 (cont'd)

SUMMARY OF SIGNIFICANT R^2 OR ΔR^2 FOR
THE 13 PREDICTOR SETS AND ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	PREDICTOR SET I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
COGNITIVE (Cont'd)													
PARENTAL-INSTITUTIONAL SUPPORT (Cont'd)													
99. Institutional Participation	x	x			x	x			x	x	x		
100. Cognitive Stimulation (2-4)			x		x					x		x	
101. Cognitive Stimulation (5-10)	x		x							x			

PREDICTOR SETS

I	Subject
II	County
III	PSU DIPO
IV	PSU D,I,P,O
V	Other PSU
VI	Neighborhood
VII	Family DIPO
VIII	Family Structure
IX	Work Status
X	Family SES
XI	Ethnicity
XII	Family Atmosphere
XIII	Family Discipline

variance accounted for by the predictor set. (Level of significance is also noted.)

(5) R at the last step for that predictor set. R is the multiple correlation coefficient including all the predictor variables entered up to the step indicated. (Level of significance is also noted.)

(6) The betas (standardized regression coefficients) for each of the variables in the set. Beta indicates the direction and strength of the relationship between the specific predictor variable and the criterion variable. (Level of significance is also noted.)

In order to appreciate specifically what has been found to be predictable, it would be useful at this point to consider each of these detailed tables in turn and to describe the significant effects.

Subject Variables (Table 1C)

Of 101 variables tested under the basic model, 58 showed significant relationships with the subject variables, Age of sample child and Sex of sample child. Often these effects were substantial in size. Examination of the betas in Table 1C will indicate whether the joint effect was due to Age, Sex, or both subject variables. No attempt will be made to interpret the effects here, since the main point of including these variables in the model was to adjust for them before testing the later predictors of Analytic Model 2.

County (Table 2C)

Significant county effects were found for 17 criteria. These will be interpreted by describing the significant effects from the standpoint of the Saratoga children, who were hypothesized to be healthier, better adjusted, and in general to have fewer problems than the Albany children.

The results show that Saratoga children are less likely to have major disorders with extreme behavioral implications and sleep problems (2-4 year olds), and less likely to be"delinquent" (5-10 year olds). Fewer Saratoga children are completely isolated from other children, but Saratoga children in general

have contact with fewer adulta other than the parent or parents living in the household. (The higher rate of contact with other adults in Albany is due largely to the higher rate of single-parent families, since contact with a father living out of the household is considered contact with "other adults." Also, the greater use of baby sitters, day care, and other caretaking services in Albany county contibute to contact with other adults.)

Although there is no difference between the counties in the proportion of children who watch TV, Saratoga children (2-10 year olds) spend fewer hours per day watching TV. In addition, Saratoga children are temperamentally less intense (5-10 year olds) and more adaptable (1-4 year olds), and their mothers rate them higher in arithmetic ability (5-10 year olds).

Thus, on a number of indices scattered through the organismic-behavioral domains, Satatoga and Albany children differ and, in general, the differences favor the Saratoga children. However, there is not a substantial showing of difference between the counties.

Differences also exist for other criteria, most of them parental. Saratoga respondents rate the fathers or father-substitutes (where present) as more likely to be annoyed by the behavior of the children, and Saratoga mothers are more likely than Albany mothers to use negative discipline methods (both "strong" and "weak") when their children misbehave. (There was no difference between the counties on the variable representing use of positive discipline methods.)

The data also show that Saratoga children are less likely to have had preschool experience (2-10 year olds) or other institutional participation outside of elementary school (5-10 year olds). Possibly both of these differences reflect a contrast in opportunities between a primarily rural and a primarily urban county. In addition, however, since Saratoga mothers have lower educational aspirations for their children (2-10 year olds), we can also suggest that perhaps they are less likely to seek out enriching experiences for their children. The data also show that Saratoga mothers make more use

of lay advice (friends and relatives), and Albany mothers make more use of institutional services in dealing with health and behavior problems of the children.

Considering all of the significant county effects, they are frequently in the expected direction though the effects are not strong. Mean differences between the counties on (standardized) criterion variables are roughly twice the size of the betas in Table 2C, since the standard deviation of the county variable is about .50. Clearly, there is more variability within than between these two counties.

PSU DIPO Index (Table 3C)

As described earlier, families were characterized for DIPO status essentially by counting the number of adverse conditions--welfare status, absence of a legal husband in the home (incomplete family), and prematurity or out-of-wedlock status of one or more children in the family. Then the 98 PSUs were characterized for DIPO status by taking the mean of the families in each PSU. We wanted to find out whether this PSU DIPO Index proxy, characterizing a geographical unit larger than the individual family but smaller than a county, would predict the health and functioning of the children. The PSU DIPO Index was scaled so that the better PSUs would have higher numbers, and we will interpret the results in terms of children from these better PSUs.

Of the 101 criteria, 44 show a significant PSU DIPO Index effect, and the effects are overwhelmingly in the predicted direction. Strictly speaking, these are within-county PSU DIPO Index effects since the basic model has adjusted for differences between counties in the prior set.

Among the health variables, we find that children from better PSUs are less likely to have had severe measles or mumps, major disorders with extreme behavioral implications, major hospitalizations, eye problems and possible motor problems. They have had fewer diseases and times in hospital

and their mothers rate them higher in general physical health. They are more likely to have had a good breakfast (5-10 year olds) and regular medical caretaking. They are slightly taller. Finally, in cases of health (or other) problems of the children, parents in better PSUs are more likely to seek lay advice, and parents in worse PSUs are more likely to seek institutional services.

Among the social-emotional variables, we find that children from better PSUs are less active (1-10 year olds), less intense (1-4), less irregular in habits (1-4), less irritable (5-10), more distractible (1-4), and more adaptable (1-4). They are less likely to be difficult children (1-4), "internalized" (5-10), "self-destructive/noncompliant," "anti-social" (5-10), jealous and selfish (2-10), but somewhat more likely to be argumentative and show severe mood shifts. They are less likely to have tics, frequent anger, and to have run away from home (5-10). The quality of their interaction with other children (5-10) and siblings (2-10) is better. Oddly enough, these paragons are more likely to annoy their fathers, or at least the respondents rate the fathers as more likely to be annoyed. (It might be noted that in the county contrast Saratoga fathers showed the same effect as fathers from the better PSUs. Perhaps being annoyed is related to the father's involvement rather than to his irritability or to especially annoying behavior by the child.) Mothers in better PSUs tend to use fewer discipline methods (both positive and "strong" negative) when the child misbehaves and, based on responses to two hypothetical situations, use more positive than "strong" negative discipline methods. Parents in better PSUs tend to be more consistent and strict, but are not overprotective (5-10). The picture which emerges from the data is that the parents in better PSUs apply measured and firm discipline, and that their children have far fewer behavioral problems than children in the worse PSUs.

Finally, among the cognitive variables, we find that children in better PSUs have higher general cognitive competence (2-10) and arithmetic ability (5-10), and that their mothers have higher educational aspirations (2-10) and expectations (5-10) for the children, and are more likely to provide cognitive stimulation (2-10).

What this indicates is that a simple composite of four out of the five DIPOV components, measured at the level of PSUs, is significantly related to a wide variety of normative criterion variables. The only normative variables which do not show the predicted direction of relationship with the PSU DIPO Index were the variables "Argumentative-Moody" and "Annoys Father." (The latter was commented on above and perhaps, without too much strain, the "Argumentative-Moody" variable can be interpreted as a measure of a form of self-assertiveness which is not necessarily unhealthy.) Thus, the measure of DIPO at the level of PSU is related to many more aspects of child health and welfare than the measure of DIPO at the level of counties, and the size of relationships between the PSU DIPO Index and the criteria is generally larger than the size of relationships between County and the criteria.

PSU D,I,P,O (Table 4C)

To test whether the set of four DIPO components predict the criteria significantly better than the PSU DIPO Index alone, we included three of the four components in the model after the PSU DIPO Index (including the fourth component would, of course, have made the predictor matrix singular, and made it impossible to solve the regression equations).

For 10 of the 101 variables, the additional component set was significant. Seven of these also had significant PSU DIPO Index effects, and the fact that the additional component set was also significant indicates that

the PSU DIPO Index does not optimally weight the components for purposes of predicting these particular criteria. In several cases an equally-weighted subset of the components predicts a criterion better than the PSU DIPO Index as a whole. This is true for 7 of the 10 significant variables: quality of interaction with other children (5-10) is worse in PSUs characterized by high prematurity rates; educational expectations (5-10) are lower in PSUs characterized by high prematurity rates; discipline methods are relatively more negative than positive in PSUs with high prematurity rates; respondents are less strict and less consistent in punishment in PSUs characterized by high out-of-wedlock rates; "strong" negative discipline methods are used more in PSUs characterized by high incomplete family and prematurity rates; institutional services are used more in PSUs with high welfare and incomplete family rates; finally, number of times in hospital is greater in PSUs with high out-of-wedlock rates.

In other cases, a contrast between components provides better prediction of the criteria. This is true for 3 of the 10 significant variables: "self-destructiveness/noncompliance" is greater in PSUs characterized by low welfare and high incomplete family and out-of-wedlock rates; preschool experience (day care, nursery school, etc.) is more likely in PSUs with low prematurity and high out-of-wedlock rates; and dental problems are more likely in PSUs with low welfare and high incomplete family rates.

Some of these PSU D,I,P,O effects are readily interpreted. The finding that institutional services are used more by families from PSUs with high welfare and incomplete family rates makes sense, since most of the institutional services are homemaker services, day care centers, and social-work-related services. Many of the effects are difficult to interpret substantively, however, and it is perhaps a blessing that there are not more of them.

The large number of criteria predicted by the PSU DIPO Index, and the relatively small number for which the additional components increase prediction, supports a basic premise of the study, which is that DIPO components hang together in a consistent way, and that an equally weighted composite of all of them helps predict a variety of normative conditions.

Other PSU Variables (Table 5C)

The three variables in this set are Urbanization (urban-rural status), Median Income and Percent White. All of these variables characterize the PSUs, were census-derived, and were employed in the stratification process prior to sampli

Of the 101 criteria, 21 show significant relationships with this predictor set. It can be observed from Table 5C that very few of the health variables are predicted by this set and that, to a large extent, the significant effects involve parental rather than child variables. Of the 19 parental variables in the criterion set, 10 are significant here, but only 11 child variables of the 82 are significant.

The betas indicate median income is the strongest predictor in this set. Twelve of the criteria are significantly related to median income of the PSU and some of the betas are fairly large. The significant positive betas show that high median income is associated with the following: regular medical care; less active children; less "internalized" children, better general cognitive competence (2-4); higher educational aspiration and educational expectation; greater use of preschool; and greater cognitive stimulation. The significant negative betas show that high median income is associated with: greater jealousy and selfishness of children; child contact with fewer adults in addition to the parent or parents in the household; and less watchfulness over children (1-10 year olds).

Percent White is significantly associated with seven criteria and all of the betas are negative. Higher percent white in the PSU is significantly associated with the following: less use of institutional services; more "introverted" children; more "self-destructive/noncompliant" children; more "dependent" children; lower educational aspiration and expectation; and less institutional participation by the children. Some of these effects are contrary to what might be anticipated, especially with regard to the educational aspiration and expectation variables. Before interpretation, it should be stressed that the percent white measure is not the same as the ethnicity of sample child variable appearing in Set XI, since percent white characterizes the PSU rather than the sample child. Therefore, even in PSUs with low to moderate percent white a fair proportion of the sample children were white. Thus, two possible interpretations suggest themselves. One is that non-white respondents have higher educational aspirations and expectations. Another is that respondents in racially integrated PSUs, including perhaps a good many white respondents, have higher aspirations and expectations than respondents in almost exclusively white PSUs.

Urban-rural status shows only five significant effects. Urban PSUs are associated with more active children, more "internalized" children, greater likelihood of respondent's annoyance with the child, child contact with more adults aside from parents, and use of more "weak" negative discipline methods.

Neighborhood Variables (Table 6C)

This predictor set is composed of Safety of Neighborhood and House Condition, with the former based on several interview responses concerning crimes against household persons and property, and the latter based on several observations of external and internal dwelling conditions by the interviewer. Both of these variables seemed potentially to characterize the surrounding

area so they were employed as neighborhood variables and were entered in the analysis before family sets.

Of the 101 criteria, 31 show significant association with this predictor set. The significant criteria are distributed through all the categories--child and parental, health and social-emotional and cognitive.

Of the two variables in this predictor set, Safety of Neighborhood is more clearly a neighborhood variable. Nine criteria show significant betas associated with this variable. Six betas are positive and greater safety is associated with fewer disorders with extreme behavioral implications, fewer accidents, greater use of preschool, better breakfast, less "delinquency," and better interaction with siblings. Three betas are negative and greater safety is associated with contact of the child with fewer other adults, use of fewer "strong" negative discipline methods, and less watchfulness over children (1-4 year olds).

Although House Condition was included as a neighborhood variable, perhaps it is better considered as a family variable. It seems to be strongly related to Family Socioeconomic Status, predictor set X. Twenty-one of the criteria are significantly related to House Condition. Of these, two betas are negative with better house condition associated with less use of institutional services and use of fewer "strong" negative discipline methods. The other 19 betas are positive and in these instances better house condition is associated with fewer disorders with extreme behavioral implications, better health rating of the child, more complete immunization, regular medical care, more use of lay advice about the child, more distractible children (1-4), more persistent children (5-10), less "self-destructiveness/noncompliance," less "antisocial"children (5-10), more use of positive than "strong" negative discipline methods in two hypothetical situations, greater strictness of the mother, higher general cognitive competence (2-10), greater numer etence in general and ability to do arithmetic (5-10), less incidenc ing problems, higher educational

aspirations and expectations, and more institutional participation by the children. These variables constitute, in general, quite a favorable catalogue of child and parent conditions and behaviors across all of the organismic-behavioral domains. If house condition is indeed a strong proxy for Family SES, it has utility since it is measured more easily than SES itself. In any case, it is a powerful predictor of a wide variety of normative variables.

Family DIPO Index (Table 7C)

There is only one variable in this set, the Family DIPO Index itself. Fourteen criteria are significantly related to this predictor. Of these, five have negative betas and families with better DIPO Indices show more possible motor problems, less use of institutional services, greater likelihood of the father being annoyed by the child's behavior, more writing problems, and more children who do not watch TV at all. The occurrence of more writing problems and more possible motor problems among these families is difficult to rationalize, but the other significant effects seem reasonable.

The other nine significant criteria show positive betas and families with better DIPO Indices have fewer baby problems at birth, somewhat heavier and taller children, better health rating of the child, fewer sleep problems (2-4), regular medical care, more use of lay advice about the child, less "delinquency" (5-10), and fewer toilet problems (2-10). None of these present any special difficulty to interpretation.

The foregoing consideration of the Family DIPO Index dealt, of course, with the significant effects at step 13 in the analyses. Twelve variables were entered as predictors before the Family DIPO Index and, therefore, the criterion variance associated with these variables was partialled out before the Family DIPO Index was entered. Those investigators who focus on families rather than counties, PSUs, and neighborhoods would probably want to see the primary relationships between the Family DIPO Index, say, and the criterion variables.

Table 6 summarizes the significant first-order correlations between the Family DIPO Index as well as Family D,I,P,O and the 101 criterion variables. This, of course, presents a different picture than we had before. Of the 101 criteria 38 show a significant relationship to the Family DIPO Index in Table 6. Recall that only 14 criteria were related to this index when county, PSU and neighborhc variables were entered before the Family DIPO Index.

Table 6 indicates that the Family DIPO Index shows the greatest number of significant relationships with the criteria, but that three of the component (D,I,O) also show a large number. The P component is essentially unrelated to the criterion set. In general it can be seen that a greater proportion of the parental variables are related to the index and its components, although a substantial proportion of the child variables are also related.

The index shows essentially the same proportion of significant relation ships with all of the categories--health, social-emotional and cognitive. The components, however, differ, so that, for example, D and I show more relation-ships to health, I and O to social-emotional variables.

A more complete presentation of these data appears in Table 14C in Appendix C. All of the correlation coefficients relating the Family Index and its components to the 101 criterion variables are entered in this table.

One additional treatment of the index components might be useful. Unli available data, for such variables as DIPOV, which are ordinarily collected in manner that does not allow the investigation of the association among variables on a family basis, survey data have the virtue of permitting such an analysis. The degree to which problems cluster in families is clearly relevant to social planning, just as is the major focus of the study--the degree to which problems cluster in geographical areas. Table 7 presents the intercorrelations of the DIPOV variables with families as the units. Three of the variables, Dependenc

TABLE 6

NUMBER OF CRITERION VARIABLES SIGNIFICANTLY CORRELATED WITH SELECTED FAMILY VARIABLES

CATEGORY AND TYPE OF CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO Index
HEALTH					
Child (26)*	6	7	3	4	8
Parental Care (5)	4	3	1	2	4
SOCIAL-EMOTIONAL					
Child (47)	8	16	1	15	16
Parental Discipline (8)	2	1	1	3	4
COGNITIVE					
Child (9)	1	1	1	2	3
Parental-Instituti Support (6)	2	2	0	2	3
TOTALS					
Child (82)	15	24	5	21	27
Parental (19)	8	6	2	7	11

* Total number of variables

Incomplete Families and Out-of-Wedlock Births, are substantially related to one another, and it would appear that these three characteristics cluster together in families to a fair degree. The other two variables, Premature Births and Juvenile Venereal Disease, do not show any substantial intercorrelations.

TABLE 7

INTERCORRELATIONS OF FAMILY DIPOV VARIABLES

VARIABLE	VARIABLE D	I	P	O	V
Dependency	...	.468	.073	.406	.056
Incomplete Families		...	.026	.368	-.010
Premature Births			...	-.030	-.013
Out-of-Wedlock Births				...	.008
Venereal Disease, Juvenile					...

Family Structure (Table 8C)

This set is composed of three variables, Respondent Age, Total Children Under 18, and Total Adults. Although these variables have some substantive interest, for our purposes they can be considered, much like the variables in the first set (Age and Sex of sample child), as contaminants of the later predictor sets. In this case, for example, Family SES (Set X) would be expected to be higher with increasing Respondent Age and Total Adults. Therefore, these family structure variables were entered before the other family sets to remove criterion variance associated with them. The significant effects will not be considered in detail, although they are presented in full in Table 8C.

Of the 101 criteria, 29 show significant Family Structure effects, with 11 related to Respondent Age, 12 to Total Children Under 18, and 6 to Total Adults.

Work Status (Table 9C)

Father's and Respondent's Work Status are the two variables in this predictor set. The set as a whole shows 11 criteria with significant effects. Father's Work Status is significantly related to eight criteria and Respondent's Work Status to four criteria. These variables are obviously not very strong predictors. Admittedly, they are entered relatively late in the model, but it will be observed that later sets show many more relationships with the criteria.

Father's Work Status was coded as "full-time work" or "other" (part time work, unemployed, etc.). Families with fathers working full-time are associated with regular medical care for the sample child, less "internalized" children, more "destructive" children (1-4), less "delinquent" children (5-10), higher respondent rating of arithmetic ability, higher educational aspiration and expectation, and more institutional participation by the child.

Respondent's Work Status was coded as "not working at all" or "other." Families with respondents who do not work at all are associated with less "destructive" children, children who do not seek a lot of attention from the respondent, less "delinquent" children, and child contact with fewer other adults.

Family SES (Table 10C)

Family Income, Hollingshead SES Index, and Respondent Education are the three component variables in this predictor set. The set as a whole is significantly related to 27 criteria, with 6 related to Family Income, 6 to the SES Index, and 17 to Respondent Education. Very few health variables show significant effects, but the social-emotional and cognitive variables are well-represented with an especially large proportion of the cognitive variables predictable from this set.

With regard to Family Income, higher income is associated with regular medical care, less frequent anger by the children, better sibling interaction,

fewer children isolated from all other children, higher educational expectation (but not aspiration), and less cognitive stimulation by the parents (5-10 year olds).

Higher SES Indices are associated with greater use of positive than "strong" negative discipline methods, less watchfulness over children (1-4 year olds), greater general cognitive competence (5-10), higher educational aspiration (but not expectation), more use of preschool, and more cognitive stimulation by the parents (5-10 year olds).

More respondent education is associated with regular medical care, better mood in general among the children (5-10), less "internalized" children, lower incidence of tics, less frequent anger, better interaction with siblings, fewer problems of adjustment in school, less use of "strong" negative discipline methods, greater strictness and consistency of punishment, less watchfulness over children (1-4), greater general cognitive competence (2-4), higher educational aspiration and expectation, more use of preschool, more instructional participation by the children, and greater cognitive stimulation by the parents (2-10 year olds).

Of the three variables in this predictor set, clearly Respondent Education is the most powerful predictor. However, as was noted earlier, the House-Condition variable from Set VI is strongly related to Family SES, as is the PSU Median Income variable from Set V. These preceding variables undoubtedly reduced the predictive strength of the variables in the predictor set.

Ethnicity (Table 11C)

This predictor set is composed of the single variable, Ethnicity, which refers to the ethnicity of the sample child as reported by the respondent, and is simply coded as "white" or "other." (Of the total sample of 976, 910 were white. Of the remaining 66, 51 were Black.) A number of preceding predictor

variables certainly can be considered to have reduced the strength of Ethnicity as a predictor at this step in the analysis; among them, Percent White of the PSU and the Family SES variables, as well as the various DIPO Indices which are related to Ethnicity.

Thirteen criteria are significantly related to Ethnicity. Considering the positive betas first, families with a white sample child show the following relationships: less incidence of severe measles or mumps, tics, and severe mood shifts, greater use of lay advice, less attention-seeking by children, and TV viewing for fewer hours per day (by 2-10 year olds). The negative betas reveal the following for families with a white sample child: greater likelihood of major problems during pregnancy, less use of insitutional services, more negative response to novel situations (by 5-10 year olds), more "slow-to-warm-up" children (5-10), contact with fewer other adults by the children, more writing problems, and less institutional participation by the children. (It might be noted that some of these effects are identical to those predicted by Percent White of the PSU in Set V, emphasizing what is essentially a Black-White contrast in these cases.)

Family Atmosphere(Table 12C)

This predictor set is composed of four disparate variables which describe specific behaviors, attitudes or conditions, and which, it seemed to us, might measure something general about the tone of family life. These variables are Times Moved, Happiness During Pregnancy, Respondent Health and Adult Delinquency.

As a whole, Family Atmosphere is significantly related to 29 criterion variables, with Times Moved associated with 6 criteria, Happiness During Pregnancy with 12, Respondent Health with 14, and Adult Delinquency with 6.

Fewer moves are associated with more baby problems at birth, fewer sleep problems (5-10 year olds), less use of institutional services more positive mood

and less irritability (1-4), less "antisocial" children, and greater cognitive stimulation (2-4).

Greater happiness of the mother and father during pregnancy (about the impending birth) is associated with less possible motor problems, regular medical care, more positive mood and less irritability (5-10), more distractible children (1-4), less "asocial" children (5-10), less "self-destructive/non-compliant" children, less "selfish" children (2-10), lower frequency of anger, greater use of positive rather than "strong" negative discipline methods in two hypothetical situations, greater strictness and consistency of punishment by the mother, greater general cognitive competence (2-4), and higher educational expectations.

Better health of the respondent is associated with more major problems during pregnancy, fewer baby problems at birth, fewer major health problems of the child, better health of the child, regular medical care, positive mood and less irritability (5-10), more distractible children (1-4), less "asocial" children (5-10), less "self-destructive/noncompliant" children, less "anti-social" children, less "selfish" children (2-10), children showing fewer severe mood shifts (1-4), lower frequency of anger, and greater strictness and consistency of punishment by the respondent.

Less adult delinquency is associated with more use of lay advice, more regularity of function (1-4), less "internalized" children (5-10), less "delinquent" children (5-10), children who have run away from home less (2-4), and more watchfulness over children (5-10).

Taken together, the four variables in this set are quite remarkable predictors. Happiness During Pregnancy and Respondent Health carry most of the predictive load but Adult Delinquency makes some important contributions. Happiness During Pregnancy is related principally to social-emotional variables, and Respondent Health, to child health and social-emotional variables. The

most important additions of Adult Delinquency are prediction of "delinquent" children and run-away children. Only the cognitive variables are not predicted substantially by this set. The family atmosphere variables appear to predict aspects of the quality of child life independently of SES and a number of more conventional social indicators.

Family Discipline (Table 13C)

This predictor set is composed of Consistency of Punishment and Respondent Strictness. Of the 101 criteria, 26 are significantly related to this set, with Consistency of Punishment related to 14 criteria, and Respondent Strictness to 13. (Note that one criterion variable is omitted in this count. That variable, which is labeled "Respondent Strictness" in the criterion list, is a composite of the two predictor variables in this set. The betas for this variable appear in the table but they will be disregarded in this presentation.)

Greater consistency of punishment is associated with more eye problems, less active children (1-4), more regularity of function (1-4), more distractible children (1-4), less "difficult" children (1-4), less "self-destructive/non-compliant" children, less destructive children (1-4), children who are less argumentative and less subject to extreme mood shifts (5-10), less attention-seeking, less "dependency" (2-10), less frequent fearfulness, children who have run away from home less or are less unreliable about coming home (5-10), less use of "strong " negative discipline methods, and greater general cognitive competence (2-4).

Greater strictness is associated with fewer digestive problems (2-10), more regularity of function (1-4), greater persistence at tasks (5-10), more "internalized" children (5-10), less "self-destructive/noncompliant" children, less attention-seeking, less "dependency" (2-10), more frequent fearfulness, children who have run away from home more or are more unreliable about coming

home (5-10), greater likelihood of child behavior that annoys respondent, greater use of "strong" negative discipline methods, greater use of "weak" negative discipline methods, and higher rating by respondent of child's arithmetic ability.

Both variables in this set are related almost exclusively to social-emotional variables. They overlap on four criterion variables, are unique for several, and most interestingly, greater consistency and greater strictness predict oppositely on three variables--frequency of fearfulness, runaway children and use of "strong" negative discipline methods, e.g., children reported as frequently fearful have parents who are less consistent and more strict.

Unpredictable Variables

Now that the significant effects have been considered, it might be useful to point out which of the 101 criterion variables were not related to any of the predictor sets. As can be observed in Table 5, which was presented earlier, 15 criteria show no significant relationships with the predictors. These are Illness Index, Ear Problems, Number of Operations, Regular Use of Medicine, Eating Problems(2-4), Headaches, Approach (positive or negative response to novel situations) (1-4), Persistence (1-4), Difficult Children (5-10), Distractible Nonpersistent Children (1-4), "Unresponsive" children (1-4), Neighbor Complaints (1-4), Quality of Interaction with Other Children(2-4), Preschool Problems, and Speech Problem (2-10). These 15 are largely from the health category, with a few temperament variables from the social-emotional category. It should also be noted that a good many of the unpredictable criteria refer exclusively to the younger children.

Variables Predictable Only From Family Sets

Since the structure of this analysis takes the form of a distal-to-proximal ecological progression, with the rationale that for planning purposes prediction of the quality of child health and welfare is most useful for units larger than individual families, we should note which criteria are predictable only from the family predictor sets (VII-XIII). There are 18 criterion variables

for which this is the case. They are Major Pregnancy Problems, Birth Problems (of the child), Major Health Problems, Sleep Problems (5-10), Eating Problems (5-10), Digestive Problems, Mood (1-4), Approach (positive or negative response to novel situations) (5-10), Slow-to-warm-up children (both 1-4 and 5-10), "Asocial" children (5-10), Extreme Mood Shifts (1-4), "Attention-seeking", Fearfulness, Runaway Children (2-4), Toilet Problems (2-10), School Adjustment Problems (5-10), and TV Watching (yes or no) (2-10). Only one of these variables is cognitive, but otherwise they are scattered through the organismic-behavioral domains and subdomains. However, not all the 19 parental variables appears in this list. All of the parental variables are predictable from one or more of the distal units--county, PSU, and neighborhood. There is, no doubt, more geographical homogeneity among the parents, who have "chosen" where they live, than there is among the children.

VIII DISCUSSION

Overview

The major purpose of this study was to explore the utility of the DIPOV Index as an indicator of "the state of the child" in various ecological settings. We believe this study has revealed the essential soundness of the DIPOV Index as such an indicator, and we shall present and discuss the findings that support this judgment. On the other hand, this study suggests certain limitations of the DIPOV Index and these will be described and weighed also.

To some degree we considered that in our earlier work we had established the DIPOV Index as an indicator with ecological utility. The five variables in the index possess qualities required of indicators: capability of repeated measurement over time; social importance; normative status. Furthermore, this earlier work revealed that the five variables comprising the index appear to be reliable over time and capable of differentiating among sets of comparable geographical units. Since, in all of our analyses the five variables loaded highly on the same factor (DISORGANIZED POVERTY), we felt justified in creating a composite index of these variables. The resulting DIPOV Index was assumed to possess more descriptive power than any single variable or subset of these variables.

In exploring the utility of the DIPOV Index, this study sought to discover the extent to which the index can serve as a surrogate for a larger set of needs and social problems of children. In terms of social planning, program placement and allocation of funds, perhaps the ultimate question can be said to be: What do DIPOV Indices for comparable geographical units reveal about the particular nature and extent of child problems in these units? What do contrasting DIPOV Indices for, say, counties or sub-county divisions tell us about children in these areas beyond differences in rates of Dependency, Incomplete Families, Premature Births, Out-of-Wedlock Births and Juvenile Venereal Disease?

The central data-analytic issue, therefore, concerns the relationship between DIPOV Indices for several ecological settings and a large number of child and parental characteristics and behaviors in the survey data from two counties of New York State. We chose to examine county, PSU and Family DIPOV Indices[14] within a broader context and in a distal-to-proximal ecological progression. The context was broader in the sense that many variables, in addition to the three indices, were included in the hierarchical multiple regression model. Other variables in the model were intended, in some instances, to remove potentially contaminating variables (age and sex of sample child, family structure) and, in other instances, to provide a more comprehensive scheme of prediction by including supplementary PSU, neighborhood and family variables. The distal-to-proximal progression allowed the most distal units (counties) to account for as much variability in child and parental behavior as they could before the more proximal units were successively entered to account for the residual variation. This progression moved from counties to PSUs to neighborhoods to families and seemed a sensible strategy since decisions concerning funds and programs generally deal with the distal units and data are more readily available for them. If child and parental characteristics and behaviors can be predicted sufficiently well from available data at the county and PSU levels, then the necessity for expensive family surveys is reduced.

Before considering the findings of the principal analysis, which, once again, concern the relationship between the several DIPOV Indices and child and parental variables, we should deal with a preliminary analysis, which tested the cross-validity of certain available data by relating them to survey data.

---

[14] Actually, the analyses employed DIPO Indices since Juvenile Venereal Disease was not adequately measured but, for convenience, we shall continue to refer to DIPOV Indices for a while.

The essence of this analysis is a determination of whether proxies for the five DIPOV variables and two indices (DIPOV and DIPO) derived from the survey data are predictable from available data. The data available from official sources, which in fact were employed to select two contrasting counties for survey, indicated lower rates on the five variables and a "better" DIPOV Index for Saratoga county. At the county level, therefore, this analysis was accomplished by simply relating county status (residence in Albany or Saratoga) to the proxies. A significant relationship in the appropriate direction (i.e., with Saratoga better than Albany) would constitute cross validation of the available data. At the PSU level, data are not presently available for the DIPOV variables, so that, as a surrogate set, we employed the best group of variables available for PSUs and related them to the DIPOV proxies. The PSU variables were urban-rural status, percent white and median income, the census-derived variables used in stratifying the PSUs prior to sampling. In our earlier work these variables were generally found to be highly associated with DIPOV. Therefore, their use as a surrogate for DIPOV is reasonable. Once again, significant relationships in the appropriate direction (i.e., with rural, high percent white and high median income associated with lower DIPOV rates) would constitute cross-validation of the available data, though it would be a somewhat looser cross-validation in this case.

Cross-Validation of Available Data

Counties

In substance, at the county level, the available data seem to stand to have been cross-validated. The analysis demonstrates that both indices and three of the five DIPOV components are predictable in the appropriate direction from county status. The exceptions are Premature Births and Juvenile Venereal Disease, which are not predictable at the county level. In this study, we believe that

the exceptions can be adequately explained as due, in the case of Juvenile Venereal Disease, to unsuccessful measurement in the survey and, in the case of Premature Births, to an insufficient difference between the two counties when the entire relevant time span (1964-1974) is considered. However, it is conceivable that these two components do not hang together very well with the other three. Let us digress for a while to consider this possible limitation of the DIPOV Index.

When the DIPOV components are intercorrelated at the family level (see Table 7), we see that Dependency, Incomplete Families and Out-of-Wedlock Births are substantially related to one another. Prematurity, on the other hand, is not related to any of the other components in these families. Nevertheless, in our earlier data for the states of the United States, all the counties of New York State and the districts of New York City, P correlated strongly with D,I and O. We would suggest, in dealing with this contradiction, that it appears very likely that for P to cluster with D, I and O, it is necessary that in some units the effects of Disorganized Poverty have to be quite extreme. Albany county does not seem to exhibit sufficient extremity. If data had been collected in Bronx or New York (Manhattan) county, the contrast with Saratoga county would have been extreme enough to make P a salient component.

Additional evidence that supports the above hypothesis can be found in our concurrent study [15]. Factor analyses of the counties in each of 26 states for 1970, 1971 and 1972 exhibited very general clustering of the D, I and O components. The P component, however, was frequently associated with the others only in those states which contain the large urban centers (California, Illinois, Michigan, Ohio, New York). We concluded that marked variation among the geographical units was necessary for P to cluster with the other components and that the high contrasts required were provided in our earlier data by southern

[15] Kogan, L. S., Smith, J. and Jordan, L. A. op. cit.

against northern states, counties within New York City against upstate counties, and certain extreme community districts in the Bronx, Brooklyn and Manhattan against others, principally located in Queens and Staten Island.

For certain uses, therefore, it is possible that P can be omitted from the index. Ordinarily the decision can be made on the basis of variability in Premature Birth rates among the units and the existence of extreme values. If variability is small and no extreme values are present, P is probably not a useful component of the index.

Superficially the situation is the same for Juvenile Venereal Disease--it is not correlated with the other components at the family level in the survey data but it was strongly correlated with them in our earlier data sets. In this instance, however, we are quite convinced that the contradiction is due to inadequate measurement of this variable in the survey. Supporting this view, our concurrent study shows the V component as a very consistent member of the cluster with only a regional exception. It is not highly intercorrelated with the other components in the southern, southwestern and border states. For these areas an index with further modification can be employed but, we suggest, such a modification is unnecessary for Albany and Saratoga counties if a teen-age population is studied and the information can be obtained.

PSUs

At the PSU level, we can say that the available data are even more consistently cross-validated. All seven of the DIPOV proxies are predictable from the PSU set, even though this does not hold in every instance for the particular variables in the set. Furthermore, on the whole the strength of the association with the DIPOV proxies is greater for the PSU variables than for the county variable. A large part of this is, no doubt, due to greater homogeneity of families within PSUs than within counties, resulting in stronger contrasts between PSUs than between counties.

Prediction of Child and Parent Variables from DIPO Indices

Counties

Although some important child and parent variables are significantly associated with county membership, the total number of variables predicted is relatively small. Also, the strength of the associations is not great, in general. It is worth raising an issue at this point, however, about strength of association. When the association is weak, the contrast between counties is small, so that for "Delinquency", as an example, the rate is significantly greater in Albany county but not markedly so. For practical purposes, however, it is not merely the rate that is important but also the total population in question. Albany is about twice as populous as Saratoga, causing a moderate difference in "Delinquency" rates to translate into a considerable difference in the total number of children at risk. On this basis, decisions must of course consider not only comparative rates but also comparative populations.

It is not clear why so few child and parent characteristics and behaviors are different in the two counties. And, it should be noted, this occurred in spite of differences of fair size in Dependency, Incomplete Families and Out-of-Wedlock Births. If it were not for the predictive ability exhibited by the PSU DIPO Index, one might ascribe this to narrowness of the index. Probably the limitation of this study to upstate counties, omitting the more extreme counties in New York City, reduced the possibility of substantial findings for counties. Another influential factor, most likely, is the restriction of this study to children below the age of 11. It is quite possible that older children, who tend to show the effects of deficits more extremely, would have provided a more pronounced county contrast.

PSUs

In contrast to the county results, the PSU DIPO Index is significantly

associated with a very substantial number of child and parental variables, and the effects in general are relatively strong. A considerable proportion of both child and parent variables are successfully predicted, and these belong to all of the organismic-behavioral domains: health, social-emotional and cognitive. The considerable ability of this distal index to predict indicates that, broadly speaking, continuing, periodic family surveys are not critical to monitoring a wide spectrum of behavior. DIPOV Indices would serve this purpose if they were made available. The predictive power of the PSU DIPO Index in this study argues for the value of routinely disaggregating available data for these variables by Enumeration District and Block Group. Substantial effort, without doubt, would be required to do this for some of these variables on a national or state basis but we believe the index has sufficient utility to warrant it. It is also possible, of course, for county planning agencies to do this for their own counties.

It should be noted that when the components of the index are entered into the model after the index, they do not increase prediction very much. This suggests that the components are consistent with one another and that an equally weighted composite of all of them works well in prediction, substantiating the use of an index rather than individual variables as indicators.

Families

The Family DIPO Index is not a particularly strong predictor when it is entered after the other indices and several additional PSU and neighborhood variables, demonstrating the ability of distal units to predict in a substantial manner. When the first-order correlations are considered, however, the Family Index approaches the PSU DIPO Index in the number of variables with which it is significantly associated.

Another casting of the evidence supporting the use of the index in preference to the individual components can be seen in the number and pattern

of significant associations in Tables 6 and 14C. The Family DIPO Index has a greater number of significant associations with the criterion variables than any of the components and the components generally exhibit a consistent pattern of association.

IX. SUMMARY

This study is based on extensive interviews of mothers or mother-surrogates of children between the ages of one and ten years from sampled households in two upstate New York counties. Representative samples of about 420 in Albany county and 550 in Saratoga county were obtained by means of a form of probability area sampling. The two particular counties were chosen because their DIPOV Indices contrasted strongly in 1970, 1971 and 1972. The principal purpose of the study was to explore the utility of the DIPOV Index as an indicator of the state of the child in various ecological settings.

One finding of the study is that the DIPOV Indices derived from available census, state and local data accurately picture the relative DIPOV status of these two counties. This cross-validation of available county data was based on an analysis employing a hierarchical multiple regression model which related available data to DIPOV proxies derived from the survey data. Another part of this analysis demonstrated that a DIPOV Index surrogate based on three available census variables (Urbanization, Percent White, Median Income) for sub-county divisions (PSUs) is strongly related to the DIPOV proxies for these PSUs. This constituted a loose cross-validation of potentially available DIPOV Indices for sub-county divisions.

In the major analysis of this study, accomplished by use of another hierarchical multiple regression model, the relationships between several DIPOV Indices and a large number of child and parent variables were determined. The purpose of this examination was to discover the extent to which the index can serve as a surrogate for a larger set of needs and social problems of children. It was found that the DIPOV Index is related to a multitude of

child and parental problems in all organismic-behavioral domains at the sub-county and family levels, but that at the county level the index is not so broadly successful as an indicator. As possible reasons for the latter finding, the absence of a sufficiently extreme contrast between these two counties and the limitation of the study to relatively young children were suggested.

This study, in combination with both our earlier work and a concurrent study of the counties within 26 states, suggests that the DIPOV Index, with some limitations in certain situations, has considerable utility as an indicator of the state of the child in a variety of ecological settings.

APPENDIX A

SAMPLING PLAN AND SAMPLING RESULTS FOR ALBANY AND SARATOGA COUNTIES

SAMPLING PLAN AND SAMPLING RESULTS FOR ALBANY AND SARATOGA COUNTIES

I. INTRODUCTION

The following material represents sampling plans and the results of implementing these plans for Albany and Saratoga counties. Examination of the DIPOV Index for New York State counties in 1970, 1971 and 1972 revealed Albany county consistently at the "poor" end of the scale and it was chosen to represent the negative end of the dimension. Only some of the New York City counties were more extreme. Saratoga county, which is contiguous to Albany county and immediately to the north, stands at the "good" end of the scale for 1970, 1971 and 1972 and it was selected to represent the positive end of the dimension.

Albany county had a 1970 population of 286,742 in 93,769 households (hhs) and the plan calls for an approach to about 2,300 hhs to obtain a sample size of 400. Saratoga county had a 1970 population of 121,679 in 35,686 hhs and the plan requires an approach to about 1,900 hhs to obtain a sample size of 400.

II. ALBANY COUNTY

Preprocessing

The United States is divided into Enumeration Districts and Block Groups. Enumeration Districts are population areas averaging about 250 housing units and are defined by the Census Bureau. They are used for the collection and tabulation of population and housing census data for the conventional enumeration areas and for portions of the mail-out/mail-back SMSA's not covered by the Address Coding Guide. Block Groups are combinations of contiguous blocks having combined average population of about 1,000. They are used in census-by-mail areas where Address Coding Guides have been prepared.

The first-count data were in the form of 353 records representing 43 whole Enumeration Districts (EDs), 7 EDs split in two, 3 EDs split in three, 2 EDs split in four, 3 unmapped EDs *, and 276 Block Groups (BGs).

The following manipulations were performed on the original 353 records:

1. Records containing zero families with children under 18 were pooled with records of geographically adjacent areas (a total of 5 records made up of two whole EDs, two parts of an ED split in three, and one unmapped ED). This left 348 records.

2. Records that represented "phantom" BGs were dropped (46BGs).** This resulted in 302 surviving records.

---

*These EDs could not be found on the census maps. They contained either zero or very few families and were pooled as indicated below.

**"Phantom" BGs represent data that lack sufficient information to assign them to a specific BG in the census tract.

3. Records which represented split EDs that were not discriminable on field maps were pooled (a total of 12 split ED records were pooled--6 EDs split in two were combined into 6 whole EDs, 2 EDs split in three were combined into 2 EDs split in two, and 2 EDs split in four were combined into 2 EDs split in two). Also, BGs not discriminable on field maps were pooled (a total of 12 BGs). The records of the two remaining unmapped EDs were pooled with mapped EDs in the appropriate census tracts. These procedures reduced the number of records to 276.

4. Finally, the 27 records containing fewer than 50 hhs were pooled with geographically adjacent areas reducing the number of records to 249. The surviving records ranged in number of households from 50 to 1,700. These 249 records constitute the units from which the first-stage sample is to be drawn. At this point they can be called "Primary Sampling Units" (PSUs).

Update for New Construction

Planning agencies in Albany county were contacted in order to discover where there was substantial new construction since 1970. The western and southern towns in the county had a relatively small amount of new construction but Albany city and the towns surrounding it (Cohoes, Colonie, Guilderland and Bethlehem) had a fair amount of new construction. For each of these five areas, the number of new units and their locations were obtained *. These units were added to the 1970 household count of the appropriate PSUs **. A total of 6,514 units were added to the 1970 count of 93,769 hhs resulting in 100,283 hhs.

---

*All of the multiple units we learned of were added, as well as the single family and the two family units that constituted a subdivision of more than five individual units.

**Each new dwelling unit was treated as an additional household.

After this update the 249 PSUs ranged in number of households from 50 to 1,939. The mean number of households was 419.19 and the standard deviation, 277.41.

Sampling Ratio

The initial sampling fraction for a sample size of 400 when 100,283 is the total number of households is:

$$\frac{400}{100,283} = 0.00399$$

If we assume a 95 percent coverage rate (the percent of existing households found in the field) and a 75 percent response rate (the percent of qualified households that yield a completed interview), and if we estimate the rate of eligible households (households with at least one child between the ages of 1 and 10) as 25 percent *, then the adjusted sampling fraction is:

$$\frac{0.00399}{(.95)\ (.75)\ (.25)} = \frac{0.00399}{0.178125} = 0.0224$$

and the final sampling fraction would be approximately 1/45.

This results in 100,283/45 = 2,229. So that 2,229 households would have to be screened to obtain a sample size of 400, or rounding off, if we select 50 PSUs, 45 households would be screened in each PSU, for a total of 2,250 households to be screened.

---

*This estimate was obtained by using the number of families with own children under 18 and the number of families with own children under 6 from the 1970 census data for Albany county and interpolating roughly between those numbers. This yielded 24,000 families with children between 1 and 10 years old, which is about 25 percent of the total number of households (93,769).

Implicit Stratification and Sampling Probability Proportional to Size

Stratification

The 249 PSUs were then stratified on three variables: urban-rural, black-white, and median income. This stratified list appears on the following pages.

Urban-rural -- Percent rural population ranged from 0 to 100 with 39 PSUs having 100 percent rural population, 205 PSUs having 0 percent rural population and 5 PSUs containing 48, 74, 89, 94 and 94 percent rural population. If a PSU contained 50 percent or more rural population it was placed in the rural stratum, so that this stratum is composed of 43 PSUs with a total of 14,165 hhs. The urban stratum contains 206 PSUs with a total of 86,118 hhs.

Black-white -- Percent white population ranged from 12 to 100. In the rural stratum it ranged from 85 to 100 and in the urban stratum from 12 to 100.

The rural stratum was divided into two black-white strata: 96 per cent white population or less (5 PSUs) and 97 percent white population or more (38 PSUs).

The urban stratum was divided into six black-white strata: less than 80 percent white population (21 PSUs), 80-94 percent (20 PSUs), 95-97 percent (32 PSUs), 98 percent (35 PSUs), 99 percent (82 PSUs), 100 percent (16 PSUs).

Median Income -- Median income per stratum ranged from about $4200 to about $19,200. For the rural stratum the range was from about $5600 to about $13,800 and for the urban stratum from about $4200 to about $19,200. Within each of the urban-rural/black-white strata the records were ordered from high to low median income.

The listing below entitled "Listing After Stratification" represents an ordering of PSUs in Albany county stratified by urban-rural status, percent white, and median income. The two columns to the right present respectively the updated estimates of number of households and cumulative number of households. Details of the sampling plan continue on page A-19.

Listing After Stratification

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
61	144	Rural	94%	$ 8,272	307	307
303,304	138.00/9,138.00/9	"	96	7,887	200	507
294	138.00/1	"	96	6,930	137	644
65	148	"	85	6,901	289	933
73	154	"	91	5,588	90	1,023
*42	132	"	100	13,837	189	1,212
24	115	"	98	13,375	803	2,015
47,48	134,135	"	98	12,446	158	2,173
13,352, 353	109,146.07/3 146.07/9	"	100	11,868	127	2,300
43,44	133,133B	"	99	10,671	374	2,674
31	122	"	99	10,456	69	2,743
62	145	"	98	10,340	328	3,071
*10	108	"	99	10,021	411	3,482
57	140	"	99	9,877	61	3,543
289	137.02/1	"	99	9,813	259	3,802
287,288	137.01/9,137.01/9	"	99	9,760	316	4,118
32	123	"	99	9,693	521	4,639
258,259	135.02/9,135.02/9	"	98	9,273	387	5,026
*6	105	"	99	9,247	452	5,478
58	141	"	100	9,231	50	5,528
55,56	139,139B	"	100	9,191	66	5,594
60	143	"	98	9,168	428	6,022
2	102	"	99	9,112	274	6,296

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
23	114	Rural	98%	$ 8,963	232	6,528
51,52,53	137,137B,137C	"	99	8,865	454	6,982
16,18	110,110B	"	100	8,761	234	7,216
*21	112	"	99	8,757	162	7,378
35	126	"	99	8,716	396	7,774
25	116	"	97	8,659	734	8,508
20	111	"	100	8,557	148	8,656
63	146	"	99	8,248	287	8,943
*36	127	"	98	8,077	358	9,301
22	113	"	99	8,075	745	10,046
64	147	"	99	7,741	334	10,380
3,76	103,861	"	98	7,705	321	10,701
71	152	"	99	7,689	481	11,182
*68,69	150,150B	"	99	7,626	932	12,114
33,34	124,125	"	99	7,533	321	12,435
28	119	"	99	7,515	491	12,926
70	151	"	99	7,479	198	13,124
*27	118	"	99	6,941	544	13,668
29	120	"	98	6,806	107	13,775
72	153	"	99	6,504	390	14,165

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
186	23.00/3	Urban	66%	$ 9,038	229	14,394
192	25.00/2	"	40	8,325	93	14,487
115	7.00/4	"	76	7,329	673	15,160
*83	2.00/1	"	69	7,138	498	15,658
184	23.00/1	"	79	7,053	157	15,815
121	11.00/2	"	53	6,340	98	15,913
79	1.00/2	"	73	6,337	187	16,100
181	22.00/1	"	75	6,328	883	16,983
*187	23.00/4	"	55	6,256	666	17,649
195	25.00/5	"	76	6,190	341	17,990
86	2.00/4	"	46	6,142	843	18,833
185	23.00/2	"	55	6,052	415	19,248
*122	11.00/3	"	70	5,893	112	19,360
194	25.00/4	"	59	5,623	322	19,682
120	11.00/1	"	12	5,506	61	19,743
190	24.00/2	"	34	5,281	202	19,945
193	25.00/3	"	40	5,229	269	20,214
191	25.00/1	"	28	5,154	485	20,699
*85	2.00/3	"	25	5,056	1,033	21,732
84	2.00/2	"	32	5,042	650	22,382
189	24.00/1	"	34	4,173	344	22,726
112	7.00/1	"	85	11,521	383	23,109
*177	21.00/2	"	92	11,345	175	23,284
347	146.02/1	"	92	10,934	200	23,484
113	7.00/2	"	86	9,994	311	23,795

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
299	138.00/5	Urban	89%	$ 9,721	150	23,945
176	21.00/1	"	93	9,184	702	24,647
77,200	1450, 26.00/9	"	81	8,857	258	24,905
*131	15.00/1	"	93	8,796	792	25,697
114	7.00/3	"	86	8,610	326	26,023
178	21.00/3	"	91	8,507	561	26,584
119	8.00/3	"	93	7,587	391	26,975
*116	7.00/5	"	81	7,569	510	27,485
118	8.00/2	"	89	7,549	489	27,974
182	22.00/2	"	89	7,419	566	28,540
198	26.00/3	"	87	7,418	175	28,715
117	8.00/1	"	80	7,368	264	28,979
*125	14.00/1	"	91	7,056	1,203	30,182
106	6.00/1	"	94	7,045	369	30,551
123	11.00/4	"	86	6,797	541	31,092
*124	11.00/5	"	88	6,516	797	31,889
96	4.00/5	"	95	14,719	194	32,083
343	146.01/1	"	97	13,333	343	32,426
143	17.00/3	"	95	12,754	591	33,017
*350	146.02/4	"	96	12,601	416	33,433
310	139.00/6	"	97	12,560	206	33,639
305	139.00/1	"	96	12,283	491	34,130
59	142	"	97	12,136	138	34,268
160	19.01/1	"	96	12,091	247	34,515

Listing After Stratification(continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulativ HH
298	138.00/4	Urban	97	11,995	603	35,118
*134	15.00/4	"	97	11,805	307	35,425
137	16.00/2	"	97	11,721	343	35,768
169	20.00/1	"	97	11,704	669	36,437
26,74	117, 177B	"	96	10,891	168	36,605
136	16.00/1	"	97	10,824	698	37,303
*103	5.02/2	"	97	10,647	178	37,481
296, 297	138.00/2, 138.00/3	"	97	10,619	301	37,782
295	138.00/1	"	97	10,608	514	38,296
300	138.00/6	"	97	10,374	162	38,458
308	139.00/4	"	96	10,304	374	38,832
*89	3.00/2	"	96	10,212	1,700	40,532
197	26.00/2	"	96	10,014	496	41,028
*302	138.00/8	"	96	9,964	363	41,391
5, 260, 261, 262	104, 136.00/1, 136.00/1, 136.00/1	"	97	9,907	236	41,627
133	15.00/3	"	95	9,883	437	42,064
132	15.00/2	"	96	9,809	434	42,498
292, 293	137.02/9, 137.02/9	"	95	9,549	202	42,700
230	132.00/3	"	97	9,410	265	42,965
*109	6.00/4	"	97	9,024	693	43,658
141	17.00/1	"	97	8,935	288	43,946
126	14.00/2	"	96	8,467	683	44,629

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban Rural	Percent White	Median Income	Number of HH	Cumulative HH
108	6.00/3	Urban	95%	$ 8,041	253	44,882
*107	6.00/2	"	95	7,783	586	45,468
145	17.00/5	"	98	17,314	208	45,676
144	17.00/4	"	98	16,581	221	45,897
328	142.01/2	"	98	15,912	401	46,298
14,15,37	109,109B,128	"	98	15,695	630	46,928
*334,336	142.02/2,142.02/9	"	98	15,097	417	47,345
266,267,268	136.00/3,136.00/3, 136.00/3	"	98	14,281	1,171	48,516
11,12	108,108B	"	98	14,225	155	48,671
*281	137.01/1	"	98	14,208	692	49,363
282,283	137.01/2,137.01/2	"	98	13,797	915	50,278
307	139.00/3	"	98	13,704	630	50,908
*93	4.00/2	"	98	13,607	732	51,640
138	16.00/3	"	98	13,469	341	51,981
7,8,9	106,106B,107	"	98	13,324	1,155	53,136
*149,150	18.01/3,18.01/3	"	98	13,234	699	53,835
163	19.01/4	"	98	12,986	284	54,119
4	103	"	98	12,876	561	54,680
167	19.02/3	"	98	12,861	475	55,155
*142	17.00/2	"	98	12,753	476	55,631
344	146.01/2	"	98	12,685	305	55,936
92,97	4.00/1,4.00/9	"	98	12,630	668	56,604
*104	5.02/3	"	98	11,768	800	57,404
264,265	136.00/2,136.00/2	"	98	11,695	688	58,092
99	5.01/2	"	98	11,679	253	58,345
323	140.00/7	"	98	11,455	227	58,572

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
174	20.00/6	Urban	98%	$11,321	280	58,852
309	139.00/5	"	98	10,942	391	59,243
*306	139.00/2	"	98	10,923	362	59,605
81	1.00/4	"	98	10,674	185	59,790
322	140.00/6	"	98	10,522	350	60,140
196	26.00/1	"	98	10,393	490	60,630
127	14.00/3	"	98	9,708	246	60,876
199	26.00/4	"	98	9,654	415	61,291
*80	1.00/3	"	98	8,857	584	61,875
102	5.02/1	"	98	8,764	235	62,110
78	1.00/1	"	98	7,389	98	62,208
147	18.01/1	"	99	19,195	296	62,504
284	137.01/3	"	99	18,515	712	63,216
*338	142.03/2	"	99	17,628	319	63,535
339, 342	142.03/3, 142.03/9	"	99	16,768	228	63,763
340	142.03/4	"	99	16,615	345	64,108
148	18.01/2	"	99	16,463	589	64,697
151, 152	18.01/4, 18.01/4	"	99	14,842	311	65,008
*253,254	135.02/1, 135.02/1	"	99	14,494	393	65,401
30	121	"	99	14,446	782	66,183
156	18.02/2	"	99	14,349	214	66,397

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
277, 278, 279, 280	136.00/9, 136.00/9, 136.00/9, 136.00/9	Urban	99%	$14,330	732	67,129
*337	142.03/1	"	99	14,113	559	67,688
269, 270	136.00/4, 136.00/4	"	99	13,807	285	67,973
166	19.02/2	"	99	13,794	352	68,325
348	146.02/2	"	99	13,626	183	68,508
165	19.02/1	"	99	13,536	326	68,834
94	4.00/3	"	99	13,382	347	69,181
*139	16.00/4	"	99	13,366	247	69,428
335	142.02/3	"	99	13,171	292	69,720
161	19.01/2	"	99	13,029	350	70,070
327	142.01/1	"	99	12,940	503	70,573
162	19.01/3	"	99	12,838	270	70,843
153, 154	18.01/9, 18.01/9	"	99	12,776	204	71,047
*38, 39, 40	129, 129B, 130	"	99	12,688	363	71,410
248	135.01/3	"	99	12,685	405	71,815
222	130.00/6	"	99	12,601	218	72,033
155	18.02/1	"	99	12,528	403	72,436
246,249,250	135.01/2,135.01/4, 135.01/4	"	99	12,269	524	72,960
*290	137.02/1	"	99	12,152	1,474	74,434
140	16.00/5	"	99	12,101	201	74,635
17, 19	110, 110B	"	99	12,062	313	74,948
*255, 256	135.02/2, 135.02/2	"	99	12,052	662	75,610
88	3.00/1	"	99	11,950	448	76,058

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
158	18.02/4	Urban	99%	$11,918	340	76,398
*313	140.00/1	"	99	11,909	1,384	77,782
172	20.00/4	"	99	11,834	174	77,956
245	135.01/1	"	99	11,800	868	78,824
95	4.00/4	"	99	11,569	255	79,079
*101	5.01/4	"	99	11,513	479	79,558
49, 50, 326	136, 136B, 141.00/1	"	99	11,496	188	79,746
333	142.02/1	"	99	11,476	595	80,341
171	20.00/3	"	99	11,429	351	80,692
98	5.01/1	"	99	11,379	295	80,987
*251, 252	135.01/9, 135.01/9	"	99	11,246	1,939	82,926
173	20.00/5	"	99	11,214	400	83,326
*1, 242	101, 134.00/5	"	99	11,013	230	83,556
220	130.00/4	"	99	10,930	526	84,082
314, 315	140.00/2, 140.00/2	"	99	10,926	574	84,656
*66, 67	149, 149B	"	99	10,890	877	85,533
236	133.00/3	"	99	10,660	485	86,018
316, 317	140.00/3, 140.00/3	"	99	10,493	549	86,567
170	20.00/2	"	99	10,458	475	87,042
320, 321	140.00/5, 140.00/5	"	99	10,390	249	87,291
324	140.00/8	"	99	10,348	119	87,410
*100	5.01/3	"	99	10,265	221	87,631
241	134.00/4	"	99	10,255	302	87,933
218	130.00/2	"	99	10,212	284	88,217
318, 319	140.00/4, 140.00/4	"	99	10,086	325	88,542

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban Rural	Percent White	Median Income	Number of HH	Cumulative HH
201	127.00/1	Urban	99%	$10,007	355	88,897
301	138.00/7	"	99	9,898	279	89,176
*202	127.00/2	"	99	9,737	316	89,492
212	129.00/2	"	99	9,395	185	89,677
41	131	"	99	9,391	101	89,778
224	131.00/1	"	99	9,375	222	90,000
237	133.00/4	"	99	9,304	493	90,493
219	130.00/3	"	99	9,283	474	90,967
234	133.00/1	"	99	9,158	273	91,240
*235	133.00/2	"	99	9,092	415	91,655
231	132.00/4	"	99	8,996	403	92,058
206	128.00/3	"	99	8,927	361	92,419
225	131.00/2	"	99	8,807	423	92,842
240	134.00/3	"	99	8,781	310	93,152
207	128.00/4	"	99	8,390	181	93,333
*214	129.00/4	"	99	8,043	306	93,639
205	128.00/2	"	99	8,011	238	93,877
209	128.00/6	"	99	7,664	391	94,268
229	132.00/2	"	99	7,558	409	94,677
228	132.00/1	"	99	7,547	219	94,896
208	128.00/5	"	99	7,187	545	95,441
*210	128.00/7	"	99	7,081	212	95,653
213	129.00/3	"	99	6,962	590	96,243
204	128.00/1	"	99	6,896	220	96,463

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
54, 75	138, 821B	Urban	100%	$17,383	356	96,819
329	142.01/3	"	100	16,503	146	96,965
351	146.02/5	"	100	13,017	176	97,141
349	146.02/3	"	100	12,933	226	97,367
*332	142.01/9	"	100	12,389	122	97,489
45, 46	133C, 133D	"	100	11,498	124	97,613
157	18.02/3	"	100	11,375	183	97,796
217	130.00/1	"	100	11,089	345	98,141
221	130.00/5	"	100	10,764	402	98,543
238	134.00/1	"	100	9,591	148	98,691
239	134.00/2	"	100	9,495	162	98,853
203	127.00/3	"	100	9,357	235	99,088
232	132.00/5	"	100	8,616	315	99,403
*227	131.00/4	"	100	8,490	121	99,524
226	131.00/3	"	100	8,361	360	99,884
211	129.00/1	"	100	6,732	399	100,283

Sampling Plan

First-Stage Sample -- It was decided that 50 of the 249 PSUs (approximately 20 %) would be selected in the first-stage sample and that this selection would be with probability proportional to size. When 50 PSUs are selected, the sampling interval is 2005.66 (100,283/50), so that a random number between zero and 2005.66 was selected as a starting point in the cumulative hh list. Using the sampling interval of 2005.66, we then counted down the cumulative list to obtain 50 sampling points. The listed records marked with an asterisk on the preceding pages were the PSUs selected in this first-stage sample.

For an ultimate sample size of 400, with 50 PSUs, we would expect to obtain, on the average, 8 completed interviews in each PSU. With the coverage, response and eligible household rates that we estimate, we expect it to be necessary to screen 45 households in each PSU on the average to obtain 8 completed interviews.

Second-Stage Sample -- Each of the 50 selected PSUs was divided into segments with a minimum segment size of about 45* in order to obtain the desired 8 completed interviews. For this purpose block statistics** were used when they were available, otherwise aerial photographs and New York State Department of Transportation Planimetric Maps (1:24,000 Series) were employed. The number of dwelling units listed for each block or found in the aerial photographs and maps was then corrected according to the household count employed in the first-stage sample.

---

*44.9268

**U. S. Bureau of the Census. Census of Housing: 1970. BLOCK STATISTICS. Final Report HC (3)-156 Albany-Schenectady-Troy, New York Urbanized Area.

The number of segments in each PSU varied from 1 to 15. One segment in each of the 50 PSUs was then selected with probability proportional to size. According to the number of households in each selected segment a sampling ratio which served as the sampling interval was determined, and with a random starting point, a list of the selected dwelling unit numbers in each segment was generated.

The procedure followed is illustrated on the next page. Tract 1.00, BG3, with 584 households was one of the 50 selected in the first-stage sample. Based on the block statistics which are presented by block numbers, the block group was divided into 5 segments with 82-166 dwelling units apiece. Using a random integer from 1 to 584, the second segment with 166 hhs was selected. Finally, since we wanted to sample one in every 166/44.9268 = 3.6949 hhs, from a random starting point between 1 and 3.6949 (the "seed" 2.0874), we asked our listers to identify the 2nd, 6th, 9th, etc. dwelling unit in the selected segment.

The listers in the field then employed the selected dwelling unit numbers to generate an address list to be approached by the interviewers. The selected segments and the results of field listing appear on pages A-22 to A-24.

Example of Second-Stage Sample

Tract 1.00 BG3 584HH

Block Number	Dwelling Units	Dwelling Units Corrected	Segments	Cumulation
301	151	146	146	146
302	69	67		
303	171	166	166	312 Selected
304	0	0	98	410
305	32	31		
306	46	45	92	502
307	54	52		
308	48	47	82	584
309	31	30		

Selection: Block 303

```
DU'S? : 166
    RAND=     0.5650,   SAMP RATIO=     3.6949,   SEED=     2.0874

*      2=      6=      9=     13=     17=     21=     24=     28=     32=     35
*     39=     43=     46=     50=     54=     58=     61=     65=     69=     72
*     76=     80=     83=     87=     91=     94=     98=    102=    106=    109
*    113=    117=    120=    124=    128=    131=    135=    139=    142=    146
*    150=    154=    157=    161=    165=    168=    172=    176=    179=    183
*    187=    191=    194=    198=    202=    205=    209=    213=    216=    220
*    224=    227=    231=    235=    239=    242=    246=    250=    253=    257
*    261=    264=    268=    272=    276=    279=    283=    287=    290=    294
*    298=    301=    305=    309=    312=    316=    320=    324=    327=    331
*    330.9330
```

Segments Selected in the Second Stage

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
42	132	3	52	34	29
10	108	902	198	198	45
6	105	7	42	31	31
21	112	2	88	110	56
36	127	4	45	43	43
68,69	150,150B	4	66	62	42
27	118	6	60	56	40
83	2.00/1	107	146	353 (224 Sr. Citizen units)	109 (70 Sr. Citizen units)
187	23.00/4	401	257	277	48
122	11.00/3	301-305	69	0	0
85	2.00/3	306-307	149	127	39
177	21.00/2	201-203	175	169 (34 "Adults only")	43 (9 "Adults only")
131	15.00/1	104	107	94	39
116	7.00/5	502-503	143	133	42
125	14.00/1	104	145	154	47
124	11.00/5	507-509,518	142	135	43
350	146.02/4	401-403	104	98	42
134	15.00/4	403-404,406	93	115	56
103	5.02/2	201,205-207	88	113	57
89	3.00/2	226	135	116	39

Segments Selected in the Second Stage (continued)

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
302	138.00/8	807-809,811-816,818-820	88	89	44
109	6.00/4	409	156	170	49
107	6.00/2	205	97	82	38
334,336	142.02/2, 142-02/9	201,203-206	94	78	38
281	137.01/1	101	320	347	49
93	4.00/2	201	176	175	44
149,150	18.01/3, 18.01/3	305-307	104	97	42
142	17.00/2	202,204	84	76	40
104	5.02/3	306	333	27	4
306	139.00/2	203-204,207-208	89	91	46
80	1.00/3	303	166	148	40
338	142.03/2	203-208	106	112	47
253,254	135.02/1, 135.02/1	111	291	376	58
337	142.03/1	115-118	127	153	54
139	16.00/4	403-404	75	73	44
38,39,40	129,129B, 130	214-219, 301-305	101	366(213 Sr. Citizens units)	156(102 Sr. Citizens units)
290	137.02/1	131	136	288	94

Segments Selected in the Second Stage (continued)

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
255,256	135.02/2, 135.02/2	204	114	26	11
313	140.00/1	108	122	151	55
101	5.01/4	407	207	249(195 Sr. Citizen units)	54(42 Sr Citizen units)
251,252	135.01/9, 135.01/9	901-903	134	126	43
1,242	101,134.00/5	101,501-503	107	107	45
66,67	149,149B	6	60	74	55
100	5.01/3	304-306	123	148	54
202	127.00/2	201-203	106	111	47
235	133.00/2	205-206	93	83	40
214	129.00/4	401-403	111	101	41
210	128.00/7	701-703,708	115	129	51
332	142.01/9	902	122	58	21
227	131.00/4	401-412	121	175	65
		TOTALS:	6382	6704	2359

Sampling Results

At the completion of the listing process, 2,359 dwelling units had been sampled and the addresses and other information necessary to find these units were turned over to the interviewers. During the screening process the interviewers found an additional 36 dwelling units at the listed addresses. (This resulted, for example, when the lister, on the basis of his information, considered a dwelling unit to be a one-family house but the interviewer discovered it to be occupied by two or more separate households. In such cases all of the households at that address were approached.) In addition, during the screening process, 143 listed units were found to be unoccupied (a vacancy rate of 5.97%). These additions and subtractions resulted in 2,252 households appearing in the sample.

Only those households containing at least one child between the ages of 1 and 10 years were "qualified" for the study. Screening discovered 503 qualified households of the 2,252 in the sample. Of those 503 households, 424 resulted in completed interviews. Of the remaining 79 households, 56 refused to be interviewed and 23 could not be interviewed for a variety of reasons (e.g., not at home, no English spoken).

Calculation of the sampling ratio prior to sampling used estimates of the coverage, qualified and previous rates. Coverage rate was assumed to be 95% and turned out to be: sampled hhs/expected hhs = 2,252/2,250 = 100.1%. Qualified rate was estimated to be 25% and was: qualified hhs/sampled hhs = 503/2,252 = 22.34%. Response rate was estimated at 75% was: completed interviews/qualified hhs = 424/503 = 84.29%.

III. SARATOGA COUNTY

Preprocessing

The first-count data for Saratoga county were in the form of 104 records representing 66 whole Enumeration Districts (EDs), 13 EDs split in two, 1 ED split in four and 8 Block Groups (BGs).

The following manipulations were performed on the original 104 records:

1. Records that represented "phantom" BGs were dropped (2BGs) and one ED representing the zero-population Adirondack Forest Preserve was dropped. This resulted in 101 surviving records.

2. Records which represented split EDs that were not discriminable on field maps were pooled (a total of 12 split ED records were pooled -- 9 EDs split in two were combined into 9 whole EDs and 1 ED split in four was combined into 1 whole ED). In addition, whole EDs which could not be appropriately discriminated from one another were pooled* (a total of 3 EDs were pooled in this manner-- 3 EDs were combined into one and, in another case, 2 EDs were combined into one). This left 86 records.

3. Finally, the four records containing fewer than 50 hhs were pooled with geographically adjacent areas reducing the number of records to 82.

The surviving records ranged in number of households from 73 to 1,655. These 82 records constitute the units from which the first-stage

*This occurred because most of Saratoga county is outside the SMSA and was enumerated down to block level in a state-contracted census. In some instances this resulted in non-alignment of first-count data with block statistics and required pooling.

sample is to be drawn. At this point they can be called "Primary Sampling Units" (PSUs).

Update for New Construction

Planning agencies in Saratoga county were contacted in order to discover where there was substantial new construction since 1970. A rather large amount of new construction was reported along the corridor of the Northway, a major, relatively new, north-south road. Whenever possible, town officials were contacted to determine the number of new units, including trailer spaces, and their location *. These units were added to the 1970 household count of the appropriate PSUs**. A total of 5,202 units were added to the 1970 count of 35,686 hhs resulting in 40,888 hhs.

After this update the 82 PSUs ranged in number of households from 73 to 1,974. The mean number of households was 498.63 and the standard deviation, 375.26.

Sampling Ratio

The initial sampling fraction for a sample size of 400 when 40,888 is the total number of households is:

$$\frac{400}{40,888} = 0.00978$$

If we assume a 95 percent coverage rate (the percent of existing households found in the field) and a 75 percent response rate (the percent

---

*All of the multiple units we discovered were added, as well as the single-family, two-family and trailer space units that constituted a grouping of more than five individual units.

**Each new dwelling unit was treated as an additional household.

of qualified households that yield a completed interview), and if we estimate the rate of eligible or qualified households (households with at least one child between the ages of 1 and 10) as 30 percent*, then the adjusted sampling fraction is:

$$\frac{0.00978}{(.95)(.75)(.30)} = \frac{0.00978}{0.21375} = 0.0458$$

and the final sampling fraction would be approximately 1/22.

This results in 40,888/22 = 1,859. So that 1,859 households would have to be screened to obtain a sample size of 400, or converting the number in each PSU to 38 rather than 37.18, 1,900 households would have to be screened.

Implicit Stratification and Sampling Probability Proportional to Size

Stratification

The 82 PSUs were stratified on three variables: urban-rural, black-white, and median income. This stratified list appears on the following pages.

Urban-rural -- Percent rural population was 0 or 100 with 45 PSUs having 100 percent rural population and 37 PSUs having 0 percent rural population. The rural stratum is composed of 21,434 households and the urban stratum, 19,454 households.

Black-white -- Percent white population ranged from 81 to 100. In the rural stratum it ranged from 98 to 100 and in the urban stratum from 81 to 100.

---

*This estimate was obtained by using the number of families with own children under 18 and the number of families with own children under 6 from the 1970 census data for Saratoga county and interpolating roughly between those numbers. This yielded 12,500 families with children between 1 and 10 years old, which is about 30 percent of the total number of households (40,888).

Lack of variability on percent white population in the rural stratum caused this not to be a useful stratifying variable within this stratum. However, the urban stratum was divided into two black-white strata: less than 98 percent white population (9PSUs) and 98-100 percent white population (28PSUs).

Median Income -- Median income per stratum ranged from about $2,700 to about $18,400. For the rural stratum the range was from about $2,700 to about $14,400 and for the urban stratum from about $6,300 to about $18,400. Within each of the urban-rural/black-white strata the records were ordered from high to low median income.

The listing on the following pages entitled "Listing After Stratification" represents an ordering of PSUs in Saratoga county stratified by urban-rural status, percent white, and median income. The two columns to the right present respectively the updated estimates of number of households and cumulative number of households. Details of the sampling plan continue on page A-34.

Listing After Stratification

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
54	549	Rural	100%	$ 2,733	73	73
18	517	"	100	4,250	128	201
19	518	"	100	4,292	204	405
*20	519	"	99	4,665	196	601
13	512	"	99	4,935	115	716
91	577	"	100	5,372	76	792
69,72	561,563	"	99	5,749	466	1,258
*65	558	"	99	6,083	547	1,805
*14	513	"	99	6,127	328	2,133
29	527	"	99	6,170	156	2,289
30	528	"	99	6,180	451	2,740
*28	526	"	100	6,589	219	2,959
26	524	"	99	6,593	519	3,478
63,64	557,557B	"	99	6,732	251	3,729
*27	525	"	99	6,734	450	4,179
*12	511	"	99	6,741	534	4,713
**50,51	546,546B	"	99	6,857	1,526	6,239
*23,24	522,522B	"	98	6,949	1,128	7,367
68	560	"	100	6,952	430	7,797
*22	521	"	99	7,352	436	8,233
84	572	"	100	7,386	143	8,376
*53	548	"	99	7,420	560	8,936
8	507	"	100	7,466	241	9,177

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
52	547	Rural	99%	$ 7,615	78	9,255
*70,71	562,562B	"	99	7,621	679	9,934
95	580 rural	"	100	7,767	126	10,060
*21	520	"	98	7,809	708	10,768
**80,81,82,83	571,571B,C,D	"	99	7,820	1,809	12,577
*7	506	"	99	7,877	504	13,081
55	550	"	98	7,961	215	13,296
15,16	514,515	"	100	7,973	186	13,482
*60	555	"	99	8,215	564	14,246
*78	569	"	99	8,242	629	14,675
*59	554	"	99	8,427	532	15,207
61	556	"	99	8,547	203	15,410
46	542	"	99	8,832	412	15,822
*66,67	559,559B	"	98	8,872	500	16,322
25	523	"	99	8,912	131	16,453
*79	570	"	99	8,929	533	16,986
45	541	"	99	8,973	466	17,452
* 94	579	"	99	9,087	631	18,083
86	573	"	99	9,481	353	18,436
*56	551	"	100	10,175	418	18,854
**92,93	578,578B	"	99	10,615	1,974	20,828
*87	574	"	99	14,433	606	21,434
38	534	Urban	89	6,322	124	21,558
*39	535	"	81	6,772	682	22,240

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
*37	533	Urban	95%	$ 8,111	482	22,722
43	539	"	87	8,925	523	23,245
*41	537	"	97	8,984	282	23,527
*42	538	"	96	9,092	865	24,392
*36	532	"	93	9,171	743	25,135
32	529B	"	97	9,599	171	25,306
44	540	"	96	10,796	294	25,600
9	508	"	100	7,928	155	25,755
*49	545	"	100	8,348	290	26,045
48	544	"	99	8,383	581	26,626
*102	628/2	"	99	8,608	377	27,003
101	628/1	"	99	8,784	423	27,426
**73,74,75	564,565,566	"	99	8,804	1,131	28,557
*76,77	567,568	"	99	8,962	926	29,483
99	627/3	"	100	9,036	409	29,892
*97,98	627/1,627/2	"	99	9,120	209	30,101
4,5	503,504	"	99	9,197	364	30,465
*40	536	"	98	9,220	582	31,047
*10	509	"	99	9,471	604	31,651
47	543	"	99	9,496	503	32,154
*11	510	"	99	9,501	311	32,465
3	502	"	99	9,898	551	33,016
*103	628/3	"	99	10,134	215	33,231

Listing After Stratification (continued)

Record	ED or Tract/BG	Urban-Rural	Percent White	Median Income	Number of HH	Cumulative HH
*1,2	501,501B	Urban	99	$ 10,456	976	34,207
35	531	"	98	10,544	423	34,630
*57	552	"	98	11,100	386	35,016
58	553	"	99	11,157	281	35,297
*6	505	"	100	11,185	372	35,669
85	572	"	99	11,932	254	35,923
**31	529	"	98	12,156	1,370	37,293
*33,34	530,530B	"	99	12,742	1,045	38,338
96	580 urban	"	99	12,954	144	38,482
*62	556	"	99	13,891	540	39,022
90	576	"	99	14,597	384	39,406
**88,89	575,575B	"	98	18,444	1,482	40,888

Sampling Plan

First-Stage Sample -- It was decided that, as in the case of Albany county, 50 sampling points would be selected in the first-stage sample, with the selection, again, with probability proportional to size. However, since there were only 82 PSUs in Saratoga county, in some instances a PSU would be selected more than once. (It turned out that six PSUs were selected twice.) With 50 sampling points, the sampling interval is 817.76 (40,888/50) so that a random number between zero and 817.76 was selected as a starting point in the cumulative hh list. Using the sampling interval of 817.76, we then counted down the cumulative list to obtain 50 sampling points. The listed records marked with an asterisk on the preceding pages were the PSUs selected in this first-stage sample. Double asterisks indicate that the PSU was selected twice.

For an ultimate sample size of 400, with 50 sampling points, we would expect to obtain, on the average, 8 completed interviews in each PSU (or 16 if the PSU was selected twice). With the coverage, response and eligible household rates that we estimate, we expect it to be necessary to screen 38 households in each PSU on the average to obtain 8 completed interviews.

Second-Stage Sample -- Each of the selected PSUs was divided into segments with a minimum sequent size of about 38* in order to obtain the desired 8 completed interviews. For this purpose block statistics** were used when they were available, otherwise New York State Department of

---

*37.6170

**U. S. Bureau of the Census. Census of Housing: 1970. BLOCK STATISTICS. Final Report HC (3) - 156 Albany-Schenectady-Troy, New York Urbanized Area.
U. S. Bureau of the Census. Census of Housing: 1970. BLOCK STATISTICS. Final Report HC (3) - 163. Selected Areas in New York.

Transportation Planimetric Maps (1:24,000 Series) were employed. The number of dwelling units listed for each block or found in the maps was then corrected according to the household count employed in the first-stage sample.

The number of segments in each PSU ranged from 2 to 14. One segment was then selected (or two if the PSU had been initially selected twice) with probability proportional to size. According to the number of households in each selected segment a sampling ratio which served as the sampling interval was determined, and with a random starting point, a list of the selected dwelling unit numbers in each segment was generated.

The procedure followed is illustrated on the next two pages.

Example of Second-Stage Sample

ED 510

311 HH

Block Number	Dwelling Units	Dwelling Units Corrected	Segments	Cumulation	
223	34	33			
224	16	15			
225	4	4	85	85	
226	13	13			
301	21	20			
302	22	21			
303	38	36			
304	0	0			
305	0	0	81	166	
306	0	0			
307	18	17			
308	7	7			
309	87	84			
310	21	20			
311	0	0			
312	17	16	145	311	Selected
313	8	8			
314	18	17			
315	0	0			
316	0	0			

Example of Second-Stage Sample (continued)

ED 510 311 HH

Selection: Blocks 309-316

DU'S? 1145 RAND= 0.2146, SAMP RATIO= 3.8564, SEED= 0.8276

=	1=	5=	9=	12=	16=	20=	24=	28=	32=	36
=	39=	43=	47=	51=	55=	59=	63=	66=	70=	74
=	78=	82=	86=	90=	93=	97=	101=	105=	109=	112
=	117=	120=	124=	128=	132=	136=	140=	144=	147=	151
=	155=	159=	163=	167=	171=	174=	178=	182=	186=	190
=	194=	198=	201=	205=	209=	213=	217=	221=	224=	228
=	232=	236=	240=	244=	248=	251=	255=	259=	263=	267
=	271=	275=	278=	282=	286					
=	286.1980									

Segments Selected in the Second Stage

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
20	519	2	103	175	64
65	558	813	95	87	34
14	513	1	94	160	64
28	526	201-210, 212-220	108	85	30
27	525	121-124	97	106	42
12	511	901-904, 909	90	115	48
50,51	546,546B	914-915	405	160	14
50,51	546,546B	935-942	115	134	44
23,24	522,522B	36-40	80	125	59
22	521	918-920, 925-926	156	156	37
53	548	7	84	82	36
70,71	562,562B	111-119, 929-932	98	207	80
21	520	933-934, 936-938	79	102	48
80-83	571A-D	815,820	101	148	56
80-83	571A-D	839	184	207	42
7	506	936-941	96	104	41
60	555	920-924	108	142	50
78	569	825-826, 833-835	260	226	33
59	554	804,814	217	265	46
66,67	559,559B	824,912	205	305	56

Segments Selected in the Second Stage (continued)

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
79	570	809-812	75	111	56
94	579	958-961	113	111	37
56	551	918-922, 924	81	68	32
92,93	578,578B	802	130	174	51
92,93	578,578B	922	329	128	15
87	574	101	416	525	48
39	535	503-504	75	79	40
37	533	112-113, 512	81	74	35
41	537	122-133	118	120	39
42	538	306-307	74	83	42
36	532	317,320-324, 401-403	74	81	41
49	545	313-317	133	154	44
102	628/2	210,217-218	72	77	41
73-75	564-566	305-309	88	124	54
73-75	564-566	415,417, 419-423	74	8[illegible]	43
76,77	567,568	212-215	87	82	36
97,98	627/1,627/2	201-212	114	139	45
40	536	208-209, 217-219	73	79	40
10	509	211-213	90	65	27

Segments Selected in the Second Stage (continued)

Record	ED or Tract/BG	Block or Segment	Expected HH	Dwelling Units Found In Listing	Sampled Dwelling Units
11	510	309-316	145	166	43
103	628/3	301-309	109	115	40
1,2	501,501B	916	101	108	41
57	552	101,103, 105-107	72	79	41
6	505	311-313	110	110	38
31	529	215	786	852	41
31	529	232	229	177	29
33,34	530,530B	206-207, 210	79	71	33
62	556 urban	407-410, 412,414	87	115	50
88,89	575,575B	201-207	705	758	40
88,89	575,575B	412	230	235	38
		Totals:	7,725	8,236	2,124

Sampling Results

At the completion of the listing process, 2,124 dwelling units had been sampled and the addresses and other information necessary to find these units were provided to the interviewers. During the screening process the interviewers found an additional 7 dwelling units at the listed addresses. In addition, during screening 76 units were found to be unoccupied (a vacancy rate of 3.57%) and 41 listed units were vacation homes. These additions and subtractions resulted in 2,014 households appearing in the sample.

Screening discovered 638 of the 2,014 households to be qualified for the study (households with at least one child between 1 and 10 years of age). Of these 638 households, 552 resulted in completed interviews. Of the remaining 86 households, 50 refused to be interviewed and 36 could not be interviewed for a variety of reasons (e.g.,not at home, no English spoken).

Calculation of the sampling ratio prior to sampling employed estimates of the coverage, qualified and response rates. Coverage rate was assumed to be 95% and turned out to be: sampled hhs/expected hhs = 2014/1900 = 106%. Qualified rate was estimated to be 30% and was: qualified hhs/sampled hhs = 638/2014 = 31.68%. Response rate was estimated at 75% and was: completed interviews/qualified hhs = 552/638 = 86.52%.

APPENDIX B

PREDICTOR VARIABLES AND CRITERION VARIABLES IN ANALYTIC MODEL 2

TABLE 1B: PREDICTOR VARIABLES IN ANALYTIC MODEL 2

Predictor Set and Variable	Description
I. SUBJECT	
1. Age	Coded as age of sample child in years, ranging from 1 to 10. Schedule A covers age 1;Schedule B, ages 2 to 4; and Schedule C, ages 5 to 10.
2. Sex	1 = Female, 2 = Male
II COUNTY	
3. County	1=Albany, 2=Saratoga
III PSU DIPO INDEX	
4. PSU DIPO Index	Each family received a DIPO Index score (see below--Family DIPO Index). A mean for each PSU (Primary Sampling Unit) was obtained by averaging the family scores within each PSU.
IV PSU D,I,P,O	
5. PSU D	Each family received a Dependency status score (see below--Family DIPO Index). A mean for each PSU was obtained by averaging the family scores within each PSU.
6. PSU I	As above, using the family Incomplete Family scores.
7. PSU P	As above, using the family Premature Birth scores.
* PSU O	As above, using the family Out-of-Wedlock Birth scores.
V OTHER PSU VARIABLES	
8. Urbanization	1=Rural, 2=Urban. Based on 1970 census data, each PSU was designated as rural or urban. In almost all cases the population in these PSUs was either 100% rural or 100% urban. In the few PSUs for which this was not the case, status was determined according to the status of the majority of the population.

* A number is omitted here since the analysis employed the PSU DIPO Index and, therefore, one of the four components of the Index is a redundant variable.

TABLE 1B: PREDICTOR VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Predictor Set and Variable	Description
V OTHER PSU VARIABLES (cont'd)	
9. Percent White	Coded as percent white population in each PSU based on 1970 census data.
10. Median Income	Coded as median income in each PSU based on estimates prepared by National Planning Data, Ithaca, N.Y., employing 1970 census data.
VI NEIGHBORHOOD VARIABLES	
11. Safety of Neighborhood	Each family received a score on neighborhood safety based on their answers to questions about the occurrence of crimes against the persons and property of household members during the last year. High numbers indicate the relative absence of such occurrences (safe neighborhood) and low numbers indicate the relative presence of such occurrences (unsafe neighborhood).
12. House Condition	Each family received a score on house condition based on the interviewer's observation of exterior and interior conditions of the respondent's dwelling unit. High numbers indicate relatively good conditions and low numbers, relatively poor conditions.
VII FAMILY DIPO INDEX	
13. Family DIPO Index	A score was developed for each family by counting "1" for the occurrence of welfare income in 1974, incomplete family status, and premature and out-of-wedlock status for any of the children in the household, and counting "2" for the absence of each of these. The resulting Family DIPO Index ranges from 4 to 8, with high scores indicating the relative absence of these conditions.
VIII FAMILY STRUCTURE	
14. Respondent Age	Coded as the age of the respondent in years.

TABLE 1B: PREDICTOR VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Predictor Set and Variable	Description
VIII FAMILY STRUCTURE (cont'd)	
15. Total Children Under 18	Coded as the number of children under 18 years of age residing in the household
16. Total Adults	Coded as the number of persons 18 and older residing in the household.
IX WORK STATUS	
17. Father's Work Status	2 = Full-time work, 1 = Other
18. Respondent's Work Status	2 = Not working at all, 1 = Other
X FAMILY SES	
19. Family Income	Coded as total gross family income for 1974 reported by respondent.
20. Hollingshead SES Index	The higher the number, the higher the father's occupational and educational status, which are the components of the SES Index. (If information was not available for the father, the mother's occupational and educational status were used.) Information about the father's occupation was converted to codes 1-7, ranging from 1 = unskilled, to 7 = higher executives, proprietors of large concerns and major professionals. Father's education was converted to codes 1-7, ranging from 1 = less than 7 years of school, through 7 = graduate, professional training. Occupational status was weighted by 7 and educational status by 4. The resulting sum constituted the family's SES Index.
21. Respondent Education	Coded as the number of years of schooling reported by the respondent and converted to codes 1-7, as for father's education.

TABLE 1B: PREDICTOR VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Predictor Set and Variable	Description
XI ETHNICITY	
22. Ethnicity	Coded as 2 = White, 1 = Other. This is based on the ethnicity of the sample child as reported by the respondent.
XII FAMILY ATMOSPHERE	
23. Times Moved	Coded as the number of times the respondent reported having moved over the last five years, and then reversed so that the higher the number, the fewer the moves.
24. Happiness During Pregnancy	Degree of happiness about having the baby reported by the respondent for herself and the father, (an average of two items). The higher the number, the greater the happiness.
25. Respondent Health	Respondent's report of the state of her health, ranging from 1 = very poor, through 5 = excellent.
26. Adult Delinquency	Reported use of drugs, excessive drinking and trouble with the police for members of the household. High numbers indicate absence of such problems.
XIII FAMILY DISCIPLINE	
27. Consistency of Punishment	Respondent's report of how often she follows through on punishment with the sample child. Coded from 1 = almost never, through 5 = every time.
28. Respondent Strictness	Respondent's report of how strict she is with the sample child. Coded as 1 = very easy, through 5 = very strict.

B15

51

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2

Category and Variable	Schedule*	Description
HEALTH (PRENATAL, PERINATAL)		
1. Major Pregnancy Problems	ABC	1 = Yes, 2 = No
2. Birth Problems	ABC	1 = Yes, 2 = No (Based on problems which the baby had at or immediately after birth)
3. Disease Index	ABC	0 = many diseases, to 11 = few diseases, based on sample child having had scarlet fever, rheumatic fever, polio, meningitis, tuberculosis, whooping cough, pneumonia, bronchitis, jaundice, measles or mumps
4. Severe Measles or Mumps	ABC	1 = Yes, 2 = No
5. Illness Index	ABC	0 = many illnesses, to 7 = few illnesses, based on miscellaneous illness such as anemia, abnormal bleeding, hay fever, asthma, eczema, hives, and other allergies.
6. Major Health Problems	ABC	0 = many problems, to 9 = few problems, based on lung problems, heart murmur, or other heart problem, fits, stomach, kidney or thyroid disorder, paralysis or cancer.
7. Major Disorder with Extreme Behavioral Implications	ABC	1 = Yes, 2 = No, based on occurrence of Down's syndrome, cerebral palsy, hyperactivity symptoms and use of special school or class for the retarded.

B-6

* Respondents were given one of three schedules, based on age of sample child as follows: A = 1 year, B = 2 - 4 years, C = 5 - 10 years.

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
8. Eye Problems	ABC	0 = glasses and other problem, to 2 = no problem
9. Ear Problems	ABC	0 = several, to 2 = no problem based on frequency of ear infections and occurrence of other problems
10. Operations	ABC	0 = many, to 5 = no operations
11. Accidents	ABC	0 = many, to 8 = no accidents, based on frequency of accidents such as poisoning, burns, fractures, severe cuts, and bites
12. Hospitalization	ABC	0 = many, to 5 = no hospitalization after birth
13. Hospitalization for Major Problem	ABC	1 = Yes, 2 = No, based on hospitalization for major causes such as meningitis,pneumonia, diarrhea and dehydration
14. Dental Problems	ABC	1 = Yes, 2 = No
HEALTH (PRESENT CONDITION)		
15. Weight	ABC	Pounds (Respondent's estimate)
16. Height	ABC	Inches (Respondent's estimate)
17. Breakfast	C	1 = poor, to 3 = good, based on variety of items for breakfast on day of interview
18. Regular Use of Medicine	ABC	1 = Yes, 2 = No
19. Physical Health Rating of Child	ABC	1 = very poor, to 5 = excellent (Respondent's rating)
20. Sleep Problems (2 - 4)	B	0 = many, to 1 = none (index of 5 items)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
21. Sleep Problems (5 - 10)	C	0 = many, to 1 = none, (index of 3 items)
22. Eating Problems (2 - 4)	B	0 = many, to 1 = none (index of 3 items)
23. Eating Problems (5 - 10)	C	0 = many, to 1 = none (index of 5 items)
24. Digestive Problems	BC	0 = many, to 1 = none (index of 4 items)
25. Headaches	C	1 = Yes, 2 = No
26. Possible Motor Problems	BC	1 = many, to 4 = none, based on items concerning walking and coordination
HEALTH (PARENTAL CARE)		
27. Immunization	ABC	0 = none, to 5 = all, based on immunization for DPT, polio, measles, rubella, and mumps
28. Regular Medical Caretaking	ABC	0 = no caretaking, to 9 = very regular caretaking (index based on 9 items for periodic checkups and medical attention for specific problems)
29. Lay Advice	ABC	0 = none, to 4 = many, based on informal sources of support and advice such as the sample child's father or father substitute, friends, or relatives
30. Professional Advice	ABC	0 = none, to 7 = many, based on professional sources of advice and support such as psychologist, psychiatrist, physician, clergyman, or social worker

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
31. Institutional Service	ABC	0 = none, to 6 = many, based on use of institutional services such as visiting nurse, homemaker, day care, mental health center, or children's agency
SOCIAL-EMOTIONAL (TEMPERAMENT SCALES)		
32. Activity (1 - 4)	AB	Low scores imply high activity (6 items)
33. Activity (5 - 10)	C	Low scores imply high activity (3 items)
34. Intensity (1 - 4)	AB	Low scores imply high intensity (8 items)
35. Intensity (5 - 10)	C	Low scores imply high intensity (3 items)
36. Regularity (1 - 4)	AB	Low scores imply irregularity in such functions as sleeping and eating (5 items)
37. Mood (1 - 4)	AB	Low scores imply moodiness, irritability (8 items)
38. Mood (5 - 10)	C	Low scores imply moodiness, irritability (4 items)
39. Adaptability (1 - 4)	AB	High scores imply adaptive response to strangers and new food and toys, and not much difference in behavior when sick than when well (5 items)
40. Approach (1 - 4)	AB	High scores imply interested response to novel situations, persons or objects (4 items)
41. Approach (5 - 10)	C	High scores imply interested response to novel situations, persons or objects (2 items)
42. Distractibility (1 - 4)	AB	High scores imply that a child can be diverted into doing something other than he is doing (5 items)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
43. Persistence (1 - 4)	AB	High scores imply persistence, high frustration tolerance, and ability to concentrate (4 items)
44. Persistence (5 - 10)	C	High scores imply persistence, high frustration tolerance, and ability to concentrate (6 items)
SOCIAL-EMOTIONAL (TEMPERAMENT TYPES)		
45. Difficult Children (1 - 4)	AB	Low scores imply that a child is "difficult" as defined in the New York Longitudinal Study (based on the mean of the Intensity, Mood, Approach, and Adaptability scales above)
46. Difficult Children (5 - 10)	C	Low scores imply that a child is "difficult" as defined in the New York Longitudinal Study (based on the mean of the Intensity, Mood, Approach, and Adaptability scales above)
47. Slow-to-Warm-Up Children (1 - 4)	AB	High scores imply interested and adaptable response to novel situations, persons or objects, and low scores imply that the child is "slow-to-warm-up" (based on the mean of the Approach and Adaptability scales above)
48. Slow-to-Warm-Up Children (5 - 10)	C	High scores imply interested and adaptable response to novel situations, persons or objects, and low scores imply that the child is "slow-to-warm-up" (based on the mean of the Approach and Adaptability scales above)
49. Distractible-Nonpersistent Children (1 - 4)	AB	Low scores imply that a child can be diverted easily, and has little persistence (based on the mean difference between the Persistence and Distractibility scales above)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
SOCIAL-EMOTIONAL (INDICES AND TRAITS)		
50. "Introverted"	BC	Low scores imply child is shy, is excessively generous, and often has his feelings hurt and is timid and fearful (4 items)
51. "Asocial"	C	Low scores imply child is insensitive to the feelings of others, spends too much time by himself, and is suicidal (3 items)
52. "Unresponsive"	AB	Low scores imply child is unresponsive when others talk to him (1 item)
53. "Internalized"	C	Low scores imply child is unresponsive when others talk to him, and often seems to lose his train of thought (2 items)
54. "Self-Destructive/Non-Compliant"	ABC	Low scores imply child seems to hurt himself on purpose, ignores danger, and is noncompliant (3 items)
55. "Destructive"	AB	Low scores imply child is destructive of property (1 item)
56. "Antisocial"	C	Low scores imply child is destructive of property and often lies or steals (3 items)
57. "Selfish"	BC	Low scores imply child refuses to share things with others, and becomes upset when attention is given to others (2 items)
58. "Tics"	ABC	Low scores imply child often squints, twitches or has other odd mannerisms (1 item)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
59. "Moody"	AB	Low scores imply frequent shifts in mood, from sad to happy (1 item)
60. "Argumentative-Moody"	C	Low scores imply frequent shifts in mood and argumentativeness (2 items)
61. "Attention-Seeking"	ABC	Low scores imply child wants a lot of attention from respondent (1 item)
62. "Dependent"	BC	Low scores imply child wants a lot of attention from respondent and often asks for help in doing things he can do alone (2 items)
63. Anger	ABC	Low scores imply child is often angry (1 item)
64. Fearfulness	ABC	Low scores imply child is often afraid (1 item)
65. Neighbor Complaints	AB	Low scores imply that neighbors complain about the sample child (1 item)
66. "Delinquency"	C	Low scores imply that neighbors complain about the sample child, and that child smokes, drinks, uses drugs, or has had trouble with the police (5 items)
67. Runs Away (2 - 4)	B	Low score implies child has often run away from home (1 item)
68. Runs Away (5 - 10)	C	Low scores imply child has often run away from home and is unreliable about coming home when he should (2 items)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
69. Toilet Problems	BC	Low scores imply child problems with control of defecation and urination (3 items)
70. Annoys Mother	ABC	High scores imply mother is not annoyed by child (1 item)
71. Annoys Father	ABC	High scores imply father or father substitute is not annoyed by child (1 item). (Not asked for children without fathers or father substitutes)
72. Quality of Sibling Interaction	BC	Low scores imply poor relationships with siblings (6 items). (Not asked for children without siblings)
73. Quality of Interaction with Other Children (2 - 4)	B	Low scores imply poor relationships with other children (6 items)
74. Quality of Interaction with Other Children (5 - 10)	C	Low scores imply poor relationships with other children (9 items)
75. Isolation from Other Children	ABC	Low scores imply isolation from other children (2 items)
76. Isolation from Other Adults	ABC	Low scores imply isolation from adults other than respondent (9 items)
77. Preschool Problems	BC	Low scores imply problems of adjustment in preschool (2 items). (For children with preschool experience)
78. School Problems	C	Low scores imply problems of adjustment in school (8 items). (For children with school experience)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
SOCIAL-EMOTIONAL (PARENTAL DISCIPLINE)		
79. Positive Discipline	ABC	High scores imply that when child misbehaves respondent offers reward, distracts child, shows child what should be done, explains why behavior is wrong (4 items)
80. "Strong" Negative Discipline	ABC	High scores imply that when child misbehaves respondent scolds child, spanks or slaps child, screams at child, or says things like, "I'll send you away," or "I don't love you" (4 items)
81. "Weak" Negative Discipline	ABC	High scores imply that when child misbehaves respondent says "no" or "don't," or that other children don't do that," or sends child to room, removes a privilege, threatens to punish, or removes child from what he was doing (6 items)
82. Warmth of Discipline (1)	ABC	High scores imply use of positive discipline methods, low scores imply use of strong negative discipline methods (computed as difference between variables 79 and 80 above)
83. Warmth of Discipline (2)	ABC	Difference between positive and strong negative discipline methods use most often in two hypothetical instances. High and low scores imply the same as for variable 82.
84. Respondent Strictness	ABC	Respondent's self-rating on consistency of punishment and strictness. Low scores imply inconsistency and lack of strictness (2 items)

B-14

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
85. Respondent Watchfulness (1 - 4)	AB	Frequency of checking on child when out of sight. High scores imply frequent checking (2 items)
86. Respondent Watchfulness (5 - 10)	C	Frequency of checking on child while outside, with high scores for frequent checking. High scores imply overprotectiveness (1 item)
COGNITIVE (CHILD)		
87. Speech Problem	BC	Low scores imply speech problem (1 item)
88. General Cognitive Competence (2 - 4)	B	High scores imply ability to recite alphabet, count to ten, recognize letters and numbers, write letters and numbers, and tell age and address (10 items)
89. General Cognitive Competence (5 - 10)	C	High scores imply ability to perform well on a graded series of cognitive tasks (5 items)
90. General Numeric Competence	C	High scores imply ability to perform well on a graded series of number and arithmetic tasks (5 items)
91. Arithmetic Ability 1	C	High scores imply ability to do arithmetic (1 = No, 2 = Yes) (1 item)
92. Arithmetic Ability 2	C	High scores imply high ability relative to other children of the same age (respondent's rating, not asked of respondents replying No to previous question) (1 item)
93. Writing Problem	C	Low scores imply writing problem (inability to write any letters of the alphabet) (2 items)

TABLE 2B: CRITERION VARIABLES IN ANALYTIC MODEL 2 (cont'd)

Category and Variable	Schedule	Description
94. TV Watching	BC	1 = child does not watch TV, 2 = child does watch TV (1 item)
95. TV Viewing Time	BC	Low scores imply excessive TV viewing time (not asked if child does not watch TV) (1 item)
COGNITIVE (PARENTAL-INSTITUTIONAL SUPPORT)		
96. Educational Aspiration	BC	High scores imply respondent has high aspiration for child (1 item)
97. Educational Expectation	C	High scores imply respondent has high expectation for child (1 item)
98. Preschool Experience	BC	1 = no preschool experience, 2 = preschool experience (1 item)
99. Institutional Participation	C	High scores imply that child takes special lessons, belongs to clubs or groups, gets religious instruction, and attends summer camp (5 items)
100. Cognitive Stimulation (2 - 4)	B	High scores imply child owns books, borrows books and is often read to (4 items)
101. Cognitive Stimulation (5 - 10)	C	As for variable 100 (5 items)

APPENDIX C

DATA TABLES

TABLE 1C

REGRESSION ANALYSIS: SIGNIFICANT SUBJECT EFFECTS

CRITERION VARIABLE	N	SCHEDULES	R^2	R AT STEP 2	BETAS AGE	BETAS SEX
3. Disease Index	975	ABC	.062***	.249***	-.245***	-.053
4. Severe Measles or Mumps	974	ABC	.017***	.130***	-.117***	-.060
8. Eye Problems	975	ABC	.048***	.219***	-.214***	.045
9. Ear Problems	974	ABC	.028***	.167***	-.165***	-.039
10. Operations	976	ABC	.050***	.224***	-.213***	-.073*
11. Accidents	976	ABC	.069***	.263***	-.231***	-.130***
14. Dental Problems	566	BC	.014*	.118*	-.117**	.004
15. Weight	938	ABC	.694***	.833***	.834***	.047*
16. Height	739	ABC	.794***	.89	.891***	.012
20. Sleep Problems (2-4)	303	B	.040**	.200**	.147**	-.128*
27. Immunization	969	ABC	.008*	.089*	.089**	-.003
28. Regular Medical Care-taking	885	BC	.048***	.219***	.216***	-.031
29. Lay Advice	975	ABC	.045***	.212***	-.212***	.001
30. Professional Advice	975	ABC	.051***	.226***	.222***	.043

*p < .05
**p < .01
***p < .001

C-2

TABLE 1C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT SUBJECT EFFECTS

CRITERION VARIABLE	N	SCHEDULES	R^2	R AT STEP 2	BETAS AGE	BETAS SEX
32. Activity (1-4)	393	AB	.046***	.214***	.211***	-.032
33. Activity (5-10)	583	C	.019**	.138**	-.079	-.115**
34. Intensity (1-4)	393	AB	.066***	.257***	.229***	-.107*
43. Persistence (1-4)	393	AB	.231***	.481***	.481***	.001
44. Persistence (5-10)	583	C	.020**	.141**	.099*	-.098*
46. Difficult Children (5-10)	583	C	.011*	.105*	.099*	.035
49. Distractible-Non-persistent Children (1-4)	393	AB	.149***	.386***	-.387***	-.027
50. "Introverted"	885	BC	.014**	.118**	-.044	.109**
54. "Self-destructive/ Non-compliant"	975	ABC	.130***	.361***	.339***	-.113***
55. "Destructive"	386	AB	.032**	.179**	.124*	-.124*
56. "Antisocial"	583	C	.026***	.161***	.067	-.146***
57. "Selfish"	882	BC	.104***	.322***	.323***	-.010
58. "Tics"	972	ABC	.009*	.095*	-.088**	-.034
60. "Argumentative-Moody"	582	C	.010*	.100*	.081	.064
61. "Attention-seeking"	973	ABC	.031***	.176***	.175***	.023

*p < .05
**p < .01
< .001

TABLE 1C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT SUBJECT EFFECTS

CRITERION VARIABLE	N	SCHEDULES	R^2	R AT STEP 2	BETAS AGE	BETAS SEX
62. "Dependent"	885	BC	.012**	.110**	.109**	.006
64. Fearfulness	973	ABC	.015***	.122***	-.121***	.014
65. Neighbor complaints	300	B	.041**	.202**	-.178**	-.106
67. Runs Away (2-4)	298	B	.039**	.197**	-.037	-.195***
68. Runs Away (5-10)	581	C	.016**	.126**	-.009	-.126**
69. Toilet Problems	873	BC	.175***	.418***	.411***	-.065*
72. Quality of Sibling Interaction	699	BC	.028***	.167***	.162***	-.046
76. Isolation from Other Adults	975	ABC	.072***	.268***	-.268***	-.038
77. Preschool Problems	288	BC	.021*	.145*	.136*	.043
78. School Problems	542	C	.023**	.152**	-.123**	-.085*
79. Positive Discipline	976	ABC	.025***	.158***	-.152***	.038
80. "Strong" Negative Discipline	976	ABC	.055***	.235***	-.229***	.083**
81. "Weak" Negative Discipline	976	ABC	.009*	.095*	.047	.083**

C4

*p < .05
**p < .01
***p < .001

TABLE 1C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT SUBJECT EFFECTS

CRITERION VARIABLE	N	SCHEDULES	R^2	R AT STEP 2	BETAS AGE	BETAS SEX
83. Warmth of Discipline(2)	968	ABC	.024***	.155***	.148***	-.039
84. Respondent Strictness	974	ABC	.020***	.141***	.142***	-.002
85. Respondent Watchfulness (1-4)	393	AB	.214***	.463***	-.450***	.038
86. Respondent Watchfulness (5-10)	583	C	.139***	.373***	-.371***	-.047
87. Speech Problem	882	BC	.012**	.110**	.099**	-.040
88. General Cognitive Competence (2-4)	303	B	.402***	.634***	.618***	-.115*
89. General Cognitive Competence (5-10)	579	C	.348***	.590***	.565***	-.163***
90. General Numeric Competence	582	C	.657***	.811***	.806***	-.077**
91. Arithmetic Ability 1	580	C	.236***	.486***	.465***	-.133***
93. Writing Problem	582	C	.011*	.105*	.043	-
94. TV Watching	886	BC	.009*	.095*	.086*	-.
95. TV Viewing Time	856	BC	.011**	.105**	-.104**	-.026
97. Educational Expectation	586	C	.011*	.105*	-.098*	.039

*p < .05
**p < .01
***p < .001

TABLE 1C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT SUBJECT EFFECTS

CRITERION VARIABLE	N	SCHEDULES	R^2	R AT STEP 2	BETAS AGE	BETAS SEX
98. Preschool Experience	882	BC	.018***	.134***	-.132***	-.028
99. Institutional Participation	583	C	.235***	.485***	.471***	-.107**
101. Cognitive Stimulation (5-10)	583	C	.099***	.315***	-.310***	-.065

*p < .05
**p < .01
***p < .001

C-6

TABLE 2C

REGRESSION ANALYSIS: SIGNIFICANT COUNTY EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 3	BETA COUNTY
7. Major Disorder with Extreme Behavioral Implications	976	ABC	.005*	.077	.073*
20. Sleep Problems (2-4)	303	B	.017*	.239***	.133*
29. Lay Advice	975	ABC	.005*	.224***	.073*
31. Institutional Service	974	ABC	.020***	.145***	-.141***
35. Intensity (5-10)	583	C	.007*	.105	.087*
39. Adaptability (1-4)	393	AB	.023**	.155*	.153**
66. "Delinquency"	583	C	.008*	.130*	.089*
71. Annoys Father	932	ABC	.011**	.110**	-.107**
75. Isolation from Other Children	975	ABC	.005*	.105*	.073*
76. Isolation from Other Adults	975	ABC	.008**	.283***	-.089**
80. "Strong" Negative Discipline	976	ABC	.007**	.249***	.140**
81. "Weak" Negative Discipline	976	ABC	.008**	.130***	.089**
92. Arithmetic Ability 2	398	C	.009*	.122	.098*
95. TV Viewing Time	856	BC	.033***	.210***	.181***

*p < .05
**p < .01
***p < .001

TABLE 2C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT COUNTY EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 3	BETA COUNTY
96. Educational Aspiration	856	BC	.007*	.114*	-.083*
98. Preschool Experience	882	BC	.028***	.214***	-.167***
99. Institutional Participation	583	C	.007*	.492***	-.085*

*p < .05
**p < .01
***p < .001

TABLE 3C

REGRESSION ANALYSIS: SIGNIFICANT PSU DIPO INDEX EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 4	BETA PSU DIPO
3. Disease Index	975	ABC	.014***	.276***	.124***
4. Severe Measles or Mumps	974	ABC	.032***	.224***	.185***
7. Major Disorder with Extreme Behavioral Implications	976	ABC	.005*	.105*	.069*
8. Eye Problems	975	ABC	.008**	.241***	.090**
12. Hospitalization	973	ABC	.007*	.105*	.085*
13. Hospitalization for Major Problems	976	ABC	.006*	.105*	.081*
16. Height	739	ABC	.001*	.892***	.039*
17. Breakfast	546	C	.010*	.118	.101*
19. Physical Health Rating of Child	973	ABC	.040***	.205***	.207***
26. Possible Motor Problems	882	BC	.005*	.077	.071*
28. Regular Medical Caretaking	885	BC	.011**	.245***	.110**
29. Lay Advice	975	ABC	.009**	.243***	.098**
31. Institutional Service	974	ABC	.048***	.263***	-.229***

*p < .05
.01
.001

TABLE 3C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT PSU DIPO INDEX EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 4	BETA PSU DIPO
32. Activity (1-4)	393	AB	.027**	.277***	.170***
33. Activity (5-10)	583	C	.009*	.167**	.101*
34. Intensity (1-4)	393	AB	.035***	.318***	.192***
36. Regularity (1-4)	393	AB	.031***	.217***	.182***
38. Mood (5-10)	583	C	.016**	.134*	.134**
39. Adaptability (1-4)	393	AB	.010*	.184**	.104*
42. Distractibility (1-4)	393	AB	.012*	.134	.111*
45. Difficult Children(1-4)	393	AB	.015*	.152*	.146**
53. "Internalized"	581	C	.027***	.187***	.170***
54. "Self-Destructive/ Non-Compliant"	975	ABC	.009**	.378***	.099**
56. "Antisocial"	583	C	.048***	.279***	.230***
57. "Selfish"	882	BC	.017***	.349***	.136***
58. "Tics"	972	ABC	.037***	.219***	.200***
60. "Argumentative-Moody"	582	C	.008*	.155**	-.090*
63. Anger	974	ABC	.006*	.077	.081*
68. Runs Away (5-10)	581	C	.025***	.210***	.163***

*p < .05
**p < .01
***p < .001

TABLE 3C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT PSU DIPO INDEX EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 4	BETA PSU DIPO
71. Annoys Father	932	ABC	.004*	.126**	-.067*
72. Quality of Sibling Interaction	699	BC	.013**	.205***	.118**
74. Quality of Interaction with Other Children (5-10)	583	C	.009*	.141*	.098*
79. Positive Discipline	976	ABC	.005*	.176***	-.070*
80. "Strong" Negative Discipline	976	ABC	.008**	.265***	-.091**
83. Warmth of Discipline (2)	968	ABC	.010**	.184***	.103**
84. Respondent Strictness	974	ABC	.006*	.167***	.082*
86. Respondent Watchfulness (5-10)	583	C	.017***	.396***	-.137***
88. General Cognitive Competence (2-4)	303	B	.029***	.660***	.174***
89. General Cognitive Competence (5-10)	579	C	.014***	.602***	.122***
92. Arithmetic Ability 2	498	C	.027***	.205***	.171***
96. Educational Aspiration	856	BC	.010**	.152***	.103**

*p < .05
**p < .01
***p < .001

TABLE 3C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT PSU DIPO INDEX EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 4	BETA PSU DIPO
97. Educational Expectation	546	C	.032***	.217***	.186***
100. Cognitive Stimulation (2-4)	303	B	.040***	.243***	.205***
101. Cognitive Stimulation (5-10)	583	C	.011**	.332***	.109**

*p < .05
**p < .01
***p < .001

TABLE 4C

REGRESSION ANALYSIS: SIGNIFICANT PSD D,I,P,O EFFECTS

CATEGORY AND CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 7	BETAS D	I	P	O
12. Hospitalization	973	ABC	.008*	.138**	-.128	.045	.032	.181***
14. Dental Problems	566	BC	.019*	.205**	-.212*	.267***	.025	.026
31. Institutional Service	974	ABC	.013**	.286***	-.146*	-.141*	.025	.020
54. "Self-Destructive/ Non-Compliant"	975	ABC	.008*	.389***	-.133*	.165**	-.003	.101*
74. Quality of Interaction with Other Children (5-10)	583	C	.014*	.184**	.047	-.004	.138**	.003
80. "Strong" Negative Discipline	976	ABC	.012**	.286***	.087	-.164**	-.112***	.013
82. Warmth of Discipline(1)	976	ABC	.009**	.115	-.100	.063	.092**	.020
84. Respondent Strictness	974	ABC	.008*	.190***	.058	-.089	.012	.116*
97. Educational Expectation	546	C	.026**	.270***	.072	-.088	.169***	.149
98. Preschool Experience	882	BC	.017**	.253***	.050	-.028	.105**	-.112*

C-23

*p < .05
**p < .01
***p < .001

TABLE 5C

REGRESSION ANALYSIS: OTHER SIGNIFICANT PSU EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 10	BETAS: URBAN	BETAS: % WHITE	BETAS: MDN. INC.
3. Disease Index	975	ABC	.008*	.292***	.033	.070	.071
28. Regular Medical Caretaking	885	BC	.020***	.285***	.007	-.061	.153***
31. Institutional Service	974	ABC	.010*	.303***	.011	-.168**	-.030
32. Activity (1-4)	393	AB	.023*	.322***	-.173**	.007	.192**
50. "Introverted"	885	BC	.011*	.182***	-.031	-.128*	-.078
53. "Internalized"	581	C	.016*	.235***	-.123*	-.028	.166**
54. "Self-Destructive/ Non-compliant"	975	ABC	.018***	.411***	-.041	-.226***	.019
57. "Selfish"	882	BC	.008*	.365***	.022	-.011	-.113**
62. "Dependent"	885	BC	.012*	.173**	-.021	-.183**	.012
70. Annoys Mother	976	ABC	.010*	.138*	-.136**	-.001	.041
76. Isolation from Other Adults	975	ABC	.024***	.327***	.083*	.009	-.207***
81. "Weak" Negative Discipline	976	ABC	.009*	.179***	.123**	.062	-.041
85. Respondent Watchfulness (1-4)	393	AB	.019*	.493***	.059	-.128	-.159**

*p < .05
**p < .01
***p < .001

TABLE 5C (cont'd)

REGRESSION ANALYSIS: OTHER SIGNIFICANT PSU EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 10	BETAS URBAN	BETAS % WHITE	BETAS MDN. INC.
86. Respondent Watchfulness (5-10)	583	C	.041***	.448***	.011	.119	-.221***
88. General Cognitive Competence (2-4)	303	B	.025**	.679***	-.066	-.008	.206***
89. General Cognitive Competence (5-10)	579	C	.011*	.618***	.043	-.108	.059
96. Educational Aspiration	856	BC	.052***	.288***	-.048	-.197**	.236***
97. Educational Expectation	546	C	.035***	.329***	-.023	-.155*	.195***
98. Preschool Experience	882	BC	.021***	.292***	.045	-.031	.137**
99. Institutional Participation	583	C	.024***	.520***	.033	-.211**	.083
100. Cognitive Stimulation (2-4)	303	B	.042**	.324***	-.104	.097	.264***

*p < .05
**p < .01
***p < .001

TABLE 6C

REGRESSION ANALYSIS: SIGNIFICANT NEIGHBORHOOD EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 12	BETAS: SAFETY OF NEIGHBORHOOD	BETAS: HOUSE CONDITION
7. Major Disorder with Extreme Behavioral Implications	976	ABC	.010**	.155*	.066*	.075*
11. Accidents	976	ABC	.029***	.324***	.168***	.045
17. Breakfast	546	C	.015*	.210*	.091*	.089
19. Physical Health Rating of Child	973	ABC	.021***	.251***	.018	.153***
27. Immunization	969	ABC	.023***	.202***	-.004	.165***
28. Regular Medical Care-taking	885	BC	.020***	.318***	.047	.139***
29. Lay Advice	975	ABC	.006*	.268***	.030	.076*
30. Professional Advice	975	ABC	.006*	.261***	-.059	.060
31. Institutional Service	974	ABC	.006*	.313***	-.045	-.066*
42. Distractibility (1-4)	393	AB	.028**	.243*	-.003	.158**
44. Persistence (5-10)	583	C	.016**	.219**	.021	.129**
54. "Self-Destructive/ Non-Compliant"	975	ABC	.008**	.421***	.031	.093**
55. "Destructive"	386	AB	.016*	.247*	.097	.086

*p < .05
**p < .01
***p < .001

TABLE 6C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT NEIGHBORHOOD EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 12	BETAS: SAFETY OF NEIGHBORHOOD	BETAS: HOUSE CONDITION
56. "Antisocial"	583	C	.021**	.318***	.058	.141***
66. "Delinquency"	583	C	.026***	.245***	.164***	.046
72. Quality of Sibling Interaction	699	BC	.011*	.255***	.101**	.039
76. Isolation From Other Adults	975	ABC	.008*	.339***	-.063*	-.061
80. "Strong" Negative Discipline	976	ABC	.014***	.316***	-.092**	-.080*
82. Warmth of Discipline(1)	976	ABC	.008*	.148*	.064	.062
83. Warmth of Discipline(2)	968	ABC	.013**	.230***	.040	.110**
84. Respondent Strictness	974	ABC	.010**	.219***	.022	.102**
85. Respondent Watchfulness (1-4)	393	AB	.015*	.508***	-.097**	-.083
88. General Cognitive Competence (2-4)	303	B	.040***	.708***	.023	.220***
89. General Cognitive Competence (5-10)	579	C	.010**	.626***	.036	.102**
90. General Numeric Competence	582	C	.011***	.819***	-.002	.109***

*p < .05
**p < .01
***p < .001

TABLE 6C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT NEIGHBORHOOD EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 12	BETAS: SAFETY OF NEIGHBORHOOD	BETAS: HOUSE CONDITION
91. Arithmetic Ability 1	580	C	.011*	.518***	-.044	.104**
93. Writing Problem	582	C	.020**	.205*	-.019	.50***
96. Educational Aspiration	856	BC	.036***	.345***	.013	.202***
97. Educational Expectation	546	C	.020**	.358***	.061	.135**
98. Preschool Experience	882	BC	.007*	.303***	.088*	-.002
99. Institutional Participation	583	C	.015**	.534***	-.051	.121**

*p < .05
**p < .01
***p < .001

TABLE 7C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY DIPO INDEX EFFECTS

CRITERION VARIABLE		N	SCHEDULES	ΔR^2	R AT STEP 13	BETA FAMILY DIPO
2.	Birth Problems	938	ABC	.025***	.176**	.200***
15.	Weight	938	ABC	.002*	.838***	.049*
16.	Height	739	ABC	.001*	.894***	.040*
19.	Physical Health Rating of Child	973	ABC	.009**	.268***	.125**
20.	Sleep Problems (2-4)	303	B	.013*	.311**	.145*
26.	Possible Motor Problems	882	BC	.010**	.164*	-.121**
28.	Regular Medical Care-taking	885	BC	.005*	.326***	.091*
29.	Lay Advice	975	ABC	.015***	.295***	.158***
31.	Institutional Service	974	ABC	.005*	.321***	-.088*
66.	"Delinquency"	583	C	.007*	.259***	.106*
69.	Toilet Problems	873	BC	.005*	.432***	.086*
71.	Annoys Father	932	ABC	.017***	.200***	-.163***
93.	Writing Problem	582	C	.013**	.235**	-.146**
94.	TV Watching	886	BC	.005*	.141	-.092*

*p < .05
**p < .01
*p < .001

TABLE 8C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY STRUCTURE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 16	BETAS: RESPONDENT AGE	BETAS: N CHILDREN UNDER 18	BETAS: N ADULTS
4. Severe Measles or Mumps	974	ABC	.008*	.255***	-.117**	.037	.016
11. Accidents	976	ABC	.010*	.341***	.126**	-.038	.003
19. Physical Health Rating of Child	973	ABC	.011**	.288***	.018	-.112**	-.006
28. Regular Medical Caretaking	885	BC	.010*	.341***	-.034	-.065	-.063
29. Lay Advice	975	ABC	.013**	.316***	-.090*	-.086*	.010
50. "Introverted"	885	BC	.010*	.217***	.060	.077*	.022
51. "Asocial"	582	C	.015*	.235**	-.043	.103*	.085
53. "Internalized"	581	C	.015*	.272***	.107*	.039	.034
54. "Self-Destructive/ Non-Compliant"	975	ABC	.011**	.434***	-.047	.091**	.067*
59. "Moody"	392	AB	.023*	.226	.079	.002	.135*
60. "Argumentative-Moody"	582	C	.029***	.274***	.064	.163	.001
61. "Attention-Seeking"	973	ABC	.030***	.272***	-.111**	.166***	.092**
62. "Dependent"	885	BC	.032***	.255***	-.072	.189***	.029

*p < .05
**p < .01
***p < .001

TABLE 8C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY STRUCTURE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 16	BETAS: RESPONDENT AGE	BETAS: N CHILDREN UNDER 18	BETAS: N ADULTS
63. Anger	974	ABC	.015**	.176*	.078	-.036	.095**
64. Fearfulness	973	ABC	.009*	.187**	-.066	.051	-.064
70. Annoys Mother	976	ABC	.011*	.182**	.060	.063	.058
71. Annoys Father	932	ABC	.014**	.232***	.152***	-.005	-.069
72. Quality of Sibling Interaction	699	BC	.011*	.281***	-.018	.095*	.062
75. Isolation from Other Children	975	ABC	.010*	.173*	.006	.083	-.070
76. Isolation from Other Adults	975	ABC	.041***	.396***	.034	-.051	.205***
80. "Strong" Negative Discipline	976	ABC	.008*	.333***	-.099*	.036	-.019
81. "Weak" Negative Discipline	976	ABC	.009*	.210***	-.120**	.030	-.005
84. Respondent Strictness	974	ABC	.014**	.249***	-.007	-.052	-.111**
85. Respondent Watchfulness (1-4)	393	AB	.022**	.531***	.169**	-.063	.035
86. Respondent Watchfulness (5-10)	583	C	.012*	.469***	.097*	-.082*	-.049

*p < .05
**p < .01
***p < .001

TABLE 8C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY STRUCTURE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 16	BETAS: RESPONDENT AGE	BETAS: N CHILDREN UNDER 18	BETAS: N ADULTS
88. General Cognitive Competence (2-4)	303	B	.019*	.721***	.035	-.147**	.074
92. Arithmetic Ability 2	498	C	.015*	.295***	.050	-.114*	-.062
96. Educational Aspiration	856	BC	.015**	.366***	.003	-.134***	.003
98. Preschool Experience	882	BC	.011*	.321***	.084*	-.023	-.008

*p < .05
**p < .01
***p < .001

C-122

TABLE 9C

REGRESSION ANALYSIS: SIGNIFICANT WORK STATUS EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 18	BETAS: FATHER WORKS	BETAS: MOTHER WORKS
28. Regular Medical Caretaking	885	BC	.007*	.351***	.088**	-.012
53. "Internalized"	581	C	.012*	.293***	.112**	.027
55. "Destructive"	386	AB	.015*	.288*	-.095*	.097*
61. "Attention-seeking"	973	ABC	.006*	.283***	.038	.067*
66. "Delinquency"	583	C	.017**	.298***	.096*	.095*
76. Isolation From Other Adults	975	ABC	.019***	.420***	.017	-.143***
86. Respondent Watchfulness (5-10)	583	C	.010*	.480***	-.078	.073
92. Arithmetic Ability 2	498	C	.017*	.322***	.141**	-.011
96. Educational Aspiration	856	BC	.008*	.377***	.071*	-.058
97. Educational Expectation	546	C	.029***	.409***	.181***	-.023
99. Institutional Participation	583	C	.016**	.552***	.129***	-.050

*p < .05
**p < .01
***p < .001

TABLE 10C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY SES EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 21	BETAS: FAMILY INCOME	BETAS: HOLLINGSHEAD SES	BETAS: RESPONDENT EDUCATION
15. Weight	938	ABC	.003*	.841***	.054	.026	-.040
23. Eating Problems (5-10)	583	C	.018*	.232	.021	.087	.087
28. Regular Medical Caretaking	885	BC	.034***	.396***	.096*	.027	.162***
38. Mood (5-10)	583	C	.025**	.255*	.055	.084	.104*
44. Persistence (5-10)	583	C	.015*	.270**	-.006	.085	.081
53. "Internalized"	581	C	.029***	.339***	-.018	.041	.175***
58. "Tics"	972	ABC	.017***	.283***	.049	-.006	.141***
61. "Attention-seeking"	973	ABC	.011**	.302***	.061	.063	.054
62. "Dependent"	885	BC	.016**	.285***	.092	.049	.069
63. Anger	974	ABC	.019***	.224***	.126**	-.038	.120**
72. Quality of Sibling Interaction	699	BC	.019**	.313***	.111*	-.007	.114*
75. Isolation From Other Children	975	ABC	.012**	.205**	.117*	-.011	.072

*p < .05
**p < .01
***p < .001

TABLE 10C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY SES EFFECTS

VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 21	BETAS: FAMILY INCOME	BETAS: HOLLINGSHEAD SES	BETAS: RESPONDENT EDUCATION
ght	938	ABC	.003*	.841***	.054	.026	-.040
ing Problems 5-10)	583	C	.018*	.232	.021	.087	.087
ular Medical aretaking	885	BC	.034***	.396***	.096*	.027	.162***
d (5-10)	583	C	.025**	.255*	.055	.084	.104*
sistence (5-10)	583	C	.015*	.270**	-.006	.085	.081
ternalized"	581	C	.029***	.339***	-.018	.041	.175***
cs"	972	ABC	.017***	.283***	.049	-.006	.141***
tention-seeking"	973	ABC	.011**	.302***	.061	.063	.054
pendent"	885	BC	.016**	.285***	.092	.049	.069
er	974	ABC	.019***	.224***	.126**	-.038	.120**
lity of Sibling nteraction	699	BC	.019**	.313***	.111*	-.007	.114*
lation From ther Children	975	ABC	.012**	.205**	.117*	-.011	.072

.05
.01
.001

TABLE 10C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY SES EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 21	BETAS FAMILY INCOME	BETAS HOLLINGSHEAD SES	BETAS RESPONDENT EDUCATION
100. Cognitive Stimulation (2-4)	303	B	.068***	.465***	.089	-.020	.299***
101. Cognitive Stimulation (5-10)	583	C	.045***	.410***	-.188***	.183***	.110*

*p < .05
**p < .01
***p < .001

TABLE 11C

REGRESSION ANALYSIS: SIGNIFICANT ETHNICITY EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 22	BETA ETHNICITY
1. Major Pregnancy Problems	935	ABC	.008**	.190*	-.125**
4. Severe Measles or Mumps	974	ABC	.006*	.281***	.111*
29. Lay Advice	975	ABC	.004*	.333***	.096*
31. Institutional Service	974	ABC	.019***	.356***	-.193***
41. Approach (5-10)	583	C	.007*	.205	-.131*
48. Slow-to-warm-up Children (5-10)	583	C	.007*	.205	-.131*
58. "Tics"	972	ABC	.017***	.311***	.181***
59. "Moody"	392	AB	.012*	.310*	.143*
61. "Attention-seeking"	973	ABC	.004*	.308***	.090*
76. Isolation From Other Adults	975	ABC	.005*	.428***	-.098*
93. Writing Problem	582	C	.006*	.277**	-.126*
95. TV Viewing Time	856	BC	.005*	.255***	.099*
99. Institutional Participation	583	C	.011**	.585***	-.162**

*p < .05
**p < .01
***p < .001

TABLE 12C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY ATMOSPHERE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 26	BETAS: TIMES MOVED	BETAS: PREGNANCY HAPPINESS	BETAS: RESPONDENT HEALTH	BETAS: ADULT DELINQUENCY
1. Major Pregnancy Problems	935	ABC	.028***	.253***	.041	-.173***	.020	-.038
2. Birth Problems	938	ABC	.011*	.228**	-.092*	.072*	-.016	-.030
6. Major Health Problems	975	ABC	.018**	.190	.035	.124***	-.059	.018
13. Hospitalization for Major Problems	976	ABC	.010*	.187	.060	.073*	-.013	-.060
19. Physical Health Rating of Child	973	ABC	.062***	.389***	.059	.246***	.062	.029
21. Sleep Problems (5-10)	582	C	.017*.	.235	.137**	.052	-.007	-.009
26. Possible Motor Problems	882	BC	.020**	.235**	-.009	.017	.150***	-.001
28. Regular Medical Caretaking	885	BC	.017**	.420***	.069	.090**	.092*	.026
29. Lay Advice	975	ABC	.014**	.354***	.046	.028	-.011	.112***
31. Institutional Service	974	ABC	.011*	.371***	-.116**	-.005	-.040	-.008

*p < .05
**p < .01
***p < .001

TABLE 12C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY ATMOSPHERE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 26	BETAS: TIMES MOVED	BETAS: PREGNANCY HAPPINESS	BETAS: RESPONDENT HEALTH	BETAS: ADULT DELINQUENCY
36. Regularity (1-4)	393	AB	.028*	.321*	.100	-.013	.099	.122*
37. Mood (1-4)	393	AB	.030*	.321*	.135*	.085	.086	.031
38. Mood (5-10)	583	C	.052***	.342***	-.043	.187***	.154***	.042
42. Distractibility (1-4)	393	AB	.033**	.341**	.037	.144**	.113*	-.002
51. "Asocial"	582	C	.022*	.286**	.061	.131**	.054**	-.004
53. "Internalized"	581	C	.018*	.365***	.082	.005	.070	-.117**
54. "Self-Destructive-Non-Compliant"	975	ABC	.024***	.463***	.024	.094**	.126***	-.042
56. "Antisocial"	583	C	.031***	.402***	.092*	.077	.117**	.038
57. "Selfish"	882	BC	.023***	.412***	.038	.068*	.137***	-.007
59. "Moody"	392	AB	.065***	.401***	.023	.090	.240***	.076
63. Anger	974	ABC	.012*	.251***	.015	.067*	.086*	.028
66. "Delinquency"	583	C	.025**	.342***	.016	.040	-.038	.161***
67. Runs Away (2-4)	298	B	.031*	.365*	.081	-.076	.063	.152*
83. Warmth of Discipline (2)	968	ABC	.010*	.285***	-.022	.102**	-.014	-.027

*p < .05
**p < .01
***p < .001

TABLE 12C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY ATMOSPHERE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 26	BETAS: TIMES MOVED	BETAS: PREGNANCY HAPPINESS	BETAS: RESPONDENT HEALTH	BETAS: ADULT DELINQUENCY
84. Respondent Strictness	974	ABC	.010*	.298***	-.020	.067*	.081*	.015
86. Respondent Watchfulness (5-10)	583	C	.017*	.505***	.040	.068	-.020	.104*
88. General Cognitive Competence (2-4)	303	B	.023**	.752***	.051	.142**	-.034	.061
97. Educational Expectation	546	C	.014*	.527***	.026	.080*	.033	.074
100. Cognitive Stimulation (2-4)	303	B	.045**	.513***	.136*	.059	.015	-.039

*p < .05
**p < .01
***p < .001

C-30

TABLE 13C

REGRESSION ANALYSIS: SIGNIFICANT FAMILY DISCIPLINE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 28	BETAS: CONSISTENCY OF PUNISHMENT	BETAS: RESPONDENT STRICTNESS
8. Eye Problems	975	ABC	.007*	.290***	-.089*	.004
14. Dental Problems	566	BC	.011*	.326***	.079	.047
24. Digestive Problems	886	BC	.009*	.228*	-.027	.107**
32. Activity (1-4)	393	AB	.026**	.423***	.175**	.009
36. Regularity (1-4)	393	AB	.035**	.371**	.116*	.164**
37. Mood (1-4)	393	AB	.021*	.352**	.103	.089
42. Distractibility (1-4)	393	AB	.026**	.377***	.172**	.014
44. Persistence (5-10)	583	C	.022**	.324***	.053	.126**
45. Difficult Children (1-4)	393	AB	.032**	.322	.126*	.107
47. Slow-to-warm-up Children (1-4)	393	AB	.021*	.297	.084	.103
53. "Internalized"	581	C	.013*	.382***	.070	-.117**
54. "Self-Destructive/ Non-Compliant"	975	ABC	.010**	.473***	.063*	.063*
55. "Destructive"	386	AB	.015*	.336*	.141*	-.079

*p < .05
**p < .01
***p < .001

TABLE 13C (cont'd)

REGRESSION ANALYSIS: SIGNIFICANT FAMILY DISCIPLINE EFFECTS

CRITERION VARIABLE	N	SCHEDULES	ΔR^2	R AT STEP 28	BETAS: CONSISTENCY OF PUNISHMENT	BETAS: RESPONDENT STRICTNESS
57. "Selfish"	882	BC	.008*	.422***	.062	.054
60. "Argumentative-Moody"	582	C	.016**	.335***	.100*	.060
61. "Attention-seeking"	973	ABC	.013**	.332***	.067*	.076*
62. "Dependent"	885	BC	.018***	.319***	.091*	.076*
64. Fearfulness	973	ABC	.008*	.235**	.088*	-.078*
68. Runs Away (5-10)	581	C	.011*	.330***	.113*	-.014
70. Annoys Mother	976	ABC	.006*	.219*	.068	-.074*
80. "Strong" Negative Discipline	976	ABC	.007*	.371***	-.080*	.079*
81. "Weak" Negative Discipline	976	ABC	.008*	.255***	.001	.093**
84. Respondent Strictness	974	ABC	.907***	.998***	.666***	.535***
85. Respondent Watchfulness (1-4)	393	AB	.012*	.581***	.100	.038
88. General Cognitive Competence (2-4)	303	B	.014*	.761***	.138**	-.045
92. Arithmetic Ability 2	498	C	.012*	.390***	-.057	.115*

*p < .05
**p < .01
***p < .001

C-32

TABLE 14C

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
HEALTH					
PRENATAL, PERINATAL					
1. Major Pregnancy Problems	.037	.052	-.012	.040	.042
2. Birth Problems	.089**	.032	.172***	.050	.141***
HISTORY					
3. Disease Index	.056	.075*	.079*	.038	.105**
4. Severe Measles or Mumps	.055	.094**	.023	.059	.091**
5. Illness Index	.021	-.007	-.031	-.019	-.015
6. Major Health Problems	.077*	.049	.006	.017	.063*
7. Major Disorder with Extreme Behavioral Implications	.023	.098**	-.040	.014	.039
8. Eye Problems	.042	.064*	.055	.009	.069*
9. Ear Problems	.032	-.016	.037	.008	.025
10. Operations	-.027	.019	.013	-.061	-.010
11. Accidents	-.019	.050	.013	.002	.020
12. Hospitalization	.060	.032	-.011	.068*	.053
13. Hospitalization for Major Problems	.049	.035	.024	.030	.057
14. Dental Problems	.098*	.048	.044	.034	.092*
PRESENT CONDITION					
15. Weight	.021	-.032	-.052	.105**	.004
16. Height	.091*	-.030	-.056	.109**	.022
17. Breakfast	.021	.046	-.027	.054	.028

*p < .05
**p < .01
***p < .001

TABLE 14C (cont'd)

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
HEALTH (cont'd)					
PRESENT CONDITION (cont'd)					
18. Regular Use of Medicine	.055	.039	-.015	.019	.030
19. Physical Health Rating of Child	.205***	.148***	.024	.209***	.222***
20. Sleep Problems (2-4)	.272***	.157**	-.012	.112	.181**
21. Sleep Problems (5-10)	-.008	.001	.040	-.016	.020
22. Eating Problems (2-4)	-.073	-.053	.065	-.073	-.054
23. Eating Problems (5-10)	-.008	-.004	-.128**	.066	-.052
24. Digestive Problems	.058	.066*	-.016	.025	.060
25. Headaches	.046	-.014	.049	-.042	.019
26. Possible Motor Problems	-.004	-.022	-.044	-.024	-.038
PARENTAL CARE					
27. Immunization	.095**	.056	.004	.045	.067*
28. Regular Medical Caretaking	.093*	.066*	.047	.136***	.127***
29. Lay Advice	.123***	.238***	.050	.045	.179***
30. Professional Advice	.018	.010	-.068*	.038	-.007
31. Institutional Service	-.159***	-.222***	-.013	-.151***	-.218***
SOCIAL-EMOTIONAL					
TEMPERAMENT SCALES					
32. Activity (1-4)	.098	.158**	-.076	.117*	.111*
33. Activity (5-10)	.049	.050	-.022	.071	.051
34. Intensity (1-4)	.113*	.100*	.043	.156**	.158**

*p < .05
**p < .01
***p < .001

TABLE 14C (cont'd)

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
SOCIAL-EMOTIONAL (cont'd)					
TEMPERAMENT SCALES (cont'd)					
35. Intensity (5-10)	.016	.089*	-.018	-.007	.023
36. Regularity (1-4)	.015	.104*	.002	.127*	.094
37. Mood (1-4)	.064	.113*	.029	.062	.098
38. Mood (5-10)	.060	.059	-.019	.078	.059
39. Adaptability (1-4)	.089	.147**	-.033	.050	.106*
40. Approach (1-4)	-.020	-.023	.064	-.068	-.019
41. Approach (5-10)	-.016	-.055	.026	.048	.000
42. Distractibility (1-4)	.105*	.110*	.084	.177***	.177***
43. Persistence (1-4)	.087	.095	-.040	.081	.079
44. Persistence (5-10)	-.019	.001	-.043	-.008	-.034
TEMPERAMENT TYPES					
45. Difficult Children (1-4)	.078	.112*	.045	.039	.108*
46. Difficult Children (5-10)	.023	.031	.002	.065	.037
47. Slow-to-warm-up Children (1-4)	.035	.066	.031	-.025	.045
48. Slow-to-warm-up Children (5-10)	.016	-.055	.026	.048	.000
49. Distractible-Nonpersistent Children (1-4)	.009	-.013	.086	.041	.042
INDICES AND TRAITS					
50. "Introverted"	.108**	.009	.018	-.012	.037
51. "Asocial"	.048	.014	-.015	.033	.020

*p < .05
**p < .01
***p < .001

TABLE 14C (cont'd)

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
SOCIAL-EMOTIONAL (cont'd)					
INDICES AND TRAITS (cont'd)					
52. "Unresponsive"	.098	.062	.017	.031	.083
53. "Internalized"	.054	.031	.042	.186***	.120**
54. "Self-destructive/Non-compliant"	.105**	.087**	-.114***	.160***	.074*
55. "Destructive"	.011	.019	-.002	.045	.026
56. "Antisocial"	.127**	.184***	.022	.121**	.183***
57. "Selfish"	.062	.052	-.033	.122***	.069*
58. "Tics"	.058	.088**	.088**	.135***	.151***
59. "Moody"	-.040	.072	.027	.005	.026
60. "Argumentative-Moody"	-.030	-.079	-.009	-.025	-.076
61. "Attention-seeking"	-.034	.073*	-.026	-.005	.014
62. "Dependent"	-.050	.047	-.041	-.033	-.015
63. Anger	.092**	.078*	-.004	.068*	.075*
64. Fearfulness	.020	.006	.054	.003	.034
65. Neighbor complaints	.100	.103	.108	-.067	.103
66. "Delinquency"	.071	.076	.083	.017	.098*
67. Runs Away (2-4)	.073	.079	-.021	.014	.060
68. Runs Away (5-10)	.106*	.113**	-.032	.105*	.103*
69. Toilet Problems	.046	.022	-.015	.128***	.056
70. Annoys Mother	-.036	-.017	-.017	.024	-.012

*p < .05
**p < .01
***p < .001

TABLE 14C (cont'd)

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERION VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
SOCIAL-EMOTIONAL (cont'd)					
INDICES AND TRAITS (cont'd)					
71. Annoys Father	-.120***	-.194***	-.040	-.099**	-.162***
72. Quality of Sibling Interaction	.070	.062	.061	.049	.097*
73. Quality of Interaction with Other Children (2-4)	-.035	.059	.032	.035	.035
74. Quality of Interaction with Other Children (5-10)	.012	-.002	.001	.089*	.027
75. Isolation from Other Children	.023	.033	-.040	.059	.023
76. Isolation from Other Adults	-.032	-.084**	.044	-.131***	-.081*
77. Preschool Problems	.016	-.002	.089	-.037	.032
78. School Problems	-.020	-.053	.013	.046	-.007
PARENTAL DISCIPLINE					
79. Positive Discipline	-.008	-.032	.038	-.037	-.019
80. "Strong" Negative Discipline	-.062	-.048	-.029	-.094**	-.087**
81. "Weak" Negative Discipline	.004	.043	-.033	-.015	-.005
82. Warmth of Discipline (1)	.040	.011	.052	.041	.051
83. Warmth of Discipline (2)	.073*	.077*	-.013	.103**	.090**
84. Respondent Strictness	.068*	.028	.010	.073*	.068*
85. Respondent Watchfulness (1-4)	-.002	-.005	.011	-.020	-.002
86. Respondent Watchfulness (5-10)	-.011	-.049	-.087*	-.060	-.099*

*p < .05
**p < .01
***p < .001

TABLE 14C (cont'd)

CORRELATIONS OF SELECTED FAMILY VARIABLES
WITH ALL CRITERON VARIABLES

CATEGORY AND CRITERION VARIABLE	FAMILY VARIABLE D	I	P	O	DIPO INDEX
COGNITIVE					
CHILD					
87. Speech Problem	.032	-.034	.003	-.005	.002
88. General Cognitive Competence (2-4)	.119*	.124*	-.062	.168**	.121*
89. General Cognitive Competence (5-10)	.059	.034	-.020	.032	.040
90. General Numeric Competence	.035	-.017	-.074	.023	-.025
91. Arithmetic Ability 1	.015	-.000	-.050	-.026	-.036
92. Arithmetic Ability 2	.078	.010	.061	.141**	.108*
93. Writing Problem	.055	-.040	-.050	-.023	-.035
94. TV Watching	-.040	-.040	-.071*	-.044	-.075*
95. TV Viewing Time	.011	.046	-.011	.066	.048
PARENTAL-INSTITUTIONAL SUPPORT					
96. Educational Aspiration	.071*	.013	.050	.080*	.074*
97. Educational Expectation	.072	.035	.034	.078	.085*
98. Preschool Experience	.007	-.069*	.057	.043	.017
99. Institutional Participation	.070	.029	-.012	.046	.044
100. Cognitive Stimulation (2-4)	.124*	.159**	.027	.186**	.183**
101. Cognitive Stimulation (5-10)	.071	.067	.006	.055	.081

*p < .05
**p < .01
***p < .001