



THE ARCHIVE

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Family Life Development Center, New York State College of Human Ecology, Cornell University

SUMMER RESEARCH INSTITUTE 1993

By Jane Powers, Ph.D.

This summer the Archive sponsored a week-long intensive training institute that focused on the secondary analysis of child abuse and neglect data. This Summer Research Institute took place on the Cornell University campus during the week of July 12-16, and was attended by thirteen researchers representing a wide variety of disciplines including medicine, psychology, social work, and epidemiology. All of the participants were accomplished researchers and were selected through a competitive application process. The Institute proved to be an extremely valuable experience, both for the Archive and the participants.

The purpose of the Institute was to provide an opportunity for researchers to work intensively with data sets in the Archive and to receive advanced training in research methodology, statistics, and data management. The week's agenda included a mixture of classroom instruction, "hands on" computing experience, and small and large group discussions. Workshops were held on the following topics: "Regression Analyses with Multi-stage data," "Using LISREL: Opportunities and Pitfalls," and "Data Sharing and Data Analysis: Important Developments for Producers and Consumers."

Computing labs were offered throughout the week which enabled participants to conduct analyses with data sets in the Archive under the guidance of computer and statistical consultants. Additionally, all the participants gave presentations of their current research to the large group. This proved to be an important activity as it generated discussion, facilitated networking, and resulted

in valuable feedback for the participants.

Prior to the start of the Institute, each of the participants identified a data set of interest. This led to the formation of two work groups: one group concentrated on NCCAN's (1988) *Study of National Incidence and Prevalence of Child Abuse and Neglect*

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Announcing a New Resource: An Electronic Network for Researchers

By Tom Hanna

The Archive has just established an electronic network service to link those concerned with research issues in child abuse and neglect (CAN) and its prevention. Available to all CAN researchers who have e-mail access to the Internet, the new service provides an opportunity for researchers to share information with each other using electronic mail.

The goal of this list is to facilitate information exchange and networking among researchers in the field of Child Abuse and Neglect. The scope of the list includes all areas of CAN research (e.g., epidemiology, etiology, prevention, consequences, intervention, and treatment) and the full range of research issues (e.g., measurement, instrumentation, statistical analysis, ethics.) However, the list is not open to discussions of program-related or clinical issues except as they relate to evaluation research. The emphasis of the list is on sharing timely and helpful information rather than on the discussion of issues or sharing of opinions. For example,

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(NIS-2) the other worked with *Maltreatment and the Academic and Social Adjustment of School Children* (Eckenrode & Laird), 1987. As part of their work, participants developed research questions and a data analysis plan, and ran statistical analyses. The Principal Investigators of both studies, Drs. Andrea Sedlak and John Eckenrode, attended the Institute and provided instruction and consultation. Additional instruction was provided by the Archive's staff and other members of the Cornell faculty. At the conclusion of the week, the participants took their data home to continue with the work they started during the Institute.

The participants in the *Maltreatment and the Academic and Social Adjustment of School Children* group were primarily interested in using the data to look at developmental questions. For example, several people began examining whether school problems were related to the occurrence of maltreatment. Once they understood the background of the study and its overall design and methodology, this group moved quickly into substantive work with the data set. They examined the subject's entire academic record trying to determine whether problems occurred around transition

points such as the transition from elementary to junior high school. Members of this group have continued to work with the data beyond the Institute and have kept in touch with one another with the hope of putting together a panel for a conference focusing on the results of their analyses.

The NIS-2 group had more technical obstacles to overcome in working with their data set; for many of the participants it was the first time they had conducted analyses with complex survey data. Much of the discussion in this group focused on the necessity of weighting the data and on the appropriate use of specialized software for estimating variances and standard errors of estimates. (See "Understanding and Working with Complex Survey Data: The Case of NIS-2" on page 3 for a discussion of these issues). In developing their data analysis plans, participants in this group worked closely with a statistician familiar with complex surveys. They also received training in the use of specialized software used for estimating variances in complex surveys. Substantive interests varied considerably in this group. However, it was more difficult for this group to focus on substantive data analysis

questions because of the structural complexity of the data set. Yet, most members of this group did conduct some analyses. For example, one participant compared characteristics of a clinical population of sexually abused children to the U.S. population of sexually abused children using the NIS-2 data. Several of the participants in this group have also continued to work with the data and share their results with one another.

Participants felt that the workshops were extremely useful — they learned new skills and became aware of new resources to facilitate their work. They formed strong bonds with one another and really enjoyed themselves. By the end of the week, it was hard to say good-bye and plans for an "advanced institute" were underway. Clearly, the Archive has touched upon a need that exists in this field for advanced training.

Overall, the Institute provided participants an invaluable opportunity for networking and collaborating with other child abuse and neglect researchers. The experience not only provided them with learning opportunities to advance their knowledge and refine research skills, but also led to the formation of collaborative relationships with new colleagues and friends. Ultimately, we hope that the Institute will encourage greater use of the Archive and its resources as well as provide valuable training for child maltreatment researchers. The Archive plans to offer another Summer Research Institute in 1994. Contact the Archive for further information.

Jane Powers is a Senior Research Associate in the Family Life Development Center at Cornell University. She is the former Project Director of the National Data Archive on Child Abuse and Neglect.

Mission Statement

The National Data Archive on Child Abuse and Neglect exists to serve the data needs of scholars and practitioners who are concerned about the maltreatment of children. The Archive is a centralized facility that acquires, processes, preserves, and disseminates high quality data sets relevant to the study of child abuse and neglect. The major purpose of the Archive is to facilitate the secondary analysis of existing research data.

Funding for the Archive is provided by grant 90-CA-1496 from the National Center on Child Abuse and Neglect, United States Department of Health and Human Services.

Understanding and Analyzing Complex Survey Data: The Case of NIS-2

by Edward A. Frongillo, Jr., Ph.D.

Background

About half of the participants in the Archive's Summer Research Institute chose to work with NCCAN's 1988 *Study of National Incidence and Prevalence of Child Abuse and Neglect* (NIS-2). This study was designed to assess the current national incidence of child abuse and neglect and to determine how the severity, frequency, and character of child maltreatment changed since the first national incidence study. Like many other national surveys, NIS-2 is a complex survey in design and consequently in analysis. As the Institute participants learned, working with data from such a study requires an understanding of the fundamental concepts of complex survey design. This article presents a summary of what features make a survey such as NIS-2 complex and discusses the implications of that complexity for analysis.

Design of Complex Surveys

In national surveys, the purpose of sampling is to take measurements on a representative portion of the population so that the whole population does not have to be measured. Each observation in the sample can be thought of as representing a certain number of population members; this ratio is a sampling proportion. In a simple survey, each observation in the sample represents the same number of population members. Complex surveys such as NIS-2 differ from simple surveys in two fundamental ways.

First, a complex survey samples observations within strata, typically with disproportionate sampling probabilities. This means that obser-

vations are not sampled from one large population as in a simple survey. Instead, the population is divided into sub-populations, i.e., strata, and observations are sampled from within each stratum. Observations sampled from one stratum may represent more or less population members than observations sampled from another stratum. That is, the sampling proportions across strata differ. Often adjustments to the sampling probabilities are made after the data are collected; this is called post-stratification adjustment. In order for the sample to represent the population, information on sampling proportions—usually called sample weights—is required.

Second, a complex survey has multiple stages of sampling. At every stage except the lowest stage, clusters of observations are sampled. At the lowest stage, the observations are sampled. This type of sampling is often required because it is logistically impossible, difficult, or expensive to sample observations directly. The use of multi-stage cluster sampling means that observations can not be assumed to be independent as is commonly done for a simple survey; observations that are from the same cluster will likely be more similar to each other than to observations from a different cluster.

Analysis of Complex Surveys

The consequence of disproportionate sampling within strata is that estimates of means, population totals, regression coefficients, and other statistics should be made using the sampling weights if the estimates are to accurately reflect the population. Also, the variances (or standard errors) of those estimates should be calculated using the sampling

weights. If the sampling weights cover a broad range of probabilities, then use of the sampling weights will result in larger variances of estimates than if a simple survey had been done. Software is needed that will allow the incorporation of sampling weights. Most statistical software such as SAS, SYSTAT, and SPSS can do this.

The consequence of multi-stage cluster sampling is that variances of estimates will typically be larger than in a simple survey. We usually assume that the cluster sampling does not affect estimates themselves, only their variances. Special software such as PC CARP, SUDAAN, or Westat's software is required to calculate variances that are corrected for clustering.

The effect on variances of complex sampling is quantified as the design effect, which is the ratio of the variance under complex sampling divided by the variance that would have been obtained if a simple survey of the same size could have been done. Design effects can differ within the same survey markedly, depending upon the variable of interest, the sub-group of the population, and, in regression analyses, the variables in the regression model. For example, across eight simple two-variable comparisons involving sex, maltreatment status, and age of maltreatment in NIS-2, design effects ranged from 8 to 36.

Design and Analysis of NIS-2

NIS-2 is a particularly complex survey that involves stratification, sampling within Child Protective Services and among sentinel professionals, and five stages of sampling:

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The Case of NIS-2

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primary sampling unit, agency, unit within agency, key participant, and case. Therefore, the use of both sampling weights and adjustment of variances for the cluster sampling is dictated. A difficulty with NIS-2 is that the sampling weights have an unusually large range of values, which results in large variances of estimates. This difficulty has led to uncertainty as to whether the sampling weights must be used, that is, whether the benefits of using the sampling weights to achieve accurate estimates are greater than the costs of the inefficiency in making inferences because of the very large variances. The

Archive is currently exploring ways of using or adjusting the sampling weights in order to preserve the benefits of using the weights while reducing the cost.

In summary, complex surveys differ from simple random samples in two fundamental ways: sampling is done within strata and it is done in multiple stages. Understanding these differences is important because special procedures must be used to analyze the data from such studies. Namely, sample weights must be used to adjust for the disproportionate sampling probabilities of the strata and in some cases, including NIS-2, specialized software must be used to compute the proper variances. While these extra steps are not

without their costs, they are necessary in order to obtain accurate results from complex survey data.

Reference

For a thorough yet non-technical discussion of this subject see: Lee ES, Forthofer RN, Lorimor RJ (1989) *Analyzing Complex Survey Data*. Newbury Park, CA: Sage University Paper #71.

Edward A. Frongillo is the Director of the office of Computing and Statistical Consulting in the College of Human Ecology and Division of Nutritional Sciences at Cornell University. He was an instructor for the 1993 Summer Research Institute and he frequently consults with the Archive on statistical issues.

Announcing a New Resource: An Electronic Network for Researchers

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appropriate postings will include announcements of professional meetings and other resources, requests for assistance, and timely news items. Eventually, the Archive may establish another electronic forum specifically for the purpose of discussion.

This initial service, called Child-Maltreatment-Research-L is what is known in the network world as a "listserv" — an electronic mailing list that automatically distributes electronic mail messages to all those who have subscribed to the list. When you send a message to the list it is automatically forwarded to all subscribers. Likewise, as a subscriber you will receive the postings of all the other subscribers. Currently, there is an open posting policy on the list — messages will not be evaluated or edited before being posted. Hence, subscribers must make every effort to ensure the accuracy and appropriateness of their messages before posting them. Subscribers also have the option of responding to the originator of a message rather than to the whole list.

The National Data Archive on Child Abuse and Neglect decided to establish the list following the July 1993 Summer Research Institute at Cornell. Many of the participants expressed the need for innovative ways to share information and resources with other researchers. The Archive and its host organization, the Family Life Development Center, are developing this and other computer network services to meet the needs of those in the field of child maltreatment.

In order to use Child-Maltreatment-Research-L you must have access to the Internet. Internet connections are currently available at many universities, businesses, non-profits, and government agencies. In addition, Internet access is available through the following commercial network services: Compuserve, America Online, Prodigy, CONNECT, HandsNet, AppleLink, PeaceNet, EcoNet, GreenNet, Pegasus, The Web, The Well, Alternex, and Nicarao. To subscribe to

Child-Maltreatment-Research-L, send an electronic mail message containing the text, subscribe Child-Maltreatment-Research-L *your name* to listserv@cornell.edu. Substitute *your name* with your first and last name. For example, my name is Tom Hanna so my message would be as follows: subscribe Child-Maltreatment-Research-L Tom Hanna. You can send your message in upper, lower, or mixed case. When the list server receives your request it will send you a welcome message containing guidelines and instructions for posting messages. For information about the additional commands available on Cornell's list server, send a message containing the word help to listserv@cornell.edu. If you have trouble subscribing to Child-Maltreatment-Research-L contact the Archive for assistance (telephone: 607-255-7794).

Tom Hanna is the Information Technology Director of The Family Life Development Center at Cornell University.

The National Data Archive on Child Abuse and Neglect

Product List

Study No.	Title of Study	Type of Media choose one (✓)			Type of File choose one (✓)			Docu- mentation Only
		IBM 3.5" HD	Mac 3.5" HD	Main- frame Tape	Raw Data File	SAS Trans- port	SPSS Port- able	
50	Substantiation of Child Abuse and Neglect Reports, 1989							
51	Study of National Incidence and Prevalence of Child Abuse and Neglect, 1987 (NIS-2)							
52	National Study of the Incidence and Severity of Child Abuse and Neglect, 1980 (NIS-1)							
54	Los Angeles Times Poll, 1985							
55	Family Violence Resurvey, 1985							
57	Youth Information Form Data from Runaway and Homeless Youth Programs, 1988-1990							
58	Child Abuse, Neglect, and Violent Criminal Behavior in a Midwest Metropolitan Area of the United States, 1967-1988							
59	Maltreatment and the Academic and Social Adjustment of School Children, 1987-1988							
60	Physical Violence in American Families, 1976							
63	Effects of Parental Psychopathology and Maltreatment on Child Behavior							

Free Publications

The following publications are available from the Archive free of cost.

Check those you would like to receive.

- A description of the Archive's current holdings
- The Preparation of Data Sets for Analysis and Dissemination: Technical Guidelines for Machine-Readable Data*
- Add me to the Archive's mailing list. You will receive *The Archive Update*, the Archive's biannual newsletter, as well as special announcements.

Free Information

More information about the following services is available from the Archive free of cost.

Check the services you would like to know more about.

- Summer Research Institute
- Listserv for Child Maltreatment Researchers (Child-Maltreatment-Research-L)
- Data Analysis and Consultation Service

See other side for Ordering Information

Ordering Information

General Information

All of our data sets are available in a variety of ready-to-use file formats. Each data order comes on your choice of media complete with documentation and installation instructions. Archive staff will assist you with any technical problems you encounter while using the data. Documentation for most data sets includes a user's guide, codebook, original instruments, and references to relevant publications.

Prices

All data sets are priced at \$50. If you request more than one data set in an order, each additional data set is only \$25. "Documentation Only" orders cost \$15 per data set. Special prices are available for students; contact the Archive for details.

Media Type

Data are available on the following three types of media: IBM high density 3.5" diskettes, Macintosh high density 3.5" diskettes, or mainframe tape. Please select only one of these media types. If you choose to receive data on tape be sure to fill out the section on tape specifications below. Data sets are available on other media types and electronically over the Internet by special order; contact the Archive for details.

Mainframe Tape Specifications (circle one per line)

Type of Tape: Reel Tape (9 track) or IBM 3480 Cartridge Tape (18 track)

Recording Density: Reel Tapes: 6250 or 1600 BPI; Cartridge Tapes: 38K only

Labels: IBM standard label or non-labeled

Code: EBCDIC or ASCII

File Type

Data sets are available in three file formats: raw data, SPSS portable, or SAS transport. Please select only one of these formats. Data are available in other file formats (e.g., SYSTAT) by special order; contact the Archive for details.

Method of Payment

Please enclose a check, money order, or purchase order for the full amount of your order with this order form. See the price schedule on the reverse side for pricing information. Prices for custom orders (e.g., subset files, merged files, non-standard file types, etc.) vary; contact the Archive for details. Make your check, money order, or purchase order payable to Cornell University.

NAME: _____

TITLE: _____

ORGANIZATION: _____

E-MAIL ADDRESS (if available): _____

SHIPPING ADDRESS: (include number, street, city, state, and zip code):

National Data Archive on Child Abuse and Neglect
Family Life Development Center
Cornell University
G20 MVR Hall
Ithaca, New York 14853-4401

See other side for Product List

Products and Services Offered by the Archive

The Archive is always looking for new ways to meet the needs of researchers in the field of child maltreatment. Below are descriptions of the Archive's current products and services. If there is an additional product or service you would like to see us offer please let us know. To get more information about any of these products or services fill out the appropriate section on the attached order form, or contact us by phone at 607-255-7794.

Dissemination of Data Sets

The primary activity of the Archive is the acquisition, preservation, and dissemination of high quality data sets relevant to the study of child abuse and neglect. The Archive distributes these data sets in a variety of ready-to-use formats for microcomputers and mainframes. See the enclosed order form for details on pricing and ordering information.

Publications

The Archive has several publications. The biannual newsletter, *The Archive Update*, reports on the Archive's projects such as the Summer Research Institute and announces additions to the Archive's holdings. Our popular publication, *The Preparation of Data Sets for Analysis and Dissemination: Technical Guidelines for Machine-Readable Data* outlines data processing standards and will be of value to anyone involved in primary data collection. Both of these publications are available free of charge upon request. We also publish User's Guides for many of the data sets in the Archive. These manuals are included with data orders and are also available separately for \$15.

Researcher Training

The Archive sponsors a variety of training sessions on the secondary analysis of child abuse and neglect data. The foremost of these events is the annual Summer Research Institute. The Institute is an intensive experience in secondary data analysis and combines classroom instruction with hands-on experience. Participants come from a wide variety of disciplines (e.g., medicine, epidemiology, social work, psychology) and are selected on a competitive basis. The week long Institute provides an invaluable opportunity for networking and collaborating with other child abuse and neglect researchers. The Archive covers the cost of room, board, and tuition; participants are responsible for their own travel costs. (See the cover story for a report on the 1993 Summer Research Institute.)

In addition, the Archive conducts workshops at national conferences. In the past these sessions have focused on teaching participants how to work with a specific data set. Future sessions may focus on methodological or statistical issues.

Listserv for Child Abuse and Neglect Researchers

The Archive maintains an electronic mail based discussion group (listserv) for Child Abuse and Neglect researchers. The goal of the list is to facilitate information exchange and networking among researchers. The scope of the list includes all areas of CAN research (e.g., epidemiology, etiology, prevention, consequences, intervention, and treatment) and the full range of research issues (e.g., measurement, instrumentation, statistical analysis, ethics). The list is not open to discussions of program or clinical issues except as they relate to evaluation research. There is no fee for joining or using the Child Maltreatment Re-

search List. (See *The Archive Networks Researchers* on page one for a more complete description of this service.)

Free Technical Support

The Archive provides free technical support on data entry, data processing, data analysis, and documentation to both data contributors and data users. This support takes various forms including, advice on appropriate hardware and software configurations, software support and troubleshooting, and consultation on data processing and documentation.

Technical support for data contributors begins when principal investigators make a commitment to Archive their data. This can occur at any point during a research project. Support continues until the investigators complete their analyses and the data have been archived. Investigators will benefit most by starting to work with the Archive early in their project. This will enable investigators to draw on the experience of the Archive's staff to help develop an efficient and appropriate data processing and documentation strategy.

The goal of technical support for data users is to eliminate some of the technical hurdles to secondary data analysis. Support begins when users order data and continues as long as they continue to work with the data.

Data Analysis and Consultation Service

The Archive provides a data analysis and consultation service. This service makes the Archive's data accessible to everyone regardless of computing resources or data analysis experience. On a contract basis Archive staff will provide consultation and perform statistical analyses on the Archive data sets of your choice. This service is available on a fee-per-hour basis

Two Reports Available

Two reports concerning child abuse and neglect have recently been released. In May the U.S. Advisory Board on Child Abuse and Neglect released its 1992 report, *The Continuing Child Protection Emergency: A Challenge to the Nation*. The report documents activities and statements of the Board and contains a background paper on neighborhood based approaches to the prevention of child abuse and neglect. To obtain a free copy of the report contact:

U.S. Advisory Board on Child Abuse and Neglect
200 Independence Avenue, S.W.
Washington, D.C. 20201
(202) 690-8137

The U.S. Advisory Board on Child Abuse and Neglect was constituted in response to the 1988 amendments to the Child Abuse Prevention Act. The Board is currently completing its 1993 report which will outline a comprehensive, neighborhood

based, child centered, family focused national strategy regarding child abuse and neglect.

The National Academy of Sciences' Panel on Research on Child Abuse and Neglect recently released a prepublication edition of its report, *Understanding Child Abuse and Neglect*. The panel, convened at the request of the commissioner of the Administration for Children Youth and Families (ACYF), conducted a comprehensive examination of the theoretical and pragmatic research needs in the area of child maltreatment. The panel was specifically asked to:

- ★ Review and assess research on child abuse and neglect, encompassing work funded by ACYF and other known sources under public and private auspices;
- ★ Identify research that provides knowledge relevant to the field; and

- ★ Recommend research priorities for the next decade, including building blocks of knowledge development, new areas of research that should be funded by public and private agencies and suggestions regarding fields that are no longer a priority for funding.

The report provides recommendations for allocating existing research funds and also suggests funding mechanisms and topic areas to which new resources could be allocated or enhanced resources could be redirected.

The price for the final version of the report, which should be ready in early October, is \$39.95. It is available from the National Academy Press, 2101 Constitution Avenue, N.W., Box 285, Washington, D.C. 20055 (telephone: 800-624-6242 or 202-334-3313 in the Washington Metropolitan Area).

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