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Second Malaysian Family Life Survey: 1988 Interviews

User's Guide and Technical Report

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ICPSR 9805

SECOND MALAYSIAN FAMILY LIFE SURVEY: 1988 INTERVIEWS

(ICPSR 9805)

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RAND

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DATA COLLECTION DESCRIPTION

Julie DaVanzo and John Haaga

SECOND MALAYSIAN FAMILY LIFE SURVEY: 1988 INTERVIEWS
(ICPSR 9805)

SUMMARY: This collection, the second wave of a panel survey, provides household-level retrospective and current data for Peninsular Malaysian women and their husbands and covers traditional topics of demographic research such as fertility, nuptiality, migration, and mortality as well as social and economic factors affecting family decision-making. The overall purpose of the data collection was to study household behavior in diverse settings during a period of rapid demographic and socioeconomic change. Eight survey instruments were used in this study. The tracking instrument, MFLS-2, was used on all households where an interview was attempted, and recorded information such as disposition of survey and questionnaires, number of eligibles, and respondent identifiers. The MF20 instrument, Household Members, was administered to all Panel sample households that were located. It solicited information on the status of the household members and included items such as location, marital status, education, and birthdate. The MF21 form, Household Roster, was used on all households interviewed in the survey. This form collected demographic information on current and very recent household members. The MF22 form, Female Life History, surveyed the Panel women and their selected daughters and daughters-in-law, and the New Sample women. Information collected by this form included pregnancy history and related events; marital, work, and migration histories; family background; and education. The MF23 form, Male Life History, collected data from husbands of the Panel women, selected sons and sons-in-law, and husbands of New Sample women. Data on marital, work, and migration histories; education; and family background were recorded. The MF24 form, Senior Life History, was administered to selected persons aged 50 or more and contained questions on marriages, children living elsewhere, literacy, work experience, migration history, health, and family background. The MF25 form, Household Economy, collected data on household economy from all households interviewed in this wave. Forms MF26 and MF27 were used to generate community-level data subfiles for this collection. Part 97 (MF26DIST--District-Level Data) contains one record for each of the 78 districts of Peninsular Malaysia. This file provides information (most of which pertains to 1988, but some of which dates back to 1970) on health services (e.g., number of hospitals, health centers, and doctors); family planning services (e.g., number of family planning clinics, contraceptive use); birth, death, and fertility rates; number of

primary and secondary schools; ethnic distributions; and industrial and occupational distributions. Part 98 (MF26EB--Community-Level Data) contains one record for each of the 398 Enumeration Blocks selected for MFLS-2 and the 52 Primary Sampling Units used in MFLS-1. This file gives the current status of family planning services, general health services, schools, water and sanitation, housing costs, agriculture, transportation, population, urban/rural status, and government programs. Part 99 (MF27COMM--Community-Level Data) offers data for the same units as Part 98 and contains similar information, along with retrospective data on family planning services, health services, schools, and water treatment.

UNIVERSE: (1) All married women aged 50 or younger living in Peninsular Malaysia, (2) all children aged 18 or older living in Peninsular Malaysia, (3) all women under age 18 ever married and women between 18 and 49 living in Peninsular Malaysia, (4) all persons aged 50 and older living in Peninsular Malaysia.

SAMPLING: Four samples were drawn for this study: Panel, Children, New, and Senior. (1) Those eligible for the Panel Sample were 1,262 women who were the primary respondents in the First Malaysian Family Life Survey in 1976. At that time, all had been married and were aged 50 or younger. In the second wave, 889 of these Panel respondents completed the Female Life History Questionnaire, a follow-up rate of 72 percent of those eligible. The husbands of these respondents were also interviewed if living in the household. (2) The Children Sample consisted of children of the women eligible for the study aged 18 or older. There were interviews with one child, selected at random, living elsewhere in Peninsular Malaysia. (3) The New Sample consisted of women aged 18-49 (regardless of marital status) or ever-married women under age 18. (4) The Senior Sample consisted of 1,357 persons aged 50 or older.

NOTE: The codebook, data collection instruments, and other documentation are provided as Portable Document Format (PDF) files. The PDF file format was developed by Adobe Systems Incorporated and can be accessed using PDF reader software, such as the Adobe Acrobat Reader. Information on how to obtain a copy of the Acrobat Reader is provided through the ICPSR Website on the Internet.

EXTENT OF COLLECTION: 99 data files + machine-readable documentation (PDF) + SAS data definition statements + SPSS data definition statements + data collection instruments (PDF)

EXTENT OF PROCESSING: CONCHK.PR/ UNDOCCHK.PR/ DDEF.ICPSR/ REFORM.DATA/ REFORM.DOC/ SCAN

DATA FORMAT: Logical Record Length with SAS and SPSS data definition statements

Part 1: New and Senior: MFLS-2 Tracking Record
Part 2: New and Senior: MF21SUM--Household Roster: Summary Record
Part 3: New and Senior: MF21ROST--Household Roster
Part 4: New and Senior: MF22SUM--Female Life History: Summary Record
Part 5: New and Senior: MF22MARR--Female Life History: Marriages
Part 6: New and Senior: MF22PSUM--Female Life History: Summary of Pregnancies
Part 7: New and Senior: MF22PREG--Female Life History: Pregnancies
Part 8: New and Senior: MF22CONT--Female Life History: Contraception
Part 9: New and Senior: MF22MENS--Female Life History: Menstruation History and Desire for Children
Part 10: New and Senior: MF22CARE--Female Life History: Child Care
Part 11: New and Senior: MF22EDEX--Female Life History: Education Expenses
Part 12: New and Senior: MF22ED--Female Life History: Education
Part 13: New and Senior: MF22TRN--Female Life History: Training
Part 14: New and Senior: MF22MIG--Female Life History: Migration and House Characteristics
Part 15: New and Senior: MF22WORK--Female Life History: Work History
Part 16: New and Senior: MF22BACK--Female Life History: Family Background
Part 17: New and Senior: MF22HP1--Female Life History: Help for Own Parents
Part 18: New and Senior: MF22HP2--Female Life History: Help From Own Parents
Part 19: New and Senior: MF22HC1--Female Life History: Help for Grown Children
Part 20: New and Senior: MF22HC2--Female Life History: Help From Grown Children
Part 21: New and Senior: MF22EVAL--Female Life History: Interview Evaluation
Part 22: New and Senior: MF23SUM--Male Life History: Summary Record
Part 23: New and Senior: MF23MARR--Male Life History: Marriages
Part 24: New and Senior: MF23ED--Male Life History: Education
Part 25: New and Senior: MF23TRN--Male Life History: Training
Part 26: New and Senior: MF23MIG--Male Life History: Migration History
Part 27: New and Senior: MF23WORK--Male Life History: Work History

Part 28: New and Senior: MF23BACK--Male Life History: Family Background
Part 29: New and Senior: MF23HP1--Male Life History: Help for Own Parents
Part 30: New and Senior: MF23HP2--Male Life History: Help From Own Parents
Part 31: New and Senior: MF23EVAL--Male Life History: Interview Evaluation
Part 32: New and Senior: MF24SUM--Senior Life History: Summary Record
Part 33: New and Senior: MF24MARR--Senior Life History: Marriages
Part 34: New and Senior: MF24CHLD--Senior Life History: Children Living Elsewhere
Part 35: New and Senior: MF24LANG--Senior Life History: Languages
Part 36: New and Senior: MF24MIG--Senior Life History: Migration History
Part 37: New and Senior: MF24MIG2--Senior Life History: House Characteristics
Part 38: New and Senior: MF24WORK--Senior Life History: Work History
Part 39: New and Senior: MF24BACK--Senior Life History: Family Background
Part 40: New and Senior: MF24HP1--Senior Life History: Help for Own Parents
Part 41: New and Senior: MF24HC1--Senior Life History: Help for Grown Children
Part 42: New and Senior: MF24HC2--Senior Life History: Help From Grown Children
Part 43: New and Senior: MF24HO1--Senior Life History: Help for Other Relatives: Money/Food
Part 44: New and Senior: MF24HO2--Senior Life History: Help for Other Relatives: Child Care/Household Chores
Part 45: New and Senior: MF24HO3--Senior Life History: Help for Other Relatives: Business
Part 46: New and Senior: MF24HO4--Senior Life History: Help From Other Relatives: Money/Food
Part 47: New and Senior: MF24HO5--Senior Life History: Help From Other Relatives: Chores/Business
Part 48: New and Senior: MF24HLTH--Senior Life History: Health
Part 49: New and Senior: MF24EVAL--Senior Life History: Interview Evaluation
Part 50: New and Senior: MF25SUM--Household Economy: Summary Record
Part 51: New and Senior: MF25POS1--Household Economy: Household Possessions
Part 52: New and Senior: MF25POS2--Household Economy: Household Ownership and Expenses

Part 53: New and Senior: MF25INC--Household Economy: Income-Producing Activities
Part 54: New and Senior: MF25OTH--Household Economy: Other Sources of Income
Part 55: New and Senior: MF25EVAL--Household Economy: Interview Evaluation
Part 56: Panel and Children: MFLS-2 Tracking Record
Part 57: Panel and Children: MFLS-2 Additional Tracking Record
Part 58: Panel and Children: MF20SUM--1976 Household Members: Summary Record
Part 59: Panel and Children: MF20CHLD--1976 Household Members: List of Eligible Children
Part 60: Panel and Children: MF200TH--1976 Household Members: All Other Members of the MFLS-1 Household
Part 61: Panel and Children: MF21SUM--Household Roster: Summary Record
Part 62: Panel and Children: MF21ROST--Household Roster
Part 63: Panel and Children: MF22SUM--Female Life History: Summary Record
Part 64: Panel and Children: MF22MARR--Female Life History: Marriages
Part 65: Panel and Children: MF22PSUM--Female Life History: Summary of Pregnancies
Part 66: Panel and Children: MF22PREG--Female Life History: Pregnancies
Part 67: Panel and Children: MF22CONT--Female Life History: Contraception
Part 68: Panel and Children: MF22MENS--Female Life History: Menstruation History and Desire for Children
Part 69: Panel and Children: MF22CARE--Female Life History: Child Care
Part 70: Panel and Children: MF22EDEX--Female Life History: Education Expenses
Part 71: Panel and Children: MF22ED--Female Life History: Education
Part 72: Panel and Children: MF22TRN--Female History: Training
Part 73: Panel and Children: MF22MIG--Female Life History: Migration and House Characteristics
Part 74: Panel and Children: MF22WORK--Female Life History: Work History
Part 75: Panel and Children: MF22BACK--Female Life History: Family Background
Part 76: Panel and Children: MF22HP1--Female Life History: Help for Own Children
Part 77: Panel and Children: MF22HP2--Female Life History: Help From Own Parents
Part 78: Panel and Children: MF22HC1--Female Life History: Help for Grown Children

Part 79: Panel and Children: MF22HC2--Female Life History: Help From Grown Children
Part 80: Panel and Children: MF22EVAL--Female Life History: Interview Evaluation
Part 81: Panel and Children: MF23SUM--Male Life History: Summary Record
Part 82: Panel and Children: MF23MARR--Male Life History: Marriages
Part 83: Panel and Children: MF23ED--Male Life History: Education
Part 84: Panel and Children: MF23TRN--Male Life History: Training
Part 85: Panel and Children: MF23MIG--Male Life History: Migration History
Part 86: Panel and Children: MF23WORK--Male Life History: Work History
Part 87: Panel and Children: MF23BACK--Male Life History: Family Background
Part 88: Panel and Children: MF23HP1--Male Life History: Help for Own Parents
Part 89: Panel and Children: MF23HP2--Male Life History: Help From Own Parents
Part 90: Panel and Children: MF23EVAL--Male Life History: Interview Evaluation
Part 91: Panel and Children: MF25SUM--Household Economy: Summary Record
Part 92: Panel and Children: MF25POS1--Household Economy: Household Possessions
Part 93: Panel and Children: MF25POS2--Household Economy: Household Ownership and Expenses
Part 94: Panel and Children: MF25INC--Household Economy: Income-Producing Activities
Part 95: Panel and Children: MF25OTH--Household Economy: Other Sources of Income
Part 96: Panel and Children: MF25EVAL--Household Economy: Interview Evaluation
Part 97: MF26DIST--District-Level Data
Part 98: MF26EB--Community-Level Data
Part 99: MF27COMM--Community-Level Data

File Structure: rectangular
Cases: 78 to 15,371 cases per part
Variables: 4 to approx. 390 variables per part
Record Length: 26 to 1,388 per part
Records Per Case: 1

Part 100: Codebook Volume 1: "Introduction" Through "MF22: Female Life History"

Part 101: Codebook Volume 2: "MF23: Male Life History" Through "MF26EB: Community-Level Data From MF26"

Part 102: Codebook Volume 3: "MF26DIST: District-Level Data From MF26" Through "MF27COMM: Community-Level Data From MF27"

Part 103: Appendices

Part 104: User's Guide and Technical Report

Part 105: Data Collection Instruments

RAND

The Second Malaysian Family Life Survey

User's Guide

Christine E. Peterson

Supported by the
National Institute of Child Health and Human Development
National Institute on Aging

PREFACE

This document contains the User's Guide for data collected in the Second Malaysian Family Life Survey (MFLS-2), carried out in Peninsular Malaysia in 1988–1989. MFLS-2 was a collaborative project of RAND and the National Population and Family Development Board of Malaysia, with support from the (United States) National Institute of Child Health and Human Development and the National Institute on Aging. MFLS-2 was, in part, a follow-up to the original Malaysian Family Life Survey, which was fielded in three rounds in 1976–1977. Both surveys produced household-level retrospective and current data from women and their husbands, covering traditional topics of demographic research (fertility, nuptiality, migration, mortality, employment, household composition), as well as social, economic, and community-level factors affecting family decisionmaking. MFLS-2 added a sample of older Malaysians (the "Senior" Sample) to support research on their living standards, health, and intergenerational transfers.

This document should be very useful for anyone using the MFLS-2 data for analyses. The User's Guide provides descriptions of the MFLS-2 data format and the MFLS-2 data files, and presents guidelines regarding how to use the data, with special focus on identifying individuals of interest and linking the various types of data files. Detailed descriptions of all variables and information on special cases are presented in the MFLS-2 Codebook (MR-108-NICHD/NIA). This User's Guide also addresses issues that arise in trying to link data from the first Malaysian Family Life Survey (MFLS-1), fielded in 1976–1977, and the MFLS-2, which was fielded in 1988–1989.

Other RAND publications essential for users of the MFLS-2 data include:

- MR-106-NICHD/NIA, *The Second Malaysian Family Life Survey: Overview and Technical Report*, by John G. Haaga, Julie DaVanzo, Christine E. Peterson, Tey Nai Peng, and Tan Boon Ann. This document provides some background information about Malaysia and discusses the purpose, design, training, fieldwork, and response rates for MFLS-2.
- MR-107-NICHD/NIA, *The Second Malaysian Family Life Survey: Survey Instruments*, by Julie DaVanzo, John G. Haaga, Tey Nai Peng, Ellen H. Starbird, and Christine E. Peterson with the Staff of the Population Studies Center of the National Population and Family Development Board of Malaysia. The document presents the actual questionnaires used in MFLS-2 and the Interviewer's Instruction Manual. The development of the

instruments is discussed, as are the findings of debriefings with the field staff during and after the fieldwork.

- MR-108-NICHD/NIA, *The Second Malaysian Family Life Survey: Codebook*, by Christine E. Peterson, Jeffrey Sine, and Deborah Wesley. This document provides descriptions of all variables and locations of the various subfiles that make up the MFLS-2 database.

Another document that may be useful to MFLS-2 users is:

- MR-110-NICHD (forthcoming), *The Second Malaysian Family Life Survey: Quality of Retrospective Data*, by Jeffrey Sine and Christine E. Peterson. This document assesses the quality of the retrospective data for the MFLS-2 New Sample on marital status, fertility, infant and fetal mortality, birthweight, contraception, breastfeeding, and education.

Persons interested in learning more about the 1976–1977 Malaysian Family Life Survey (MFLS-1) or using data from that survey should consult the following RAND publications:

- R-2351-AID, *The Malaysian Family Life Survey: Summary Report*, March 1978, by William P. Butz and Julie DaVanzo.
- R-2351/1-AID, *The Malaysian Family Life Survey: Appendix A, Questionnaires and Interviewer Instructions*, March 1978, by William P. Butz, Julie DaVanzo, Dorothy Z. Fernandez, Robert Jones, and Nyle Spoelstra.
- R-2351/3-AID, *The Malaysian Family Life Survey: Appendix C, Field and Technical Report*, March 1978, by Robert Jones and Nyle Spoelstra.
- R-2351/4-AID, *The Malaysian Family Life Survey: Appendix D, Descriptions of Sample Communities*, March 1978, by Fahmi Omar.
- R-2351/5-AID, The Malaysian Family Life Survey: *Appendix E, Master Codebook*, January 1982, by Terry Fain and Tan Poh Kheong.

The MFLS-1 data have been reorganized into files that more closely resemble the format of the MFLS-2 data, to make it easier for users to combine the MFLS-1 and MFLS-2 data in analyses. These reformatted MFLS-1 files are described in:

- MR-111-NICHD, *The First Malaysian Family Life Survey: Documentation for Subfiles*, 1993, by Christine E. Peterson and Nancy Campbell.

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Table

SUMMARY

The data from the Second Malaysian Family Life Survey (MFLS-2) provide a rich but complex database. This User's Guide describes the MFLS-2 data structure and presents detailed descriptions of the variety of information available, and how it can be put together. This Guide is meant to be a companion to the MFLS-2 Codebook and provides guidelines on how to build analysis files from the data. For example, we discuss how to identify various individuals of interest (e.g., husbands, wives, children, parents of respondents) and how to link data from different parts of a particular person's questionnaire with one another and with data from the questionnaires of related individuals. The multiple file structure of the MFLS-2 makes linking files the major task in building analysis files.

This Guide also addresses issues that arise in trying to link data from the first Malaysian Family Life Survey (MFLS-1) in 1976–1977 and MFLS-2, which was fielded in 1988–1989. One objective of MFLS-2 was to reinterview as many as possible of the original 1,262 MFLS-1 respondents. Seventy-two percent of the original MFLS-1 respondents were successfully reinterviewed, providing not only information on what happened to them since 1976, but a full retrospective history that recovered events previously reported in MFLS-1. The long time span of information for those reinterviewed MFLS-1 respondents and the chance to examine issues of recall bias require linking of MFLS-2 responses to MFLS-1 responses for these women and their families. Information and suggestions on linking MFLS-1 and MFLS-2 data are thus also provided in this Guide.

ACKNOWLEDGMENTS

Ideas on what to include in this User's Guide were based largely on the experiences of individuals at RAND who worked on the MFLS-2 project. Information in this Guide resulted from their questions, both simple and complex, regarding how to create this or that type of variable, construct this or that type of file, link this data file to that data file. Among these individuals, I would like to thank Ellen Starbird, Deborah Wesley, Sandy Poindexter, Jeffrey Sine, Angelique Chan, Suet-Ling Pong, Pav Govindasamy, and Danielle Cullinane. The patience and guidance of Julie DaVanzo and John Haaga, the project leaders, was more than I could have asked for. I most heartily wish to thank Mr. Tey Nai Peng and his wonderful staff at the National Population and Family Development Board (Lembaga Penduduk dan Pembangunan Keluarga Negara, or LPPKN) in Kuala Lumpur, Malaysia, for their incredible patience and assistance in producing the quality data and documentation associated with MFLS-2. John Strauss provided a careful review with many helpful suggestions.

1. INTRODUCTION

The database for the Second Malaysian Family Life Survey (MFLS-2) is rich but complex. In this User's Guide, we describe the MFLS-2 multifile structure and present fairly detailed descriptions about the variety of information available, including how to put various types of data together. While the MFLS-2 Codebook[1] itself explains what individual variables mean and notes special cases, the User's Guide provides guidelines on how to use the data more effectively. We discuss how to identify various individuals of interest (e.g., husbands, wives, children, parents of respondents) and then how to link data from different parts of the respondent's questionnaire and from the questionnaires of related individuals. The multiple file structure of the MFLS-2 makes linking files the major task in building analysis files, and great effort has been made to cover most linkages.

This Guide also deals with the relationship between the first Malaysian Family Life Survey (MFLS-1) in 1976–1977 and MFLS-2, which was fielded in 1988–1989. A major objective of the MFLS-2 was to reinterview as many of the original 1,262 MFLS-1 respondents as possible. Seventy-two percent of the original MFLS-1 respondents were successfully reinterviewed, providing not only information on what happened to them since 1976, but a full retrospective history that recovered events previously reported in MFLS-1. The long time span of information for reinterviewed MFLS-1 respondents and the chance to examine issues of recall bias require linking MFLS-2 and MFLS-1 responses for these women and their families. Information and suggestions on linking MFLS-1 and MFLS-2 data are thus also provided in this Guide.

This User's Guide does not cover in detail such topics as sampling frame and response rates. Users seeking such information should consult the *Overview and Technical Report*.[2]

Section 2 provides a short overview of the MFLS-2 survey, including sample definitions, survey instrument descriptions, and data entry and cleaning experiences that may be of interest to users. Section 3 presents the MFLS-2 data structure and format and addresses various MFLS-2 data conventions. Section 4 discusses how to identify various individuals of interest, while Section 5 provides detailed information on a variety of ways to

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[1] *The Second Malaysian Family Life Survey: Codebook*, by Christine E. Peterson, Jeffrey Sine, and Deborah Wesley, MR-108-NICHD/NIA, RAND, 1993.

[2] *The Second Malaysian Family Life Survey: Overview and Technical Report*, by John G. Haaga, Julie DaVanzo, Christine E. Peterson, Tey Nai Peng, and Tan Boon Ann, MR-106-NICHD/NIA, RAND, 1993.

link the different MFLS-2 subfiles together and to link MFLS-1 and MFLS-2 data to each other. The final section deals with the interrelatedness of the MFLS-2 database and how users might make use of the richness provided therein. Appendix A, which describes each MFLS-2 subfile, is provided to help users select the subfiles that contain data relevant to desired analyses.

2. GENERAL OVERVIEW OF THE MFLS-2 SURVEY

In this section, we briefly survey MFLS-2 and describe the survey instruments. More detailed descriptions of the survey and its instruments can be found in MR-106-NICHD/NIA. The information presented below is intended to serve as an easy reference when using the data and codebook materials. A short synopsis of the data entry and data cleaning process for the MFLS-2 data is also included.

PURPOSE OF MFLS-2

The MFLS-2 was a collaborative project between RAND and the National Population and Family Development Board (Lembaga Penduduk dan Pembangunan Keluarga Negara, or LPPKN) of Malaysia, with support from the (United States) National Institute of Child Health and Human Development and the National Institute on Aging. Fieldwork for MFLS-2 began in August 1988 and was completed in January 1989.

MFLS-2 was designed as a follow-up to MFLS-1, which was fielded in three rounds in 1976–1977. Both surveys produced household-level retrospective and current data from women and their husbands, covering traditional topics of demographic research (fertility, nuptiality, migration, mortality), as well as social and economic factors affecting family decisionmaking. MFLS-2 added a sample of older Malaysians, to support research on their living standards, health, and intergenerational transfers.

The overall purpose of the MFLS-2, like the MFLS-1, was to enable study of household behavior in diverse settings during a period of rapid demographic and socioeconomic change. The linked MFLS-1 and MFLS-2 data allow the study of intergenerational persistence, as well as change, in marriage and fertility norms and behavior, and economic circumstances.

SAMPLES COLLECTED IN MFLS-2

Four samples of the household population of Peninsular Malaysia were interviewed in MFLS-2: Panel, Children, New, and Senior.

Those eligible for the **Panel Sample** were 1,262 women who were the primary respondents to MFLS-1 in 1976. At that time, all had been married and were aged 50 or younger. In MFLS-2, 889 of these Panel respondents completed the Female Life History Questionnaire, a follow-up rate of 72 percent of those eligible. The husbands of Panel respondents were also interviewed if living in the household (768 husbands, of which 717 had been interviewed in MFLS-1).

The **Children Sample** consisted of children aged 18 or older of the women interviewed as primary respondents for MFLS-1; that is, sons or daughters of the women eligible for the MFLS-2 Panel Sample. There were interviews with one child, selected at random, still living in the same household with the Panel respondent, and as many as two children, selected at random, living elsewhere in Peninsular Malaysia. There were 1,096 primary respondents in the Children Sample (73 percent of those selected for interview) of whom 499 were living in the Panel household and 597 were living elsewhere. Of the primary respondents interviewed, 587 were daughters and 509 were sons of original MFLS-1 respondents. If the selected child was married, the spouse was also interviewed (303 husbands and 191 wives completed life histories).

The **New Sample** consisted of households with women aged 18–49 (without regard to her marital status) or an ever-married woman under age 18. There were 2,184 primary respondents in the New Sample, of whom six were ever-married women under age 18 and 338 had never been married. Husbands of married respondents were interviewed if living in the household (1,642 husbands in total were interviewed). Response rates were very high for this sample: 98 percent of women and 96 percent of their husbands.

The **Senior Sample** consisted of 1,357 persons (671 men and 686 women) aged 50 or older. Of these, 633 lived in the same households as members of the New Sample. Unlike the previous three samples, the spouses of senior respondents were not interviewed. Ninety-seven percent of the seniors selected were interviewed.

For all four samples, basic demographic information and information about educational attainment of all members of the primary respondent's household were collected. The data also include fairly detailed information on each household's wealth, earned income, and intergenerational transfers in the year preceding the interview.

For the Panel and Children samples, identifiers permit matching of households and persons to their own MFLS-1 survey observations and to MFLS-2 information on other persons who lived in the MFLS-1 household.

Households for the New and Senior samples were located in 398 Enumeration Blocks (EBs), randomly selected to be representative of Peninsular Malaysia. Households headed by Indians were sampled at twice the rate of other ethnic groups to provide sufficient sample sizes for analyses within each of Malaysia's major ethnic groups. Community-level data were collected for each of the 398 EBs covered by the New and Senior samples, as well for the 52 Primary Sampling Units that comprised the sample for MFLS-1.

SURVEY INSTRUMENTS

The MFLS-2 data were collected with nine instruments. Table 2.1 provides a quick description of the instruments and the samples to which they were administered.

Table 2.1

MFLS-2 SURVEY INSTRUMENTS

Survey Instrument	Administered to:	General Contents
TRACKING: Household tracking	All households where an interview was attempted	Disposition of survey and questionnaires, number of eligibles, respondent identifiers
MF20: MFLS-1 Roster Update	All MFLS-1 households that were located	Current status of MFLS-1 children and household members: location, marital status, education, birth date
MF21: 1988 Household Roster	All households interviewed in MFLS-2	Demographic characteristics of current and very recent household members
MF22: Female Life History	Panel women and their selected daughters and daughters-in-law; New Sample women	Pregnancy history and related events; marital, work and migration histories; education/training; family background; intergenerational transfers
MF23: Male Life History	Husbands of Panel women; selected sons and sons-in-law of Panel women; husbands of New sample women*	Marital, work, and migration histories; education /training; family background; intergenerational transfers
MF24: Senior Life History	Selected person age 50 or more, regardless of gender, from New/Senior samples*	Marriages, children living elsewhere, literacy, work experience, migration history, health, family background, intergenerational transfers
MF25: Household Economy	All households interviewed in MFLS-2	Current sources of income; household possessions, ownership, and expenses
MF26 and MF27 Community Data	398 EBs for New Sample; 52 PSUs for Panel/Children sample; 78 districts in Peninsular Malaysia	Current and historical data on family planning and health clinics, schools, public utilities

*NOTE: MF24 was administered instead of MF23 to 129 husbands aged 50 and over of women in the New Sample. These age 50+ husbands were selected as respondents for the Senior Sample because they were the only household member eligible for the Senior Sample.

Not all instruments were administered to each of the above four samples. Table 2.2 lists the instruments given to each sample. The community questionnaires, MF26 and MF27, were administered in all 398 EBs of the New/Senior sample and the 52 PSUs related to the Panel/Children sample. District-level data were abstracted from various government reports.

Table 2.2

SURVEY INSTRUMENTS BY SAMPLE

Survey Instrument	Panel Sample	Children Sample	New Sample	Senior Sample
TRACKING	X	X	X	X
MF20	X	na	na	na
MF21	X	X	X	X
MF22	X	X	X	na
MF23	X	X	X	na
MF24	na	na	na	X
MF25	X	X	X	X
MF26/MF27	X	X	X	X

NOTE: na means not applicable.

DATA ENTRY

The data were transcribed from the recording forms into the PC-based data entry system Entry Point 90 (EP-90),[3] by staff at LPPKN in Malaysia. Original plans had called for the data to be entered in the field at the end of each day. However, there were not enough qualified staff in the field to do the data entry. Many that were qualified were pressed into helping with the interviewing. Thus, many of the completed questionnaires were sent back to Kuala Lumpur, Malaysia's capital city, for data entry at the LPPKN main office there. Before the data were entered, the questionnaires went through several rounds of careful "hand checks," following standard LPPKN procedures. These "hand checks" primarily consisted of checking to be sure that the recording forms had been filled out correctly. A more detailed discussion of the issues that arose regarding PC-based data entry is presented in the *Overview and Technical Report*.

[3]Entry Point 90 is a product of Datalex Corporation located in San Francisco, California.

DATA CLEANING

After major blocks of the interviews were entered, diskettes containing the data were sent to RAND in Santa Monica. Upon arrival at RAND, the case identifiers were checked against the master list to determine if any whole cases were missing. If so, word was sent by FAX to LPPKN about the missing cases and data were later sent. Once all cases were verified, the data were written out as a single ASCII file. These data were then reorganized so that all records of a given type were split out into a separate data file, i.e., all pregnancy history records were in one file, all job history records in another, and so on. Once the data were in the form of separate ASCII files for each record type (i.e., each questionnaire section), the process of checking individual records began.

MFLS-2 data cleaning tasks focused largely on the following:

1. Whether all records were present (e.g., if the pregnancy summary said that there were five pregnancies, then the pregnancy history should have five records).
2. Whether the identifiers were consistent across files (e.g., was the correct person number for the MF22 respondent recorded on the MF22 summary data).
3. Whether birth dates were consistent across files (e.g., did the birth date on MF22 summary record match MF21 household roster birth date information).
4. Whether event dates were consistent (e.g., was the marriage end date after the marriage start date; was the age at event less than or equal to age at interview).
5. Whether location information was consistent (e.g., did the district code on the tracking form match the district code on last migration record).
6. Whether trigger questions and their responses were consistent (e.g., if status of a given marriage is divorced, widowed, or separated, the marriage record should have an end-of-marriage date or age).
7. Whether similar information reported across files was consistent (e.g., if family background data says the respondent's father lives with the respondent, then the father should be listed in the MF21 household roster).

When inconsistent information was uncovered, we examined corroborating information from other files to determine which data appeared to be incorrect. If no corroborating information existed or provided insight, we requested copies of the relevant recording forms from LPPKN. The recording forms were then consulted to determine the correct response. The data entry package, EP-90, had been programmed to uncover out-of-range responses and to skip sections when the associated trigger question had a negative response. However, if responses were misentered within valid ranges, the only way to detect

such errors was by cross-checking data with corroborating information. Such cross-checking was very time-consuming but proved crucial in ensuring data quality.

Users should be aware, though, that we could not perform all possible cross-checks, and that many variables had no corroborating information. Thus, users can still expect to find some inconsistent data reports that may be due to data entry errors; some inconsistent reports, however, are due to errors by the respondent and cannot be separated from data entry errors without checking the actual hardcopy questionnaires. (See MR-106-NICHD/NIA, 1993, for more information about data cleaning and data entry.)

3. FILE STRUCTURE, FORMAT, AND CONVENTIONS FOR MFLS-2 FILES

In this section, we discuss the contents and format of the MFLS-2 data files. The MFLS-2 database is really two databases in one: the Panel and Children database, and the New and Senior database. The Panel/Children database contains all the data collected from the Panel and Children samples (i.e., individuals from households interviewed in the 1976 MFLS-1 survey). The New/Senior database contains all data relevant to the New and Senior samples (i.e., individuals whose households had never before been interviewed). Each database is a collection of subfiles representing different sections of the MFLS-2 questionnaires administered to the given group. Users can pool records from both databases if desired but must be aware of sampling differences (see the discussion of caveats about pooling in samples in MR-106-NICHD/NIA, 1993, and the discussion of weighting below). Table 3.1 lists the MFLS-2 subfiles by their associated questionnaire. The MFLS-2 data were split into these separate samples and subfiles to facilitate the construction of subsequent analysis files. Users need only work with desired samples and subfiles rather than the entire database. Issues of how to identify questionnaire respondents and how to link data from the various subfiles are discussed in subsequent sections.

Table 3.1

MFLS-2 SUBFILE BY MF QUESTIONNAIRE

MF20	MF21	MF22	MF23	MF24	MF25
MF20SUM	MF21SUM	MF22SUM	MF23SUM	MF24SUM	MF25SUM
MF20CHLD	MF21ROST	MF22MARR	MF23MARR	MF24MARR	MF25POS1
MF20OTH		MF22PSUM	MF23ED	MF24CHLD	MF25POS2
		MF22PREG	MF23TRN	MF24LANG	MF25INC
		MF22CONT	MF23MIG	MF24MIG	MF25OTH
		MF22MENS	MF23WORK	MF24MIG2	MF25EVAL
		MF22CARE	MF23BACK	MF24WORK	
		MF22EDEX	MF23HP1	MF24BACK	
		MF22ED	MF23HP2	MF24HP1	
		MF22TRN	MF23EVAL	MF24HC1	
		MF22MIG		MF24HC2	
		MF22WORK		MF24HO1	
		MF22BACK		MF24HO2	
		MF22HP1		MF24HO3	
		MF22HP2		MF24HO4	
		MF22HC1		MF24HO5	
		MF22HC2		MF24HLTH	
		MF22EVAL		MF24EVAL	

NOTE: The TRACKING file is an additional subfile available in the database.

DATA STRUCTURE AND FORMAT

The entire MFLS-2 database consists of 95 separate files, each of which represents a section of a questionnaire for a given sample group (i.e., New/Senior and Panel/Children), and three community data files. For example, there is a separate file containing the pregnancy history, and another file containing the marriage history of the MF22 respondent. These files are split into the two main sample groups mentioned above. The New and Senior sample data consist of 55 subfiles (MF21–MF25, TRACKING); the Panel and Children sample has 40 subfiles (MF20–MF23,MF25, TRACKING). Table 3.2 presents brief descriptions and sample sizes for each file. Appendix A provides more detailed descriptions of each file that also include unit of observation and case identifiers (i.e., variables by which to link files). The data is available in two basic formats: raw rectangular files and SAS ® transport files.[4] Table 3.3 provides a brief layout of the location of the various file types on the data tape. Appendix B provides a full tape layout for the MFLS-2 data tape.[5]

Raw Rectangular Files

The raw rectangular file versions have fixed-length records. All files, except for the MF22 and MF24 summary files and the community data files, have record lengths of 82 columns. The MF22 summary file has a record length of 98 columns; the MF24 summary file has a record length of 90 columns. The district-level data file, MF26DIST, has a record length of 465 columns; the MF26 community-level data, MF26EB, is 753 columns; and the MF27 community-level data, MF27COMM, has a record length of 992 columns. The raw data can be read using the column formats supplied in the given subfile's section of the MFLS-2 Codebook. For the user's convenience, we have included on the tape SAS programs containing the input formats for all files (text files of 80 columns that have the filename extension of **PGM**). There is a separate program for each MF questionnaire. Non-SAS users can incorporate the input formats, which are simply column formats, into their own programs to read the data.

Raw rectangular files carry the following extensions: **NS** for New and Senior sample files and **PC** for Panel and Children sample files. The programs included on the tape will

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[4]SAS is a widely used data management and statistical computing package created by the SAS Institute of Cary, North Carolina.

[5]Users at RAND should contact the RAND Data Collection for the location of the raw rectangular files and the SAS files. These files are stored on disk and accessible via UNIX.

Table 3.2

MFLS-2 SUBFILE DESCRIPTIONS AND SAMPLE SIZES

File Name	File Description (See Appendix A for detailed descriptions)	Sample Sizes	
		New and Senior	Panel and Children
TRACKING	Tracking data information	4557	2209
MF20SUM	Summary information for MF20[a]	na	926
MF20CHLD	Update on MFLS-1 woman's children age 18+	na	3032
MF20OTH	Update on other MFLS-1 household members	na	3637
MF21SUM	Summary information for MF21	2917	1523
MF21ROST	Demographic data on MFLS-2 household members	15371	8447
MF22SUM	Summary information for MF22[a]	2184	1676
MF22MARR	Marriage history: marriage changes	2302	1867
MF22PSUM	Summary of pregnancy outcomes	1846	1446
MF22PREG	Pregnancy history	8933	8753
MF22CONT	Contraceptive use history	8933	8753
MF22MENS	Menstrual history/desire for children	1846	1446
MF22CARE	Child care for children under age 6	1845	1443
MF22EDEX	Education expenses for children in school	3533	2670
MF22ED	Literacy and education experiences	2184	1675
MF22TRN	Training: two longest events	2184	1676
MF22MIG	Migration history: dwelling changes	9904	7255
MF22WORK	Work history: type of work changes	3903	2930
MF22BACK	Family background	2181	1675
MF22HP1	Help given to nonresident parents	2182	1676
MF22HP2	Help received from nonresident parents	1602	1017
MF22HC1	Help given to nonresident grown children	2182	1676
MF22HC2	Help received from nonresident grown children	257	603
MF22EVAL	Evaluation of MF22 interview[b]	2182	1675
MF23SUM	Summary information for MF23[a]	1513	1550
MF23MARR	Marriage history: marriage changes	1621	1804
MF23ED	Literacy and education experiences	1513	1550
MF23TRN	Training: two longest events	1513	1550
MF23MIG	Migration history: district changes	6709	5815
MF23WORK	Work history: type of work changes	4924	4678
MF23BACK	Family background	1513	1550
MF23HP1	Help given to nonresident parents	1512	1550
MF23HP2	Help received from nonresident parents	1135	738
MF23EVAL	Evaluation of MF23 interview[b]	1513	1550

Table 3.2—continued

File Name	File Description (See Appendix A for detailed descriptions)	Sample Sizes	
		New and Senior	Panel and Children
MF24SUM	Summary information for MF24[a]	1357	na
MF24MARR	Marital history	1357	na
MF24CHLD	Demographics for children living elsewhere	4755	na
MF24LANG	Literacy and language capability	1357	na
MF24MIG	Migration history: district changes	4317	na
MF24MIG2	Water and sanitation facilities (if no MF22 given in hhld)	1357	na
MF24WORK	Work history	1357	na
MF24BACK	Family background	1357	na
MF24HP1	Help given to nonresident parents	1357	na
MF24HC1	Help given to nonresident grown children	1357	na
MF24HC2	Help received from nonresident grown children	1187	na
MF24HO1	Help given to other relatives: money/food	1357	na
MF24HO2	Help given to other relatives: child/home care	1357	na
MF24HO3	Help given to other relatives: business	1356	na
MF24HO4	Help received from other relatives: money/food	1357	na
MF24HO5	Help received from other relatives: home care/business	1357	na
MF24HLTH	Health status	1357	na
MF24EVAL	Evaluation of M24 interview[b]	1357	na
MF25SUM	Summary information for MF25[a]	2899	1512
MF25POS1	Household possessions	2899	1512
MF25POS2	Home ownership and household expenses	2899	1512
MF25INC	Income earning activities of household members	6191	3705
MF25OTH	Other income sources	2458	1498
MF25EVAL	Evaluation of MF25 interview[b]	2898	1512

NOTE: Sample sizes vary because of unit of observation skip patterns and nonresponse to subsections of questionnaires. For example, MF22PREG has pregnancies as the unit of observation; MF22PSUM is answered only by ever-married women; MF22EVAL has less than 2184 records in the New Sample because the evaluation was not completed for two women.

The three community data files and their sample sizes are:

MF26EB	MF26 Community-level data	450 records: 398 EBs, 52 PSU
MF27COMM	MF27 Community-level data	450 records: 398 EBs, 52 PSU
MF26DIST	District-level data	78 records, 1 for each district

[a]Summary information subfiles contain items such as respondent identifiers, interview dates, interview length, MF questionnaire disposition, geographic location, weighting variables where relevant, and the number of records in each subfile associated with the MF.

[b]Evaluation subfiles contain the interviewer's opinion/observations about the overall quality of the respondent's answers to the questionnaire; namely, how interested the respondent was in the interview and how reliable the respondent's answers may be.

Table 3.3

MFLS-2 FILE TYPES AND THEIR LOCATIONS

File Type	File numbers	Format
Text files: programs to read data files	1 to 8	LRECL=80 BLKSIZE=8000
Flat files: New and Senior	10 to 61	LRECL=82 BLKSIZE=8200
Flat files: Panel and Children	62 to 100	LRECL=82 BLKSIZE=8200
Flat files: MF22 and MF24 Summaries	101 to 103	MF22: LRECL=98 BLKSIZE=9800 MF24: LRECL=90 BLKSIZE=9000
SAS Version 6 export files: New and Senior	104 to 158	LRECL=80 BLKSIZE=8000
SAS Version 6 export files: Panel and Children	159 to 198	LRECL=80 BLKSIZE=8000
Community data: MF26 and MF27 flat, SAS, and text files	199 to 207	See attached tape map for formats

NOTE: Specific file names and locations are found on the tape layout in Appendix B.

read both New and Senior and Panel and Children sample files. The record layouts are the same across samples. The raw rectangular files and the program files are available in ASCII as well as EBCDIC format.

Those who plan to use the ASCII files on UNIX should be aware of the following.

- The program files (those ending in **.PGM**) were created using the following UNIX dd command :

dd if=inputfile of=outputfile conv=block cbs=80

To read these files on a UNIX system, users must run the following dd command after downloading from tape:

dd if=inputfile of=output file conv=unblock cbs=80

- The flat rectangular files were written with a SAS PUT statement and had a FILE statement that specified RECFM=F, LRECL=xx, BLKSIZE=xxxx. To read these files back into SAS, users must specify the same parameters on the INFILE statement.
- If reading the flat rectangular files with a program other than SAS, users must first run the data through the following UNIX dd command:

dd if=inputfile of=outputfile conv=unblock cbs=lrecl
(i.e, lrecl for the file—82 for most files)

Those using the EBCDIC files on UNIX need only run a dd command like

dd if=inputfile of=outputfile conv=ascii cbs=*lrecl*

We suggest using the variable names listed in the MFLS-2 Codebook. Communication regarding specific variables will be much easier if common variable names are used. The raw rectangular files for the New and Senior sample take up about 12 megabytes of space. The Panel and Children sample uses about 8 megabytes. Individual files are generally small, averaging around 250 kilobytes. Only the roster and pregnancy data are over 1 megabyte. The community data files use about 800 kilobytes, with the largest file (MF27COMM) using 450 kilobytes.

SAS Transport Files

Each of the 95 MFLS-2 household survey subfiles and the three community data files has an SAS transport version. The SAS transport files were created under SAS Version 6.07 for UNIX using the procedure PROC CPORT. These files must be run through the procedure PROC CIMPORT[6] before they can be used. The data tape includes a SAS program that reads the transport files using PROC CIMPORT. For more details on reading SAS transport

[6]Users still running Version 5 SAS will not be able to use the SAS transport files and will only be able to read the raw file versions. The SAS input programs, however, can be used with appropriate modifications for LIBNAME and FILENAME statements.

files, users should consult SAS documentation on transporting files between operating systems and platforms.[7] All the SAS transport files have a record length of 80 and a blocksize of 8000. The SAS data subfiles use the variable names listed in the subfile's section in the MFLS-2 Codebook. In order to reduce file size, the SAS variables have been stored in the shortest lengths possible given their maximum values. The New and Senior SAS files fill up about 14 megabytes; the Panel and Children SAS files use about 9 megabytes. Individual SAS files are generally small, averaging around 250–300 kilobytes. Again, only the roster and pregnancy data are over 1 megabyte. The community data SAS files add up to about 1.2 megabytes with the largest, MF27COMM, using around 650 kilobytes.

SAS transport files carry the following extensions: **NSX** for New and Senior sample files and **PCX** for Panel and Children sample files. The community data SAS transport files use the extension **EXP**.

DATA CONVENTIONS USED IN MFLS-2

The MFLS-2 database is fairly straightforward in terms of data conventions. The four items of note are the identifier variables, missing and not applicable codes, imputed ages, and sample weights.

Identifier Variables

There are three main identifier variables in the MFLS-2 data that are present on all MFLS-2 subfiles:

CASE:	Main household identifier; for Panel/Children sample, matches case number from MFLS-1
SPLIT:	Indicates split-off household from original household identified by CASE; applies mainly to Panel/Children sample (Children living elsewhere have SPLIT>0); a few Senior households have SPLIT>0
PERSON:	Person number from MF21 household roster

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[7]See SAS® Technical Report P-195: Transporting SAS Files Between Host Systems, Cary, NC: SAS Institute Inc., 1989.

Users working on CMS operating systems should be aware of a problem in reading SAS transport files copied from CMS to another platform by using FTP, file transfer protocol. The bug is known by SAS Institute and users unaware of this problem should contact SAS Institute for the solution. Users who read the SAS transport files directly from the magnetic tape will have no such problems. The problem only occurs if users must transfer the data loaded onto a CMS system to another platform using FTP.

The combination of CASE and SPLIT uniquely identifies a household; the combination of CASE, SPLIT, and PERSON uniquely identifies an individual. These variables will be mentioned frequently in the remainder of this document.

A fourth identifier exists for the Panel and Children samples. The variable "MFLS1" contains the individual's person number from the MFLS-1 survey. The variable MFLS1 is used to link the individual's data between the two surveys. For those who did not appear in the MFLS-1 data either in the household roster or in the birth history, the variable MFLS1 will be blank.

Missing vs. Not Applicable Data Codes

Blanks in the raw data and "." in the SAS data are used to denote "not applicable." If the interviewer skipped a section of the questionnaire, the fields of that section were left blank. Missing or "don't know" responses to questions that were asked have all "9's" in their respective data fields. Users should be aware that a few cases may still exist where missing or "don't know" responses are coded with blanks or "." for a given variable. We have made a concerted effort to correct such cases but a few may have eluded us. The trigger variables for skip patterns should be used to determine eligible responders and not nonblank values.

Imputing Ages from Incomplete Dates

Ages have been imputed where incomplete information on dates and ages exists, and a data flag was created to identify records with imputed ages. Below we describe the age imputation process so users can decide whether to use the existing imputations or to create their own.

Interviewers were instructed to collect either dates or ages associated with given events, but not both. If full dates (i.e., month and year) were given for both the respondent's birth date and for the event date, an exact age can be computed for the event. If only a partial date was given for either the respondent's birth date or the event date, age at the event has to be imputed. In many cases, respondents only knew their age at the event and not the date. In those cases, we did not impute the year of event. When only age was reported, then, the year of the event is coded as missing.

The age imputation method we have used is a simple one and is formally presented in Appendix C. Users may wish to use a different algorithm than the simple one presented here for cases with imputed ages. Age variables that were imputed are denoted by the relevant age imputation flags. The imputation flags provide information on the degree to which

complete dates existed, and hence indicate the "quality" of the imputation. Table 3.4 presents the imputation flag codes associated with the availability of complete dates. We suggest that users review the following imputation process and evaluate its usefulness against their research needs.

Table 3.5 lists the age variables for which imputations were made and their relevant imputation flags. Appendix D lists the proportion of respondents with each imputation code showing the degree to which age imputations were necessary for each variable. The proportions are based on respondents who were asked the given question. The proportion requiring no age imputation is always over 50 percent (except for "age began working" among Senior respondents) and is usually 75 to 85 percent. The most common age imputation was level 2 (one date had a missing month); the poorest imputation (level 4) occurred infrequently.

Table 3.4

AGE IMPUTATION FLAG CODE DEFINITIONS

Imputation Code	Definition	Quality
0	No imputation: exact age available or respondent was not asked this question	Excellent
1	Month and year reported for both respondent's birth date and event date, but one or both have only a range of months reported; age imputed assuming birthday occurred if reported month of one event fell in the range of the other	Good
2	Both month and year reported only for either respondent's birth date or event date; other date has only year reported; age imputed assuming event/birth date occurred mid-year if month missing	Fair
3	Only year reported for both respondent's birth date and event date; no month information reported for either; age imputed as the difference between the two year dates	Poor
4	Respondent did not report a birth date, only age at interview; event date may have month and year or just year reported; age imputed using year of birth as 88–reported age at interview and then level 2 or 3 imputation used depending on whether month of event was reported.	Poorest

Weighting Data: New and Senior Samples

Weight variables have been created for the MF22 (New Sample) and MF24 (Senior Sample) respondents. These weights account for two factors: (1) oversampling of Malaysian Indians, and (2) probability of selection for a respondent within a household. Indians (10 percent of the population) were sampled at double the rate of the other ethnic groups to ensure adequate sample sizes. Within a selected New /Senior household, there may have been more than one eligible respondent, although only one was interviewed. The weights reflect the number of eligible respondents within the household.

Table 3.5

AGE VARIABLES WITH IMPUTATIONS

File name	Age variable	Imputation flag variable
MF21ROST:	AGE: age at interview	AGE_FLG
MF22MARR:	AGEMARR: Age marriage began AGEEND: Age marriage ended	AGEM_FLG AGEE_FLG
MF22MIG:	AGEMOVE: age at move	AGEMV_FLG
MF22PREG:	AGE: age at child's birth	AGE_FLG
MF22TRN:	AGE1: age began 1st training AGE2: age began 2nd training	AGE1_FLG AGE2_FLG
MF22WORK:	AGEBEGAN: age began type of work	AGEB_FLG
MF23MARR:	AGEMARR: Age marriage began AGEEND: Age marriage ended	AGEM_FLG AGEE_FLG
MF23MIG:	AGEMOVE: age at move	AGEMV_FLG
MF23TRN:	AGE1: age began 1st training AGE2: age began 2nd training	AGE1_FLG AGE2_FLG
MF23WORK:	AGEBEGAN: age began type of work	AGEB_FLG
MF24MIG:	AGEMOVE: age at move	AGEMV_FLG
MF24WORK:	AGEBEGAN: age began type of work	AGEB_FLG

The MF22 weight variables, WWEIGHT and EWEIGHT, can be found on the MF22 summary file (MF22SUM) for the New Sample female respondents. WWEIGHT is relevant for all women age 18 to 49 (regardless of their marital status) and can be used for tabulations that desire to generalize to that population; EWEIGHT is relevant to all ever-married women under age 50 and is for analyses focusing on events occurring after marriage. These weights can be merged onto all other MF22 records using the variables CASE, SPLIT, and PERSON to link the records. The MF24 weight, SWEIGHT, is on the MF24 summary file (MF24SUM) for the Senior Sample respondents and can be linked to other MF24 files using CASE, SPLIT, and PERSON. SWEIGHT is relevant for inferences about all Malaysians age 50 or older, regardless of sex. These weights are discussed in more detail in the *MFLS-2 Overview and Technical Report.*

Unlike the MF22 respondents, there are no weights for MF23 respondents in the New Sample. MF23 respondents in the New Sample are not a random sample of all males, but rather only a sample of married males who were living with their wives (wives aged 49 or less) at the time of the interview. A few analyses based on all males, not just married ones, can be performed using males in the household roster data (MF21) and the household economy data (MF25). In such analyses, users must adjust for the oversampling of Indian Malaysians when generating tabulations that generalize to the male population. A simple weight variable can be created that equals one for everyone except those with the variable RACE equal to 3 (the code for Indians), who get a value of 0.5.

Predictions or projections based on household-level data, such as the household roster and economy data, also must correct for the oversampling of Indians. Again, a simple weight can be constructed where Indian households carry a weight of one-half and all other households carry a weight of one.

Weighting Data: Panel and Children Samples

We have not constructed weights for the Panel and Children data. The individuals in the Panel and Children data are only a subset of the original sample of MFLS-1 respondents; i.e., those who were found and successfully reinterviewed in MFLS-2. As noted in the *MFLS-2 Overview and Technical Report*, reinterviewed respondents were more likely to be Malay, to be older, and to live in rural areas. Thus, the Panel and Children data are no longer representative of men and women at large in Malaysia in 1988. Caution should be used if Panel and Children data are combined with the New and Senior samples, which are representative when weighted, to produce population-based tabulations. Multivariate

analyses that pool Panel/Children and New/Senior data will not require weighting if the analyses control for age, race, and rurality. Some users may wish to create their own weights for the Panel and Children samples based on the sampling criteria in MFLS-1 and the selectivity of follow-up in MFLS-2. These issues are discussed in more detail in the *MFLS-2 Overview and Technical Report* .

4. IDENTIFYING SAMPLES, HOUSEHOLDS AND INDIVIDUALS WITHIN MFLS-2 DATA FILES

This section discusses how to identify or locate the records for different households and types of individuals within the MFLS-2 database. The type of individuals include the MFLS-2 questionnaire respondents; Panel and Children respondents within a questionnaire; spouses, children, and other relatives of respondents; and nonrespondents to MFLS-2. The information presented in this section should help users better understand the discussion on how to link records across files presented in Section 5.

HOUSEHOLDS

Households are identified by the combination of the variables CASE and SPLIT. All records with the same values of CASE and SPLIT belong to the same household. The relationship between CASE and SPLIT differs slightly between the two main samples (New/Senior and Panel/Children) and is discussed below.

New and Senior Households

CASE is the case identifier assigned to each selected LQ (living quarters); case numbers begin at 3000 for the New and Senior sample. SPLIT indicates whether the given household is a split-off from the original case identifier (SPLIT=0). If SPLIT=1, then the household is a split-off and is considered a separate household. In the New and Senior sample, split-off households are very rare because of the sampling frame. Indeed, there are only four such cases. These cases arose only in the households selected for the New Sample. When interviewing an LQ eligible for the New Sample, interviewers were to select a person age 50 or over (if one existed) and administer MF24 as well. In the four cases where SPLIT=1 households occur, the interviewer determined that the selected MF24 respondent in the LQ lived in a separate household from the MF22 respondent, and assigned the MF24 respondent the SPLIT=1 code. An LQ may have more than one household contained within its walls; within an LQ, separate households are defined as those whose members do not eat from the same cooking pot.

The variable HHTYPE (household type), which is on all subfiles, can be used to determine if a household has only a New Sample respondent, only a Senior respondent, or has both a New and Senior respondent. Table 4.1 shows the values of HHTYPE for both the New/Senior samples and the Panel/Children samples.

Table 4.1

DEFINING DIFFERENT HOUSEHOLD TYPES BASED ON TYPE OF RESPONDENT

Sample	HHTYPE Code	Definition
Panel/Children		
	4	Panel respondent only
	5	Children respondent only
	6	Panel respondent and Children respondent
New/Senior		
	7	New respondent only
	8	Senior respondent only
	9	New respondent and Senior respondents

Panel and Children Households

For Panel and Children households, CASE represents the original case identifier from the MFLS-1 survey and ranges from 1 to 2198. SPLIT indicates whether the given household is the Panel household or the household of a selected child living elsewhere (CLE). SPLIT=0 households represent the household of the MFLS-1 respondent. If the MFLS-1 respondent was found, she appears in this household as does the selected child living at home (if one existed); if she had died or left her family and could not be located, the SPLIT=0 household contains family members still living at the same residence as in the 1976 MFLS-1 survey. In those cases, the MFLS-1 husband was interviewed if still in the household, as was the selected child living at home (if at least one eligible child existed). The SPLIT=1 and SPLIT=2 households belong to the selected CLE of the MFLS-1 respondent. Only cases with at least two eligible CLEs will have SPLIT=2 records;[8] cases with no eligible CLE will have only SPLIT=0 records.

The variable HHTYPE (household type) identifies which households have just a Panel respondent, just a Children respondent, or have both. Again, Table 4.1 lists the values of HHTYPE.

CASE and SPLIT define unique households in all but two cases. Case 2 and Case 7 were randomly chosen and interviewed in 1976 as part of MFLS-1. It turned out that the

[8]There are 15 cases where the selected children living elsewhere lived together. In such cases, only a SPLIT=1 household exists; however, each selected child was surveyed, so such households may have more than one MF22 or MF23 depending on the sex of the children and their marital status. These cases are noted in the TRACKING data section of the MFLS-2 Codebook.

households were related: The Case 7 male respondent was the son of the Case 2 respondent. When the respondents were traced for MFLS-2 in 1988, the father and son were found to be living together in one household. For MFLS-2 the son was chosen to be interviewed as the selected child living at home (i.e., in his father's house). However, since the son lived in a separate household in 1976, the son's household also was picked as a Panel household. Appendix E provides a detailed account of which instruments were administered to the two households and how the questionnaires are related across the two households.

While a household may be uniquely defined, household members may not be unique to the household. In the Panel and Children samples, about 80 individuals appear in more than one household roster (MF21ROST). The MF21 household roster includes not only those currently living in the household, but anyone who lived there for at least 3 of the past 12 months. Thus, for example, a selected CLE could appear in both the SPLIT=0 household and a SPLIT>0 household if the CLE only left his or her parent's home within the last year. A person listed on the roster who no longer lives in the household has a positive value for the variable STAYED (number of months lived in HH in last year if not present now). A similar situation could exist for any SPLIT=0 household member with STAYED>0 who left the SPLIT=0 household and turned up in the selected CLE household. To locate such individuals, users must look for individuals with either the same MFLS1 person identifier, or, for those with blank MFLS1 values, the same sex and birth date between the SPLIT=0 and SPLIT>0 households for a given CASE identifier. Matches based on sex and birth date should be checked to be sure the records are for the same individual.

MFLS-2 RESPONDENTS

The summary files for MF21–MF25 contain one record for each respondent to the given questionnaire. In the Household Roster summary file, MF21SUM, the variables CASE, SPLIT, and RESP1 (or RESP2, if RESP1 is blank) identify the respondent for the MF21 household roster, i.e., the person who answered the questions. However, the MF21 main respondent (the first person listed in MF21ROST) is the MF22 respondent, if an MF22 was administered, whether or not she is listed as the respondent on MF21SUM. In most cases, the MF22 respondent (if she exists) is listed as the MF21 respondent on MF21SUM. In the New and Senior sample (case numbers greater than 3000), the MF24 respondent (the Senior) will be the MF21 main respondent if there is no MF22 respondent in the household. In the Panel Sample (case numbers less than 3000), the MF21 main respondent is the Panel woman, if she was alive and found; otherwise the main respondent is the MF22 respondent (i.e., the MF22 respondent for the Children Sample who may either be the daughter or the

daughter-in-law of the original MFLS-1 respondent). If there is no MF22 respondent, then the main respondent to MF21 will be the son at home selected as the respondent for the Children Sample, i.e, the MF23 respondent. If there are no eligible children at home, then the husband of the original MFLS-1 respondent will be the MF21 main respondent in these cases.

For the MF22, MF23, MF24, and MF25 summary files, the variables CASE, SPLIT, and PERSON identify the respondent to the given questionnaire. The variables CASE, SPLIT, and PERSON also appear on all files for a given MF questionnaire. To find the Household Roster (MF21ROST) record for the given MF respondent, simply merge the desired file to MF21ROST by CASE, SPLIT, and PERSON.

PANEL AND CHILDREN RESPONDENTS

To determine whether a respondent to a given MF is the MFLS-1 Panel woman or is one of her selected children, users can check the value of the MFLS-1 person number (the variable is called MFLS1) listed on the MF21ROST record of the given respondent. Panel women respondents will have an MFLS-1 person number equal to 2; selected Children respondents will have an MFLS-1 person number ranging from 11 to 49 (for children living at home when MFLS-1 was fielded) or 60 to 99 (for children living away from the home when MFSL-1 was fielded). Adopted children were not eligible for the Children Sample. The Panel husband from 1976 will have an MFLS-1 person number of 1. All others in the household with positive MFLS1 codes are individuals who appeared in the MFLS-1 data either as children of the MFLS-1 respondent or other members of the 1976 household.

There were seven cases, however, where the mother or mother-in-law of the original MFLS-1 panel woman is listed as the MF22 respondent in the Panel household (SPLIT=0). In these households, the mother/mother-in-law insisted that she had answered the survey 12 years earlier and not the daughter/daughter-in-law. Interviewers went ahead and interviewed such women as the Panel respondent rather than have the entire MFLS-2 survey refused by alienating the matriarch. These cases will have an MFLS-1 person number (MFLS1) in the range 301–399. In only one of the seven cases was the original Panel woman actually interviewed, and then only as the selected child living at home. The MF22SUM section of the MFLS-2 Codebook identifies these seven cases.

RESIDENT SPOUSES OF MF RESPONDENTS

The variable SPOUSE on the respondent's MF21ROST record gives the person number of the respondent's resident spouse. Because husbands often work outside the

village, a woman can be currently married and yet her husband may not be listed in the Household Roster. In addition, because polygamy exists in Malaysia, if a husband has more than one wife, he may be living with one of the other wives and, thus, may not appear on the Household Roster. On the male side, polygamy means that a given man may have more than one wife in a household. Users should not be surprised if more than one woman in the household reports the same individual to be her spouse.

The SPOUSE variable can also be used to identify spouses of other household members listed in the roster data.

RESIDENT PARENTS OF MF RESPONDENTS

The codes in the variables MOTHER and FATHER on the MF21ROST record of the respondent represent the parent's person numbers from MF21ROST. In the case of CLEs in the Panel/Children data, the CLE's parents are in the SPLIT=0 household and have MFLS-1 identifiers of 1 (father) and 2 (mother), that is, the variable MFLS1 equals 1 or 2.

The MOTHER and FATHER variables can also be used to identify the parents of other household members listed in the roster data.

RESIDENT CHILDREN OF MF RESPONDENTS

All records in MF21ROST have the variables MOTHER and FATHER, which contain the person numbers of the individual's parents if the parents are listed in the Household Roster for that case. Resident children of the MF respondent, then, will have the MF respondent's person number listed in one of those fields. Using the MOTHER/FATHER codes is usually the best way to identify children of an MF respondent.

Users should note that MOTHER/FATHER codes represent the people the individual considers to be their parents. In the case of step or adopted children, step or adoptive parents may not be listed; many times such parents are listed but sometimes not. Users interested in step-children and adopted children as well may refer to the RELATE variable on MF21ROST. If the MF respondent is also the MF21 main respondent, step children have RELATE=4 and adopted children are RELATE=5. Unfortunately, if the MF respondent is *not* the MF21 main respondent, users cannot so easily locate step/adopted children. Users must compare how the MF respondent is related to the MF21 main respondent and look for relevant relationship codes. For example, if the MF24 respondent is the father of the MF21 main respondent, those individuals with RELATE codes of 12 (sibling) and who don't list the MF24 respondent in the MOTHER/FATHER codes will include step children and adopted children of the MF24 respondent.

The MOTHER and FATHER variables can also be used to identify the children of other household members listed in the roster data. If the MOTHER or FATHER code equals the PERSON number of the individual in question, the records that match are the children of that individual.

NONRESPONDERS FOR MFLS-2

The TRACKING data file contains all households where an interview was to be conducted. Households that completed any portion of MFLS-2 have disposition codes of 20 or 21 for the New/Senior sample and 30 or 31 for the Panel/Children sample. Households that did not respond to any MFLS-2 questionnaire appear only in the TRACKING data and have disposition codes greater than 21 for the New/Senior sample and greater than 31 for the Panel/Children sample. Such households will not appear in any of the MF subfiles.

The TRACKING data provide information on the completion status of all MF questionnaires administered to the household, for households where some portion of MFLS-2 was completed. Identifying the nonresponders to the MF22, MF23, and MF24 questionnaires within those households differs slightly between the two main samples: New/Senior and Panel/Children.

Table 4.2

IDENTIFYING POTENTIAL NEW/SENIOR MF RESPONDENTS IN MF21ROST

MF Respondent	How to Identify Potential Respondent
MF22 potential respondent	For HHTYPE=7 or 9, PERSON=1 was to be the MF22 respondent
MF23 potential respondent	For HHTYPE=7 or 9, the person listed in SPOUSE for MF22 respondent (PERSON=1) was to be the MF23 respondent
MF24 potential respondent	For HHTYPE=8 (Senior only), PERSON=1 was to be the MF24 respondent
	For HHTYPE=9, if there is only one person age 50 or over, he or she was to be the MF24 respondent; if there is more than one person age 50 or over, one cannot tell which person was selected to be the MF24 respondent

New and Senior Nonresponders

As mentioned earlier, all those who responded to a given MF questionnaire appear in the MF summary files (and their data appear in all the respective MF subfiles as well). Linking the summary records to MF21ROST by CASE, SPLIT, and PERSON identifies the respondents. Potential respondents can be located in MF21ROST as described in Table 4.2. Nonresponders are those potential respondents who have no records in their respective MF summary files.

Panel and Children Nonresponders

Whole households that could not be interviewed (i.e., not located, refused, etc.) for MFLS-2 are listed only in the TRACKING data (disposition codes of 33 through 36). However, users can link the CASE numbers of those noninterviewed households with the original MFLS-1 data to obtain household member characteristics as of 1976–1977. For households that were located, the TRACKING data indicates which MF questionnaires were completed. Disposition codes greater than 41 for a given MF indicate nonresponse; codes of 40 and 41 indicate completion or partial completion. Because more than one MF22 or MF23 could be administered to a Panel/Children sample household, there are two disposition variables each for MF22 and MF23. A code of zero means that a second MF did not need to be administered because only one eligible respondent lived in the household. Below we describe how to find the potential Panel and Children sample respondents and the potential MF22 and MF23 respondents for a household. Nonrespondents are those potential respondents whose CASE, SPLIT, and PERSON values from the roster data (MF21ROST) are not found in the MF22/MF23 summary files. Table 4.3 describes how to locate potential respondents for each Panel/Children subsample.

Table 4.3

IDENTIFYING POTENTIAL PANEL/CHILDREN MF RESPONDENTS IN MF21ROST

Sample Respondent	How to Identify Potential Respondent
Panel woman	Those with MFLS1=2 in MF21ROST are the original Panel women.
Child at home	The MFLS1 variable on the TRACKING record for the SPLIT=0 household is the MFLS-1 ID for the selected child at home. The corresponding MFLS1 value in MF21ROST identifies the Children at home respondent.
Child living elsewhere (CLE)	The MFLS1 variable on the TRACKING record for the SPLIT=1 and SPLIT=2 households is the MFLS-1 ID for each of the selected CLEs. The corresponding MFLS1 value in MF21ROST identifies the CLE.[a]
MF22	Panel women, female Children at home respondents, female CLEs, and spouses of male Children at home and of male CLE were to be administered MF22. Spouses can be identified by checking the SPOUSE variable on the male Children at home or CLE MF21ROST record.
MF23	Husbands of the Panel women and of female selected Children (at home and CLE), and male Children at home and CLE were to be administered MF23. Spouses of Panel women and of selected female Children are identified by checking the SPOUSE variable on the panel women's and female selected children's MF21ROST records.

[a]There are 15 cases where the second CLE was found to be in the same household as the first CLE. The MFLS1 values for those cases are found in the TRACKING data section of the MFLS-2 Codebook. There are about 30 or so cases where the MFLS-1 ID was not recorded for selected CLEs who could not be located.

5. LINKING MFLS-2 DATA FILES

Sections of the MFLS-2 questionnaires are stored in separate subfiles for easier handling (e.g., MF22PREG contains the pregnancy data, MF22CONT has contraception data, and MF22MIG covers moves). These data files can be linked or matched in a number of different ways to produce a variety of analysis files. In this section, we discuss some of the various ways to link the different MFLS-2 data files. The most basic linking involves linking records for a given person. Other linkages we discuss include husbands and wives, children and parents, and MF24 respondents to the MF22/MF23 respondent if they all live in the same household. We also describe how to link the MFLS-2 data of Panel and Children respondents to their MFLS-1 survey data, and how to link the community data to a respondent's record in a given file. Finally, we present a general strategy for linking past events, such as a birth with the concurrent events or characteristics (e.g., the type of water in the house).

LINKING DIFFERENT RECORDS FOR A GIVEN PERSON

The method for linking an individual's records from different files depends on who the individual is: an MF respondent, a child of the MF22 respondent, or another household member. Below we discuss how to link records from various MFLS-2 data files for the above three types of individuals.

MF22, MF23, or MF24 Respondent

The sequence of the variables CASE, SPLIT, and PERSON uniquely define an MF respondent. As noted earlier, CASE and SPLIT define the respondent's household and PERSON is the MF21 roster household member number of the respondent. To add demographic data from MF21ROST to any MF22, MF23, or MF24 file, you simply merge by CASE, SPLIT, and PERSON. The respondent's income data from MF25 can also be linked by CASE, SPLIT, and PERSON. To link files within a given MF questionnaire, e.g., MF22, you again merge by CASE, SPLIT, and PERSON. However, you can only do this if you are linking files with just one record per each respondent or if you are linking one file with multiple records per respondent to another with just one record per respondent. You cannot link two files that each have multiple records per respondent by using CASE, SPLIT, and PERSON. Linking files with multiple records per respondent is discussed below, under the subheading for linking past events.

Children of MF22 Respondent

Basically, the identifier for a child is CASE, SPLIT, and CHILD_ID. The variable CHILD_ID is found in the pregnancy history (MF22PREG) and in the children's education expenses (MF22EDEX) file. This combination can be used, for example, to link the child's birth record in MF22PREG with its education expense records (if the child is currently attending school) in MF22EDEX. The value of CHILD_ID is the same as PERSON for those children listed in the Household Roster. CHILD_ID takes on values of 50 and up for those living children who are not listed in the Household Roster. CHILD_ID is blank for children who have died. To link demographic data from MF21ROST to the child's birth record, you must create CHILD_ID in the MF21ROST data (e.g., CHILD_ID=PERSON) and then merge by CASE SPLIT CHILD_ID. Please note that *the variable PERSON in MF22PREG is the household person number of the MF22 respondent* and not the ID number of the child.

Other Household Members

As with the MF respondents, CASE, SPLIT, and PERSON each uniquely defines an individual. Information on such individuals is limited and appears only in MF21ROST Household Roster data and in the MF25 Household Economy files, MF25INC and MF25OTH. Information about resident parents of the MF22, MF23, and MF24 respondents can be found in the family background files, MF22BACK , MF23BACK, and MF24BACK. However, to link these data with the parent's MF21ROST demographic data requires matching the parent with the MF22/MF23/MF24 respondent and then linking the parent's demographic data to the family background files by the MF22/MF23/MF24 respondent's identifiers. How to match parents and children listed in MF21ROST is discussed below.

LINKING HUSBANDS AND WIVES

Users will often want to link the records of the MF22 respondent to those of her husband, the MF23 respondent (or in some cases the MF24 respondent as described below). For example, users may want to link her husband's education to each child's birth record. Such a match requires linking the MF22PREG records with the children's father's MF21ROST demographic record. However, only the mother's identifiers, CASE, SPLIT, and PERSON, appear on the MF22PREG file. One must first link the husband's MF21ROST data to that of his wife and then link that information to the MF22PREG file.

The MF21ROST record contains an identifier for the individual's resident spouse (SPOUSE). To link husbands and wives, users must split the MF21ROST file into men and women. In the male file, recode the variable SPOUSE to equal the value of PERSON, and

sort the file by CASE, SPLIT, and SPOUSE. The female file must then be sorted by CASE, SPLIT, and SPOUSE and is then linked to the male file by CASE, SPLIT, and SPOUSE. (Women with no husbands in the household will have no match to the male file.) The husband's demographic data can now be merged onto any MF22 file through the MF22 respondent's identifiers CASE, SPLIT, and PERSON. To link the wife's data to MF23 records (or, in some cases, MF24 records as described below), just reverse the process by recoding SPOUSE to PERSON in the female file. *Please note that users must rename the variables in the male file before merging with the female file; otherwise users will overwrite the woman's variable values with her husband's.*

Users of the New Sample data should be aware that for 129 cases, the husband of the MF22 respondent was administered MF24 and not MF23. The Senior Sample was to cover all persons age 50 and over in the household. In these 129 cases, the only household member age 50 or over was the MF22 respondent's husband. Because interviewers did not want to overburden the husband by administering MF23 as well, the husband in such cases was only given MF24 and was treated as ineligible for MF23 (TRACKING shows a "not applicable" code for MF23 in these cases). Thus, the husband's detailed information appears in MF24 and not in MF23 for these 129 cases. To identify these cases, users can link the SPOUSE identifier variable from the MF22 respondent's MF21ROST record to the PERSON identifier variable in the MF24 subfiles for the given household as defined by CASE and SPLIT. Those that match are the cases where the New Sample MF22 respondent's husband was given MF24 and not MF23.

As mentioned earlier, polygamy exists in Malaysia. Men may legally have up to four wives. Households with multiple wives do exist in the MFLS-2 data: There are 18 cases in the New Sample and 25 in the Panel and Children samples.[9] In some cases, the other wives do not live in the interviewed household but are listed in the husband's MF23 marriage history. In linking MF22/MF23 marriage records between husbands and wives, users must be careful to see that the correct marriage records are linked when more than one marriage record in MF23MARR has a marital status code of 1 (currently married). In addition, the last marriage record for an MF23 respondent is not necessarily the marriage to his matching MF22 respondent (if one exists). The MF23 respondent may have taken the MF22 respondent as his first wife and then subsequently married one or more women. The records for these marriages will follow that of the marriage to the MF22 respondent. Therefore,

[9]Most of these men are Malays; however, there are a few Chinese and Indian men with multiple wives.

users should exercise some caution in linking marriage records. In cases where MF23 respondents have multiple current marriages, users should match MF22 and MF23 marriage records by using marriage dates as well.

LINKING PARENTS AND CHILDREN

The MF21ROST Household Roster data contain identifiers for the resident mother and father of each household member. The variables MOTHER and FATHER represent the household member numbers of the individual's parents who are listed on the household roster. The strategy for linking parents and children depends on whether the user wants to add the parent's information to the child's record or information from the child's record to the parent's.

Linking Parents' Records to Children's

In this example we will assume that the user wants to link the MF22/MF23/MF24 respondent's parents' MF21ROST demographic information onto the MF22/MF23/MF24 respondent's record. These data can then be linked to other MF22/MF23/MF24 files (e.g., the family background files, which contain some additional information on the respondent's parents). One suggested method is to split the MF21ROST data into males and females and to make separate files containing the roster information for the MF22, MF23, and MF24 respondents. Users can link the MF22SUM, MF23SUM, and MF24SUM files to MF21ROST by CASE, SPLIT, and PERSON to create such files. Using the female MF21ROST subfile, recode the variable MOTHER to equal the value of PERSON, and rename the relevant roster variables to be added. Sort the data by CASE, SPLIT, and MOTHER and sort the respondent file by those same three variables. Merge the two files by CASE, SPLIT, and MOTHER to add the mother's demographic data to the respondent's record. (If the respondent's mother is not in the household, no data will be added.) Repeat the same process with the male MF21ROST subfile, reassigning the value of FATHER to be equal to PERSON, renaming and sorting the data accordingly.

In households where the MF24 respondent is the parent of the MF22/MF23 respondent (New/Senior data only), users may want to link the MF24 respondent with the MF22/MF23 respondents in the household. Once linked, users can then pull information from desired MF22 and /or MF23 files and then add that data to the MF24 Senior's data. The strategy here is slightly different from that suggested above. Users can take the MF24SUM file and create a variable MF24ID that is equal to the value of PERSON and then merge MF24ID onto the respondent demographic files created above containing the

MF22/MF23 respondent's roster data by CASE and SPLIT. If the variable MOTHER or FATHER code on the MF22/MF23 respondent's roster data equals the variable MF24ID, the MF22/MF23 respondent is the child of the MF24 respondent. With the newly created variable MF24ID added to the MF22/MF23 respondent's record, users can link MF22/MF23 data back to the M24 respondent through the variable MF24ID.

Linking Children's Records to Parents'

Users may wish to attach information about an MF respondent's resident children to the respondent's MF subfiles. For example, one may wish to attach the number of adult children living with the MF24 Senior to the Senior's health status record (Appendix F provides an example of such a linkage). Such a match requires collapsing data about all children into one record that can then be linked to the MF data files. A suggested strategy here is to take the desired MF summary file (e.g., MF24SUM), create a MFID variable (e.g., MF24ID) setting its value to that of PERSON, and then merge this MFID variable onto MF21ROST by CASE and SPLIT (the household identifiers). If the variable MOTHER or FATHER equals this MFID, then that household member is the child of the given MF respondent. These records can be split out to a separate file for future use, or counters can be turned on to count the number of children of desired characteristics for a given MF respondent.

Information about nonresident children can be linked in a similar manner. The MF22 pregnancy history (MF22PREG) provides some information on nonresident children (e.g., when left home, education level and enrollment, and frequency of visits). For Panel respondents, the MF20 MFLS-1 Roster Update provides some additional information on nonresident children (e.g., when left home, marital status, education, and number of children). For Senior respondents, the MF24CHLD (Children Living Elsewhere) file contains demographic information on nonresident children (e.g., age, sex, education level, and frequency of visits). In these files, unlike the MF21 Household Roster file, all records represent children of the respondent. Users can collapse the information across records with the respondent's identifying variables (CASE, SPLIT, and PERSON) and then match those aggregated data to the MF respondent.

Users may want to use just the MF21ROST data to look at other individuals and their resident children. Again the variables MOTHER and FATHER give the household member numbers for the parents of the given individual in MF21ROST. Users can count the number of MF21ROST records reporting the same MOTHER and/or FATHER codes, output those counts to a separate file, and then link back to MF21ROST to locate the mother's and father's

records, by finding the individuals with PERSON values equal to the MOTHER/FATHER codes on the children's records.

LINKING PAST EVENTS

A common form of linkage with retrospective/longitudinal data is the matching of one event with other events from the same time period. For example, users analyzing infant mortality may want to know the household's water and sanitation conditions at the time of each child's birth. Such linkages often require linking files that each contain multiple records per person, i.e., a record for each occurrence of a given event type (in this example, births and changes of residence). A simple merging of records by the respondent's identifiers CASE, SPLIT, and PERSON will not produce a file where concurrent events are linked.

We propose here a general strategy for linking concurrent events.[10] Users may develop their own strategies in accordance with their needs. The following suggested linkage strategy merely provides one example of how to link concurrent events. For illustrative purposes, we will use the above example (matching births to household water and sanitation conditions) in discussing the linkage strategy.

The strategy's objective is to locate the residence in which the woman lived when she gave birth to each child. The migration history, which contains the water and sanitation characteristics of every house where the MF22 respondent lived, must be linked to the pregnancy history using move dates and birth dates. Users must remember that because dates are not always available, ages may have to be used. Since births are the main event of interest, we suggest merging onto the birth file a record containing all the move dates and ages and the attendant migration record identifiers for a given woman. To create such a record, users must convert selected migration history information from multiple records per woman to one record per woman. The one-record-per-woman file would contain the dates and ages of each move, the sequence number for each move, and the woman's identifiers CASE, SPLIT, and PERSON. This record is then merged onto the pregnancy history using CASE, SPLIT, and PERSON, adding the same basic migration data to each pregnancy record. Once attached, the user then compares the birth date of the child to the array of move dates (or age of mother at birth to an array of ages at move, depending on what is

[10]In the case of the MFLS-1 data, a special program, RETRO, was written to handle such linkages. This program was written specifically for the MFLS-1 data structure and could not be revised for MFLS-2. The strategy presented here replaces the RETRO program. The MFLS-1 data are being restructured in the style of the MFLS-2 data and will be made available for public release. The linking strategy discussed here can be used on those restructured data as well.

available) to locate the last move occurring before the given birth. We suggest that users convert month/year dates into standard month dates (i.e., the number of months from January 1, 1900—(year*12) + month) for easier comparison. If the month information only gives a range, such as January–April, users can chose to assign, say, March as a midpoint. When only ages of moves or ages at birth are available, users may compare ages instead of dates, or may choose to impute an event date based on the respondent's birth date and her or his age at the event.[11] Once a match had been made, the user then keeps the sequence number of that move and drops all the other migration information added. The pregnancy history data can then be sorted by CASE, SPLIT, PERSON, and the migration history sequence number and linked to the migration history to add the desired household characteristics. In Appendix G we present a simple example of the SAS programming code that would produce such a linkage. The example is for illustrative purposes only and is not intended to be the suggested linkage algorithm. The program example in Appendix G can be used as a guide to linking jobs and births, jobs and marriages, moves and marriages, and so on.

LINKING MFLS-2 AND MFLS-1 DATA

The MFLS-2 survey administered complete retrospective histories (MF22 and MF23) to all Panel and Children respondents. Information about events occurring prior to 1976 was collected again in addition to information about events occurring between 1976 and 1988, the year of the MFLS-2 survey. Users may wish to link data collected in MFLS-1 to that collected in MFLS-2 for a variety of reasons. Three such reasons are (1) to update the MFLS-1 data to include events that occurred since 1976, (2) to augment the MFLS-2 data with information collected in MFLS-1 (e.g., compare reported income/assets in 1976 with income/assets reported in 1988), and (3) to check recall of events (i.e., compare responses given in 1976 about events occurring before and in 1976 to responses in 1988 about those same pre-1977 events). The first two reasons simply involve locating the records for the same person/household appearing in both files. The third reason requires a more complex MFLS-2-to-MFLS-1 linkage to match specific events reported in both files.

[11]For example, a woman born in August 1955 reports a move at age 20. The move, then, occurred between August 1975 and July 1976. If one assumes the move occurred mid-way in that interval, an imputed move date of February 1976 could be used.

Locating Records for Same Person/Household in MFLS-1 and MFLS-2

The variable CASE in MFLS-2 is the same as the MFLS-1 survey case identifier. Household information from MFLS-1 pertains to the Panel household (SPLIT=0) in MFLS-2. The variable called MFLS1 is the same as the person identifier in the MFLS-1 survey data. The variable MFLS1 is found in MF21ROST for those MFLS-1 family members present at the MFLS-2 survey, and in MF20CHLD/MF20OTH for all children and household members, present or not, from panel households that were found. When reading the MFLS-1 survey data, users should call the person identifier variable MFLS1 to match the nomenclature of the MFLS-2 survey data.

To locate MFLS-1 data for an MFLS-2 Panel/Children respondent, users need to look for records in the MFLS-1 survey data with the same CASE and MFLS1 combination. Unlike the MFLS-2 data, the person identifier for MFLS-1 is not on the individual MFLS-1 survey records. Person identifiers in the MFLS-1 survey data appear only on the summary cards for each MFLS-1 questionnaire. Users, therefore, must attach that information from the summary cards to the desired MFLS-1 records. To match household-level information, on the other hand, the variable CASE, which appears on all MFLS-1 data records, is sufficient.

Linking Events Between MFLS-1 and MFLS-2

While the variables CASE and MFLS1 can be used to locate the MFLS-1 records for an MFLS-1 Panel/Children respondent, no such simple method exists when matching events reported in MFLS-1 with the event's "re-report" in MFLS-2. The sequence/event numbers from MFLS-1 will not necessarily map into those reported in MFLS-2, e.g., the pregnancy event numbers reported in 1976 may not reflect the same order of pregnancies reported in 1988 if the woman recalled in 1988 more pregnancy losses prior to 1976 or forgot a child that died a long time ago. Users must try linking by dates as well as by CASE and MFLS1. Linking by dates poses problems as well since a respondent may report an exact date in one survey and only an age or partial date in the other, or the respondent may report different dates in the two surveys for the same event. Users must work out strategies to perform such event linkages (e.g., date matching rules) in accordance with their research objectives.

LINKING MFLS COMMUNITY AND DISTRICT DATA TO MFLS HOUSEHOLD-LEVEL DATA

The MFLS-2 community data consists of three files: the MF26 community-level file, the MF27 community-level file, and a district-level file. The two community-level files contain a wide variety of information about the 398 Enumeration Blocks (defined by the

variables EB and EBSECT[12]) from which the New and Senior samples were drawn, as well as similar information about the original 52 sampling areas (defined by the variable PSU) covered in MFLS-1. Some of the information in the MF27 file overlaps that in the MF26 file. A discussion of the contents of the two community-level data files can be found in the *MFLS-2 Codebook* in the "Community Data" section and in the *MFLS-2 Survey Instruments* report. The district-level file contains information on all of the districts (78) in Peninsular Malaysia. Some community-level data refer to the time of the MFLS-2 survey; other community-level data provide information on when particular facilities began operations and can be used in conjunction with retrospective information in other MF questionnaires. District-level data contain historical as well as current information. The methods of linking community/district data to MFLS-2 subfiles depend on whether contemporaneous or retrospective community/district data are to be added.

Merging MF26EB and MF27COMM

The variable SERIALNO, with values 1 to 450, represents the same community in both MF26EB and MF27COMM. Thus, the simplest way to merge MF26EB and MF27COMM is by SERIALNO.

Linking Community Data to Recent Events

New and Senior data: The variables EB and EBSECT provide the link between the community data and recent events (i.e., since the respondents moved to their current residence). The variables EB and EBSECT can be found on the MF summary files and can be added to subfiles within an MF by CASE, SPLIT, and PERSON. Users can extract the EB-based records in MF26 and MF27 by selecting records where EB is less than 9999999 (PSU records have EB=9999999). After sorting all desired files by EB and EBSECT, users can then link files to the community data by EB and EBSECT. To add district-level data, users can either add the variable DISTRICT from the TRACKING data using CASE and SPLIT, or use the DISTRICT variable in the community-level file if community-level variables are also added. Users then simply merge in the district-level data by DISTRICT after sorting relevant files by DISTRICT.

[12]Enumeration Block identifiers consist of two parts: EB, the main area identifier, and EBSECT, a character variable denoting the relevant sector of that area identifier. To link Enumeration Block-level information, users must match data by EB and EBSECT together.

Panel and Children data: The process to add community data to Panel and Children data is not as straightforward. Because the PSUs are no longer used as sampling areas, the MFLS-2 field staff used maps for MFLS-1 fieldwork to find the areas contained in the original 52 PSUs from MFLS-1. These PSU-level data, then, are only valid for Panel households (SPLIT=0) that did not move after 1976 (i.e., those for which the last record in MF22MIG/MF23MIG has a move date before 1976). For such cases, community data can be linked using PSU. PSU records in MF26 are extracted by selecting those records with PSU < 999999 (EB records have PSU=999999). *However, for those Panel households that have moved and for the Children Living Elsewhere (CLE) sample, the only available contemporaneous community data are at the district level*. The district of residence in 1988 is found in the TRACKING data. This variable, DISTRICT, can be linked to other Panel/Children files by CASE and SPLIT.[13] Once current district is added, sort the files by DISTRICT and link the files with the district-level file.

Linking Community Data to Past Events

Events that occurred before New and Senior respondents moved to their current residence or before Panel and Children respondents moved to their residence at the time of MFLS-1 can only be linked to the district-level community data. The migration histories record district and state of residence at previous points in time past. Users can easily link the district-level community data file (created as explained above) with the migration histories. Sort the migration histories by DISTRICT and link to the district-level file. Once the district-level data have been added to the migration histories, the migration data can then be linked to any other file using the method described earlier in the subsection titled "Linking Past Events." This method applies to all samples, New/Senior and Panel/Children. In the migration data, the location of pre-1980 moves was assigned to the 1980 district structure. Thus, if a person lived in a town B in district A in 1950, and in 1980 district A had split into districts A1 and A2, with town B now located in district A2, the person was assigned the new A2 district code.

To merge district data onto MFLS-2 household subfiles other than migration and tracking, users must first merge the current location's district code found on the tracking file

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[13]Users must be careful when adding the current district code from TRACKING to the migration histories. The migration histories already contain a variable called DISTRICT, the district associated with a given move (MF23 and MF24) or change of residence (MF22). If using the SAS versions of MFLS-2, users must rename one of the district variables before merging.

to the appropriate MFLS-2 subfile. Since DISTRICT is a household-level variable, users can link the tracking data to other subfiles using the variables CASE and SPLIT to match households.

Linking MFLS-1 Community Data to MFLS-2 Data

The variable PSU links the 1976 MFLS-1 community data, found in the MFLS-1 instrument MF11, to the 1988 MFLS-2 data. The PSU codes from MF11 map directly into the PSU codes on the MFLS-2 community-level data, MF26EB, and MF27COMM, and into the PSU codes on the MFLS-2 summary and tracking subfiles for the Panel and Children households.

6. CONNECTIONS AMONG THE MFLS-2 SUBFILES

A feature of the MFLS-2 database is the interrelatedness of the various data subfiles. The same information may appear in more than one file, and events or individuals mentioned in one file may appear with more detail in another file. Users should be aware of these relationships for several reasons. First, users can avoid double-counting items such as the value of gifts and inheritances, which may appear in several parts of a questionnaire. Second, users can augment information in one file with data from another, such as linking roster information on respondent's parents to the data about parents that is found in the family background subfile. Third, responses that may seem odd or confusing in one file can often be clarified by information from other files: The response may be substantiated or refuted by the corroborating data. In this section, we discuss some of the major connections between subfiles; however, we cannot present all possible connections. Thus, we highly recommend that users thoroughly review the questionnaires, question lists, and interviewer instructions.

INFORMATION ON CHILDREN ACROSS FILES

Children listed in the pregnancy history (MF22PREG) can be found in various other files. Those children with the MF22PREG variable WHERENOW=1 (meaning that they currently live in the MF22 respondent's household) will appear in the MF21ROST data where their marital status and education information can be found. The variable CHILD_ID is the MF21ROST person number for these children. A few children with WHERENOW=2 (meaning the child lives elsewhere in Malaysia) can also be found in MF21ROST. These are children with CHILD_ID codes less than 50 and are children who were in the household within the last year but are not there at interview. Children listed in MF22EDEX (education expenses) who have CHILD_ID codes of less than 50 (i.e., lived in the household in the last 12 months) can be found in MF21ROST as well as in MF22PREG;[14] those children with CHILD_ID codes of 51 or more (i.e., the did not live in the household for at least 3 of the last 12 months) are found only in MF22PREG (if they are the respondent's biological children) .

[14]In a few cases, step–children or adopted children may be listed in the education expenses file. Records in the education expenses subfile represent all of the female respondent's children attending school and not just her biological children.

Children of the Panel woman can also be found in the MF20CHLD (those age 18 or over in 1988) and MF20OTH (those born between 1971 and 1976) files. These files provide marital status, education, and fertility information for those MFLS-1 children who were not selected for interview and were not living in the panel household. Much information exists for those MFLS-1 children selected as the child at home or as the CLE, because they completed MF21, MF22/MF23, and MF25. Linking a Panel woman and her selected children was discussed earlier.

The files suffixed HC1 and HC2 provide information about help given to (HC1) and received from (HC2) nonresident adult children of the MF22 and MF24 respondents. For MF22 respondents, information about nonresident adult children exists in MF22PREG and, as mentioned above, in MF20CHLD for Panel MF22 respondents. For the Senior Sample, the MF24CHLD file provides information about grown children living outside the Senior respondent's household.

INFORMATION ON RESPONDENTS' PARENTS ACROSS FILES

The family background section of the MF22/MF23 questionnaires collected information on the respondent's parents. For those respondents living with their parents, additional information is available in MF21ROST, as discussed earlier. The "help for/from parents" files (HP1 and HP2 files) provided information on transfers between the respondent and nonresident parents. Again, the family background section provides information about those nonresident parents that can be linked to those transfer data.

In New and Senior households that have both an MF22 and MF24 respondent, (HHTYPE=9), the selected Senior respondent is often the parent/parent-in-law of the MF22 or New Sample respondent. Users can compare information supplied by the child about the parent against the parent's own responses and vice versa. For example, one can compare the education level of the child as reported by the parent to that reported by the child (i.e., the MF22/MF23 respondent). The MF24HLTH file contains information on help with medical expenses, and the "help to parents" file for the MF22 (or MF23 if the parent-in-law is the Senior respondent) contains information on money given to parents, which includes help with medical expenses. In addition, the "help from children" file (MF24HC2) may also include that same money given by nonresident adult children for the Senior respondent's health expenses.

Additional information about the Panel and Children respondents' parents may appear in MF20OTH if the parent was in the original MFLS-1 household in 1976. MF20OTH provides the date of the parent's death if the parent died and the date the parent left the

MFLS-1 household and current district of residence if living elsewhere. Again, for the selected children, a wealth of information about their parents can be found in the Panel woman's and her husband's records.

INFORMATION ON CURRENT INCOME ACROSS FILES

The MF25 household economy questionnaire asked about earnings (MF25INC) and non-earned income (MF25OTH) received over the past 12 months by household members aged 15 and older. The work histories of the MF22 and MF23 respondents also provide information on their recent earnings. If the respondent is currently working, the last job listed in the work history should match one of the income earning activities listed in MF25INC for that individual (CASE, SPLIT, and PERSON are the identifiers). Indeed any job held within the last 12 months that is listed in the job history should show up in the MF25INC file as well.[15] If a parent died in the last 12 months, inheritances from that deceased parent may appear in both MF25OTH and the MF22/MF23 family background files. Money received from parents or children in the last 12 months may appear in both MF25OTH and in the "help from parents" file (HP2 suffixed files) or "help from children" file (HC2 suffixed files). Help with education expenses reported in MF22EDEX may also turn up in the MF25OTH, HP2, or HC2 files depending on who helped pay those expenses.

RELATED INFORMATION ABOUT HUSBANDS AND WIVES ACROSS FILES

A great strength of the MFLS-2 database (and MFLS-1 as well) is the ability to evaluate the responses of husbands and wives (i.e., MF22 and MF23 respondents) against each other. Here are but a couple of examples: Users can check the wife's marital history against her husband's, not only to check agreement of marriage dates, but also to check on whether the husband has other existing marriages. These other marriages may affect the time the husband spends with the respondent. Similarly, users can compare the migration histories to check dates of moves occurring after the couple's marriage. Husbands may be seen moving to a new district and at the same time the wife moves back to her home district, or husbands move and wives follow later. The earlier discussion of linking husbands and wives and linking past events provides insights about how to make such comparisons.

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[15]A small number of cases exist where the last job in the work history does not appear in MF25INC or vice versa. These cases were checked against recording forms to see if records had been lost during data entry. The recording forms showed that the current job of the individuals was not listed on the MF25 questionnaire.

Appendix A

DESCRIPTION OF MFLS-2 SUBFILES

Table 3.2 provided a quick reference list of the MFLS-2 subfiles related to each MF questionnaire, MF20 to MF25. The following MFLS-2 subfile descriptions present each subfile's unit of observation, the number of observations for each main database (New/Senior, Panel/Children), and the identifiers for each observation. Some respondents only partially completed their MF questionnaire. Therefore, the number of observations for a given questionnaire section may be less than the total number of respondents. For example, there are 2,184 New Sample MF22 respondents, but only 2,181 of them completed the family background section, MF22BACK.

Some files contain multiple records, or events, per respondent. For example, MF22PREG, the pregnancy history, has one record for each pregnancy event; if a woman had five pregnancies, her values of CASE, SPLIT, and PERSON would appear five times in the file. Subfiles with multiple events per respondent contain an additional identifying variable that represents the sequence number of the event. Following the above example, the variable EVENTNO identifies a specific pregnancy belonging to a given woman. The descriptions below note which files contain multiple records per respondent and give the identifiers for both the respondent and the event. Subfiles are sorted by those given identifiers.

The descriptions below note which questionnaire sections and question numbers are contained in the file. Subfile descriptions are grouped together by questionnaire and listed in the order in which they appear in the MFLS-2 Codebook.

TRACKING SUBFILE

DATA:	**TRACKING**	Family Tracking
UNIT OF OBS:	Household	
NUMBER OF OBS:	4,557 (New and Senior)	2,209 (Panel and Children)
IDENTIFIERS:	CASE SPLIT	

New and Senior: Contains one record for each household to be interviewed on LIST A (New and Senior households) and LIST B (Senior only households). Provides information on disposition of interview, completion status of individual questionnaires, the number of eligible household members for MF22 and MF24, the Enumeration Block and district of current residence.

Panel and Children: Contains one record for each of the original 1,262 households from MFLS-1 plus a record for each household containing a selected child living elsewhere (CLE). There can be up to 2 CLE households per original MFLS-1 household. Provides information on disposition of interview, completion status of individual questionnaires, MFLS-1 identifier of the selected child in the household, the number of eligible children living with the MFLS-1 respondent and the number living elsewhere, the PSU identifier of the original MFLS-1 household, and the district of current residence.

MF20 1976 MFLS–1 FAMILY UPDATE SUBFILES

DATA: MF20SUM MF20 Summary

UNIT OF OBS: Household

NUMBER OF OBS: 926 (Panel and Children)

IDENTIFIERS: CASE

Contains one record for each reinterviewed MFLS-1 household. Provides information on the number of records for each MF20 questionnaire section, language of interview, and ethnicity as coded in MFLS-1.

DATA: **MF20CHLD** Children Eligible for Children Sample

UNIT OF OBS: Eligible Child

NUMBER OF OBS: 3,032 (Panel and Children)

IDENTIFIERS: CASE (identifies household)

CASE MFLS1 (identifies eligible child)

Contains one record for each child of the MFLS-1 respondent who is at least 18 years old in 1988. Provides information on the current status of the child (alive or dead) and where they live. If not living with MFLS-1 respondent, provides information on when the child left the MFLS-1 household, their education level, marital status, and number of children. If dead, provides date of death. Education, marital status, and offspring were not recorded for those living with the MFLS-1 respondent since MF21 provides that information.

DATA: **MF20OTH** Other MFLS-1 Family Members

UNIT OF OBS: Other Family Member

NUMBER OF OBS: 3,637 (Panel and Children)

IDENTIFIERS: CASE (identifies household)

CASE MFLS1 (identifies household member)

Contains one record for each non-child member of the original MFLS-1 household and children who are not eligible for the Children Sample. This includes the MFLS-1 respondent and her husband, parents, siblings, other relatives, and children who would be under age 18 in 1988. Provides information on current status and location. For those still alive and for those no longer living with the MFLS-1 respondent, provides information on when they left the household and where they went. If dead, date of death is provided.

MF21 HOUSEHOLD ROSTER SUBFILES

DATA:	**MF21SUM**	Household Summary
UNIT OF OBS:	Household	
NUMBER OF OBS:	2,917 (New and Senior)	1,523 (Panel and Children)
IDENTIFIERS:	CASE SPLIT	

Contains one record for each household actually interviewed. Provides information on the number of MF21ROST records per household, date of interview, language of interview, length of interview, respondent identifiers, whether others were present at interview, and the final disposition of the interview.

DATA:	**MF21ROST**	Household Roster
UNIT OF OBS:	Household member	
NUMBER OF OBS:	15,371 (New and Senior)	8,447 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each household member for those households actually interviewed. Provides information on sex, date of birth, age, marital status, education for each household member, relationship to MF21 main respondent, and identifiers for resident spouses and parents.

MF22 FEMALE LIFE HISTORY SUBFILES

DATA:	**MF22SUM**	MF22 Summary
UNIT OF OBS:	MF22 Respondent	
NUMBER OF OBS:	2,184 (New)	1,676 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON (MF22 respondent)	

Contains one record for each MF22 respondent interviewed in each household. Provides household member I.D. (PERSON) for MF22 respondent, information on the number of MF22 subfile records per MF22 respondent, date of interview, language of interview, length of interview, respondent identifier, whether others were present at interview, the final disposition of the interview, and the EB/PSU identifiers. For the New Sample, this file also contains the weight variables WWEIGHT and EWEIGHT.

DATA: **MF22MARR** Marriage History (Q. A1–A7)

UNIT OF OBS: Marriage

NUMBER OF OBS: 2,302 (New) 1,867 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON (MF22 respondent)

CASE SPLIT PERSON MARR_NUM (identifies a given marriage)

Contains one record for each marriage outcome. Provides information on the total number of marriages, age at and date of each marriage, outcome of each marriage (i.e., continuing, divorced, separated, widowed), date at outcome of marriage, and occupation of spouse for all previous marriages. Women who have never been married have one record with NMARR=0 and MARR_NUM=0 (i.e., number of marriages is zero and marriage history sequence number is zero).

DATA: **MF22PSUM** Pregnancy Summary (Q. B1–B6)

UNIT OF OBS: Ever-married MF22 Respondent

NUMBER OF OBS: 1,846 (New) 1,446 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each ever-married MF22 respondent. Provides summary information on the number of the respondent's own children in the household and outside the household, the number who died, the number of nonlive births, whether the woman is currently pregnant, and the total number of pregnancies. Multiple births are treated as separate events in the number of pregnancies.

DATA: **MF22PREG** Pregnancy History (Q. B7–B33)

UNIT OF OBS: Pregnancies (for ever-married women only)

NUMBER OF OBS: 8,933 (New) 8,753 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON (MF22 respondent)

CASE SPLIT PERSON EVENTNO (identifies a given pregnancy)

Contains one record for each pregnancy for every ever-married MF22 respondent. Provides information on pregnancy outcome and duration, date and age at outcome, sex of child, multiple births, source of antenatal care, birthweight, place of birth and birth attendant, child's current whereabouts, educational status for children not in the household, breastfeeding, and length of postpartum amenorrhea. All respondents have a blank record with EVENTNO=0 that corresponds to the interval between first marriage and first pregnancy. Respondents who have had no pregnancies by the time of interview have only the one record with EVENTNO=0.

DATA: **MF22CONT** Contraceptive Use History (Q. C1–C13)

UNIT OF OBS: Pregnancy Interval (for ever married women only)

NUMBER OF OBS: 8,933 (New) 8,753 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON (MF22 respondent)

CASE SPLIT PERSON EVENTNO (identifies a pregnancy interval)

Contains one record for each pregnancy interval, beginning with the interval between marriage and the first pregnancy, for every ever-married MF22 respondent. Provides information on use ever before and current use of contraception, contraceptive use in each interval, method used, where the method was obtained, reasons for discontinuing use, and whether the couple lived separately in the interval. Interval dates are on the matching MF22PREG record (link by CASE, SPLIT, PERSON, EVENTNO). Respondents with no pregnancies will have one record representing the interval since first marriage.

DATA: **MF22MENS** Menstruation/Desire For Children (Q.D1–D7)

UNIT OF OBS: Ever-married MF22 Respondent

NUMBER OF OBS: 1,846 (New) 1,446 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each ever-married MF22 respondent. Provides information on age at menarche, age at menopause (if applicable), sterility, ability to have more children, desire for more children, total number desired, and whether the respondent is trying to become pregnant.

DATA: **MF22CARE** Child Care (Q.E1–E4)

UNIT OF OBS: Ever-married MF22 Respondent

NUMBER OF OBS: 1,845 (New) 1,443 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each ever-married MF22 respondent. Provides information on current child care for women with children under the age of six at the time of the interview. Child care information includes type of child care helper, hours per week, and amount paid for each type of child care. MF22CARE records are blank for women with no children under age six.

DATA: **MF22EDEX** Children's Educational Expenses (Q. E6–E10)

UNIT OF OBS: Children of the MF22 Respondent enrolled in school

NUMBER OF OBS: 3,533 (New) 2,670 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON (MF22 respondent)

CASE SPLIT PERSON CHILD_ID (identifies child)

Contains one record for each child attending school at the time of the interview: A blank record exists for ever-married women with no children in school. Provides information on education expenses and sources of educational funding (scholarships, loans, and payments from others) for each child. The sample includes children who are away at school and not

currently residing in the household as well as children living at home. Children listed may include those who are adopted or step-children of the respondent. For children living with the MF22 respondent, CHILD_ID is the MF21ROST person number; for children living elsewhere, CHILD_ID is 50 plus EVENTNO from the child's record in MF22PREG. Children attending preschool tended to be excluded because of lack of expenses. A child may be listed more than once. In a few cases, the respondent reported annual expenses separately from monthly expenses rather than combining the two into one amount. For example, the woman may have reported an annual tuition of 200 ringgit and monthly expenses of 50 ringgit.

DATA:	**MF22ED**	Education (Q. F1–F6)
UNIT OF OBS:	MF22 Respondent	
NUMBER OF OBS:	2,184 (New)	1,675 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF22 respondent. Provides information on literacy and languages, level of schooling, who the respondent lived with during secondary and college education, and who paid for secondary and college education.

DATA:	**MF22TRN**	Training (Q. F7–F12)
UNIT OF OBS:	MF22 Respondent	
NUMBER OF OBS:	2,184 (New)	1,676 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF22 respondent. Provides information on the number of training programs attended and, for the two longest programs, the type of training, when training began, how long training lasted, whether training was full-time or part-time, and who paid for the training.

DATA:	**MF22MIG**	Migration History (Q. G1–G9)
UNIT OF OBS:	Changes of Residence	
NUMBER OF OBS:	9,904(New)	7,255 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON (MF22 respondent)	

CASE SPLIT PERSON MIG_NUM (identifies a move)

Contains one record for each residence of the MF22 respondent since age 15 plus where she was born and where she lived at age 15. Provides information on the date and age the move occurred, the district and state to which she moved, the type of place to which she moved, and the sources of water and toilet facilities available in the house to which she moved for all residences except residence at birth. Women who did not change residences since age 15 will have only two records, one for her residence at birth and one for her residence at age 15.

DATA: **MF22WORK** Work History (Q. H1–H12)

UNIT OF OBS: Type of Work

NUMBER OF OBS: 3,903 (New) 2,930 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON (MF22 respondent)

CASE SPLIT PERSON JOB_NUM (identifies a type of work)

Contains one record for each type of work an MF22 respondent has held. Provides information on occupation, type of worker (paid employee, self-employed, employer, unpaid family worker), when type of work began and how long it lasted, monthly earnings at start and end of that type of work, type of in-kind payment (if applicable), full time/part time for week and for year, reasons for not working if currently unemployed, and whether she received paid maternity leave. Those who have never worked will have one record in the data, with JOB_NUM=0, that provides her reason for not working. Occupation is at the two-digit level. Some type-of-work changes were at the three-digit level (e.g., padi worker to rubber tapper). Such changes result in a new work history record; however, the occupation code does not change. Changes in work status within a type of work are also treated as new records.

DATA: **MF22BACK** Family Background (Q. I1–I13)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 2,181 (New) 1,675 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent. Provides family background information on her religion; number of older and younger living siblings, each parent's age, occupation, and education; with whom her parents live and how often she sees them; parental health; how long ago parents died (if dead) and what kind and amount of inheritance she received.

DATA: **MF22HP1** Help Given To Parents (Q. J1–J3)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 2,182 (New) 1,676 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent. Provides information on help she provides to her own parent(s) if at least one parent does not live with her. Asks whether she has provided help with money, food, housework, or business/farm in the last 12 months, and if so, the number of years she has helped with each type of help, how often she helps, and the value of that help (if help with money or food). MF22HP1 records are blank for those MF22 respondents whose parents are dead or living in the household.

DATA: **MF22HP2** Help Received From Parents (Q. J5–J8)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 1,602 (New) 1,017 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent who has at least one parent living outside her household. Provides information on the kinds of help she has received from her parent(s) in the last 12 months; whether she received money or food, help with housework, child care, or business; and how long she has received each type of help, how frequently, and the value of that help (if helped with money or food).

DATA: **MF22HC1** Help Given To Grown Children (Q. J10–J13)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 2,182 (New) 1,676 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent. Provides information on help she provides to children who are over age 18 and do not live with her. Asks whether she has provided help with money, food, child care, housework, or business/farm in the last 12 months, and if so, the number of years she has helped with each type of help, how often she helps and the value of that help (if helped with money or food). The MF22HC1 record is blank for MF22 respondents who have no grown children living elsewhere.

DATA: **MF22HC2** Help Received From Grown Children (Q. J14–J17)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 257 (New) 603 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent who has at least one child over the age of 18 living outside the household. Provides information on the kinds of help she has received from any of these children in the last 12 months. Asks whether she received money or food, help with housework, child care, or business, and how long she has received each type of help, how frequently, and the value of that help (if helped with money or food).

DATA: **MF22EVAL** Evaluation of MF22 Interview Q.K1–K2)

UNIT OF OBS: MF22 Respondent

NUMBER OF OBS: 2,182 (New) 1,675 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF22 respondent. Provides subjective information on how interested the respondent seems in the interview and the overall reliability of the respondent's answers to the MF22 questionnaire. Information is provided by the interviewer.

MF23 MALE LIFE HISTORY SUBFILES

DATA:	**MF23SUM**	MF23 Summary
UNIT OF OBS:	MF23 Respondent	
NUMBER OF OBS	1,513 (New)	1,550 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF23 respondent interviewed in each household. Provides information on the number of MF23 subfile records per respondent, date of interview, language of interview, length of interview, respondent identifier, whether others were present at interview, the final disposition of the interview, and the EB/PSU identifiers.

DATA:	**MF23MARR**	Marriage History (Q. A1–A7)
UNIT OF OBS:	Marriage	
NUMBER OF OBS:	1,622 (New)	1,804 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON (MF23 respondent)	

CASE SPLIT PERSON MARR_NUM (identifies a given marriage)

Contains one record for each marriage outcome. Provides information on the total number of marriages, age at and date of each marriage, outcome of each marriage (i.e., continuing, divorced, separated, widowed), date at outcome of marriage, and the number of biological children from each marriage except the current one. Men who have never been married (only found in Children Sample) have only one record with NMARR=0 and MARR_NUM=0. Ever-married men will have no MARR_NUM=0 record.

DATA:	**MF23ED**	Education (Q. B1–B6)
UNIT OF OBS:	MF23 Respondent	
NUMBER OF OBS:	1,513 (New)	1,550 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF23 respondent. Provides information on literacy and languages, level of schooling, who respondent lived with during secondary and college education, and who paid for secondary and college education.

DATA:	**MF23TRN**	Training (Q. B7–B12)
UNIT OF OBS:	MF23 Respondent	
NUMBER OF OBS:	1,513 (New)	1,550 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF23 respondent. Provides information on the number of training programs attended, and for the two longest programs, the type of training, when training began, how long training lasted, whether training was fulltime or part-time, and who paid for the training.

DATA:	**MF23MIG**	Migration History (Q. C1–C7)
UNIT OF OBS:	Inter-district Moves	
NUMBER OF OBS:	6,709 (New)	5,815 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON (MF23 respondent)	

CASE SPLIT PERSON MIG_NUM (identifies a move)

Contains one record for each time the MF23 respondent moved to a different district since age 15 plus where he was born and where he lived at age 15. Provides information on the date and age the move occurred, the district and state where he moved, and the type of place to which he moved. Those who have not changed districts since age 15 will have only two records, one for his residence at birth and one for his residence at age 15. Water and sanitation sources were not collected for the MF23 respondent. For 54 respondents, intra-district moves were accidentally recorded for the first move after age 15, i.e., the district for the first move listed after the age 15 residence is the same as at age 15. Users may drop these records.

DATA:	**MF23WORK**	Work History (Q. D1–D10)
UNIT OF OBS:	Type of Work	
NUMBER OF OBS:	4,924 (New)	4,678 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON (MF23 respondent)	

CASE SPLIT PERSON JOB_NUM (identifies a type of work)

Contains one record for each type of work MF23 respondent has held. Provides information on occupation, type of worker (paid employee, self-employed, employer, unpaid family worker), when type of work began and how long it lasted, monthly earnings at start and end of type of work, type of in-kind payment (if applicable), full time/part time for week, term of employment, and reasons for leaving work for each previous job and for not working if currently unemployed. Those who have never worked will have one record in the data, with JOB_NUM=0, that provides his reason for not working. Occupation is at the two-digit level. Some type-of-work changes were at the three-digit level (e.g., padi worker to rubber tapper). Such changes result in a new work history record; however, the occupation code does not change. Changes in work status within a type of work are also treated as new records.

DATA:	**MF23BACK**	Family Background (Q. E1–E13)
UNIT OF OBS:	MF23 Respondent	
NUMBER OF OBS:	1,513 (New)	1,550 (Panel and Children)
IDENTIFIERS:	CASE SPLIT PERSON	

Contains one record for each MF23 respondent. Provides family background information on his religion; number of older and younger living siblings; each parent's age, occupation, and education; with whom parents live and how often he sees them; parental health; and how long ago parents died (if dead) and what kind and amount of inheritance he received.

DATA: **MF23HP1** Help Given To Parents (Q. F1–F3)

UNIT OF OBS: MF23 Respondent

NUMBER OF OBS: 1,512 (New) 1,550 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF23 respondent. Provides information on help he provides to his own parent(s) if at least one parent does not live with him. Asks whether he has provided help with money, food, housework, or business/farm in the last 12 months, and if so, the number of years he has given each type of help, how often he helps, and the value of that help (if help with money or food). The MF23HP1 record is blank for MF23 respondents whose parents are dead or living in the household.

DATA: **MF23HP2** Help Received From Parents (Q. F5–F8)

UNIT OF OBS: MF23 Respondent

NUMBER OF OBS: 1,135 (New) 738 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF23 respondent who has at least one parent living outside his household. Provides information on the kinds of help he has received from his parent(s) in the last 12 months; whether he received money or food, help with housework, child care, or business; and how long he has received each type of help, how frequently, and the value of that help (if helped with money or food).

DATA: **MF23EVAL** Evaluation of MF23 Interview (Q.G1–G2)

UNIT OF OBS: MF23 Respondent

NUMBER OF OBS: 1,513 (New) 1,550 (Panel and Children)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF23 respondent. Provides subjective information on how interested the respondent seemed in the interview and the overall reliability of the respondent's answers to the MF23 questionnaire. Information is provided by the interviewer.

MF24 SENIOR LIFE HISTORY SUBFILES

DATA: **MF24SUM** MF24 Summary

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON (MF24 respondent)

Contains one record for each MF24 respondent interviewed in each household. Provides information on the number of MF24 subfile records per respondent, date of interview, language of interview, length of interview, respondent identifier,whether others

were present at interview, the weight variable SWEIGHT, the final disposition of the interview, and the EB identifier.

DATA: **MF24MARR** Marriage History (Q. A1–A5)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on the total number of marriages; current marital status; years married if currently married, and years divorced, widowed, or separated if not; and, for female respondents who are not currently married, the occupation of previous spouses.

DATA: **MF24CHLD** Children Living Elsewhere (Q. B1–B7)

UNIT OF OBS: Children Living Elsewhere

NUMBER OF OBS: 4,755 (Senior)

IDENTIFIERS: CASE SPLIT PERSON (MF24 respondent)

CASE SPLIT PERSON EVENTNO (identifies child)

Contains one record for each child of the MF24 respondent who lives outside the Senior's household. Provides information on the child's sex, age, education, and frequency of visits by the child. Seniors with no children living elsewhere will have one record with NELSE=0 (number of children living elsewhere is zero).

DATA: **MF24LANG** Literacy/Language (Q. C1–C3)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on the Senior's literacy, specifically, which languages the Senior can speak, read, and/or write. Unlike MF22ED/MF23ED, this file contains no information on education level or past education experiences. Senior's education level is on the household roster, MF21ROST.

DATA: **MF24MIG** Migration History (Q. D1–D6)

UNIT OF OBS: Interdistrict Moves

NUMBER OF OBS: 4,316 (Senior)

IDENTIFIERS: CASE SPLIT PERSON (MF24 respondent)

CASE SPLIT PERSON MIG_NUM (identifies a move)

Contains one record for each time the MF24 respondent moved to a new district since age 50 plus where they were born, where they lived at age 50, and when they moved to where they lived at age 50. Provides information on the date and age the move occurred, the district and state to which they moved, and the type of residence to which they moved. Those Seniors who lived in the same district at age 50 as at birth will have a blank

MIG_NUM=2 record; those that did change, will have a MIG_NUM=2 record that gives the age when the Senior moved to the district he or she resided in at age 50.

DATA: **MF24MIG2** House Characteristics (Q. D7–D9)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on the water and toilet facilities in the Senior's home at the time of interview. For Seniors in New and Senior households (HHTYPE=9), if the MF22 respondent answered the migration section of the MF22 questionnaire (NEWSAMP=1), then the water and toilet variables are blank on this file. The last record for each women in the MF22MIG contains the water and toilet information for these Seniors. The values of the water and toilet variables are the same as those in MF22MIG.

DATA: **MF24WORK** Work History (Q. E1–E13)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on Senior's current employment status (paid employee, self-employed, employer, unpaid family worker), main work activities over his or her lifetime, and pensions. For Seniors currently working, there is information on their occupation, type of employment, full time/part time status, number of years on that job and age when began job. For Seniors not currently working but who have worked in the past, there is information on when they stopped working and why. This file also includes information on the number of hours per week the Senior spends on household chores.

DATA: **MF24BACK** Family Background (Q. F1–F10)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides family background information on religion, number of older and younger living siblings, age of parents if alive, with whom parents live and how often he or she sees them, and parental health. No inheritance information was collected for Senior respondents.

DATA: **MF24HP1** Help Given To Parents (Q. G1–G4)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior provides to his or her own parent(s) if at least one parent does not live with him or her. Asks whether the Senior has provided help with money, food, housework, or business/farm in the last 12 months, and if so, the number of years the Senior has helped with each type of help, how often, and the value of that help (if help with money or food). The MF24HP1 record will be blank for those Seniors whose parents are dead or living in the same household.

DATA: **MF24HC1** Help Given To Grown Children (Q. G6–G9)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior provides to children aged 18 or older and living elsewhere. Asks whether the Senior has provided help with money, food, child care, housework, or business/farm in the last 12 months, and if so, the number of years the Senior has helped with each type of help, how often, and the value of that help (if helped them with money or food). The MF24HC1 record will be basically blank with only the basic identifying information for those Seniors who have no grown children living elsewhere (i.e., those with the variable NELSE=0 on MF24CHLD).

DATA: **MF24HC2** Help Received From Grown Children (Q. G10–G13)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,187 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent who has at least one child aged 18 or older living outside the household. Provides information on the kinds of help the Senior has received from any of these children in the last 12 months. Asks whether the Senior received money or food; help with housework, or business; and how long the Senior received each type of help, how frequently, and the value of that help (if helped with money or food).

DATA: **MF24HO1** Help Given To Other Relatives #1 (Food/Money: Q. G14A,B–G18A,B)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior provides to other nonresidents in the form of **money** or **food.** Asks whether the Senior has provided help with money or food in the last 12 months, and if so, which relatives

have been helped, the number of years the Senior has given each type of help, how often he or she helps, and the value of that help.

DATA: **MF24HO2** Help Given To Other Relatives #2
(Childcare/Chores: Q. G14C,D– G17C,D)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior provides to other nonresidents in the form of **child care** or **household chores/personal care**. Asks whether the Senior has provided help with child care or household chores /personal care in the last 12 months, and if so, which relatives have been helped, the number of years the Senior has given each type of help, and how often he or she helps.

DATA: **MF24HO3** Help Given To Other Relatives #3
(Business: Q. G14E–G17E)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,356 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior provides to other nonresidents in the form of assistance with **business** or **farm**. Asks whether the Senior has provided help with business/farm in the last 12 months, and if so, which relatives have been helped, the number of years the Senior has given each type of help, and how often he or she helps.

DATA: **MF24HO4** Help From Other Relatives #1
(Food/Money: Q. G19A,B–G23A,B)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior receives from other nonresidents in the form of **money** or **food**. Asks whether the Senior has received help with money or food in the last 12 months, and if so, which relatives helped, the number of years the Senior has been helped, how often he or she receives help and the value of that help.

DATA: **MF24HO5** Help From Other Relatives #2 (Chores/Business: Q. G19C,D–G22C,D)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on help the Senior receives from other nonresidents in the form of help with **household chores**, **business** or **farm**. Asks whether the Senior has received help with household chores or business/farm in the last 12 months, and if so, which relatives provided help, the number of years the Senior has received help, and how often he or she receives help.

DATA: **MF24HLTH** Health Status (Q. H1–H9)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides information on general health status of the Senior and his or her spouse, whether the Senior has any limitations with respect to various physical activities, and on type and cost of health services used in the last month.

DATA: **MF24EVAL** Evaluation of MF24 Interview (Q. I1–I2)

UNIT OF OBS: MF24 Respondent

NUMBER OF OBS: 1,357 (Senior)

IDENTIFIERS: CASE SPLIT PERSON

Contains one record for each MF24 respondent. Provides subjective information on how interested the respondent seemed in the interview and the overall reliability of the respondent's answers to the MF24 questionnaire. Information is provided by the interviewer.

MF25 HOUSEHOLD ECONOMY SUBFILES

DATA: **MF25SUM** MF25 Summary

UNIT OF OBS: Household

NUMBER OF OBS: 2,899 (New and Senior) 1,512 (Panel and Children)

IDENTIFIERS: CASE SPLIT

Contains one record for each household interviewed. Provides information on the number of MF25 subfile records per household, date of interview, language of interview, length of interview, respondent identifier, whether others were present at interview, the final disposition of the interview, and the EB/PSU identifiers.

DATA:	**MF25POS1**	Household Possessions (Q. A1–A2)
UNIT OF OBS:	Household	
NUMBER OF OBS:	2,900 (New and Senior)	1,512 (Panel and Children)
IDENTIFIERS:	CASE SPLIT	

Contains one record for each household interviewed. Provides information on the possessions of the household. Asks whether the house has electricity, whether anyone in the household owns a refrigerator, bicycle, motorcycle, car, truck, boat, radio, telephone, television, or video cassette recorder.

DATA:	**MF25POS2**	Ownership/HH Expenses (Q. A3–A7)
UNIT OF OBS:	Household	
NUMBER OF OBS:	2,900 (New and Senior)	1,512 (Panel and Children)
IDENTIFIERS:	CASE SPLIT	

Contains one record for each household interviewed. Provides information on home ownership and expenses of the household. Asks the number of rooms used for sleeping, who owns the house, how much rent is paid if not owned, and estimated monthly household expenses.

DATA:	**MF25INC** (Q. B5–B15)	Income Earning Activities
UNIT OF OBS:	Household Member	
NUMBER OF OBS:	6,191 (New and Senior)	3,705 (Panel and Children)
IDENTIFIERS:	CASE SPLIT (identifies household)	

CASE SPLIT PERSON (identifies household member)

Contains one record for each income-earning activity in the last 12 months by household members; thus, a given household member may appear more than once. Provides information on the kind of activity, type of worker (paid employee, self-employed, employer, unpaid family worker), number of weeks worked at that activity in the last 12 months, number of hours per week worked, pay or net earnings for that activity, bonuses, in-kind payments, and home consumption. A given job may appear more than once if the respondent receives more than one type of in-kind income from that job. Only the initial record will have net pay information; subsequent records for that job will have information only on in-kind payments. Occupation is at the two-digit level. Differences in type of activity may exist at the three-digit level (e.g., padi worker to rubber tapper); however, those activities will have the same two-digit occupation code.

DATA: **MF25OTH** Other Income (Q. C1–C6)

UNIT OF OBS: Household Member

NUMBER OF OBS: 2,458 (New and Senior) 1,498 (Panel and Children)

IDENTIFIERS: CASE SPLIT (identifies household)

CASE SPLIT PERSON (identifies household member)

Contains records for non-earned income sources received by the household. Provides information on the type and amount of non-earned income. Sources of non-earned income asked about were land, other properties, dividends/interest/pension, support from relatives/others inheritance/dowry, and other income sources. A given household member may appear more than once if he or she receives different types of property or dividend/interest/pension income or receives payments from different types of relatives. Each type is recorded on a separate record.

DATA: **MF25EVAL** Evaluation of MF25 Interview

UNIT OF OBS: Household

NUMBER OF OBS: 2,898 (New and Senior) 1,512 (Panel and Children)

IDENTIFIERS: CASE SPLIT

Contains one record for each household. Provides subjective information on the how interested the respondent seemed in the interview and the overall reliability of the respondent's answers to the MF25 questionnaire. Information is provided by the interviewer.

MFLS-2 COMMUNITY DATA SUBFILES

DATA: **MF26EB** MF26 Community-level Data

UNIT OF OBS: EB/PSU

NUMBER OF OBS: 398 MFLS-2 EBs and 52 MFLS-1 PSUs

IDENTIFIERS: EB EBSECT (identifies Enumeration Blocks)

PSU (identifies MFLS-1 Primary Sampling Units)

SERIALNO (sequence number that matches

MF27COMM sequence number)

Contains one record for each of the 398 Enumeration Blocks selected for MFLS-2 and the 52 Primary Sampling Units used in MFLS-1. Provides information on a large number of topics related to the current status of family planning services, general health services, schools, water and sanitation, housing costs, agriculture, transportation, population, urban/rural status, and government programs.

DATA: **MF27COMM** MF27 Community-level Data

UNIT OF OBS: EB/PSU

NUMBER OF OBS: 398 MFLS-2 EBs and 52 MFLS-1 PSUs

IDENTIFIERS: EB EBSECT (identifies Enumeration Blocks)

PSU (identifies MFLS-1 Primary Sampling Units)

SERIALNO (sequence number that matches

MF26EB sequence number)

Contains one record for each of the 398 Enumeration Blocks selected for MFLS-2 and the 52 Primary Sampling Units used in MFLS-1. Provides information on the current status of family planning services, general health services, and schools, plus retrospective data regarding family planning services, health services, schools, and water treatment. The retrospective data refer to those facilities and services available immediately prior to the current ones.

DATA: **MF26DIST** District-level Community Data

UNIT OF OBS: District

NUMBER OF OBS: 78

IDENTIFIERS: DISTRICT

Contains one record for each of the districts of Peninsular Malaysia. Provides information on health services (e.g., number of hospitals, number of health centers, and number of doctors), family planning services (e.g., number of family planning clinics and contraceptive use), birth rates, death rates, fertility rates, number of primary and secondary schools, ethnic distributions, and industrial and occupational distributions. Most variables have 1988 values available, some have values back to 1970.

Appendix B

TAPE LAYOUT FOR MFLS-2 DATA

File name	File #	Recfm : blksize : lrecl	# blocks
READ21NS.PGM	1	fb : 8000 : 80	1
READ22NS.PGM	2	fb : 8000 : 80	8
READ23NS.PGM	3	fb : 8000 : 80	5
READ24NS.PGM	4	fb : 8000 : 80	8
READ25NS.PGM	5	fb : 8000 : 80	3
READTRK.PGM	6	fb : 8000 : 80	1
READ20PC.PGM	7	fb : 8000 : 80	2
CIMPORT.PGM	8	fb : 8000 : 80	3
MF21ROST.NS	9	fb : 8200 : 82	154
MF21SUM.NS	10	fb : 8200 : 82	30
MF22BACK.NS	11	fb : 8200 : 82	22
MF22CARE.NS	12	fb : 8200 : 82	19
MF22CONT.NS	13	fb : 8200 : 82	90
MF22ED.NS	14	fb : 8200 : 82	22
MF22EDEX.NS	15	fb : 8200 : 82	36
MF22EVAL.NS	16	fb : 8200 : 82	22
MF22HC1.NS	17	fb : 8200 : 82	22
MF22HC2.NS	18	fb : 8200 : 82	3
MF22HP1.NS	19	fb : 8200 : 82	22
MF22HP2.NS	20	fb : 8200 : 82	17
MF22MARR.NS	21	fb : 8200 : 82	24
MF22MENS.NS	22	fb : 8200 : 82	19
MF22MIG.NS	23	fb : 8200 : 82	100
MF22PREG.NS	24	fb : 8200 : 82	90
MF22PSUM.NS	25	fb : 8200 : 82	19
MF22TRN.NS	26	fb : 8200 : 82	22
MF22WORK.NS	27	fb : 8200 : 82	40
MF23BACK.NS	28	fb : 8200 : 82	16
MF23ED.NS	29	fb : 8200 : 82	16
MF23EVAL.NS	30	fb : 8200 : 82	16
MF23HP1.NS	31	fb : 8200 : 82	16
MF23HP2.NS	32	fb : 8200 : 82	12
MF23MARR.NS	33	fb : 8200 : 82	17
MF23MIG.NS	34	fb : 8200 : 82	68
MF23SUM.NS	35	fb : 8200 : 82	16
MF23TRN.NS	36	fb : 8200 : 82	16
MF23WORK.NS	37	fb : 8200 : 82	50
MF24BACK.NS	38	fb : 8200 : 82	14
MF24CHLD.NS	39	fb : 8200 : 82	48
MF24EVAL.NS	40	fb : 8200 : 82	14
MF24HC1.NS	41	fb : 8200 : 82	14
MF24HC2.NS	42	fb : 8200 : 82	12
MF24HLTH.NS	43	fb : 8200 : 82	14
MF24HO1.NS	44	fb : 8200 : 82	14
MF24HO2.NS	45	fb : 8200 : 82	14
MF24HO3.NS	46	fb : 8200 : 82	14
MF24HO4.NS	47	fb : 8200 : 82	14
MF24HO5.NS	48	fb : 8200 : 82	14
File name	File #	Recfm : blksize : lrecl	# blocks

MF24HP1.NS	49	fb : 8200 : 82	14
MF24LANG.NS	50	fb : 8200 : 82	14
MF24MARR.NS	51	fb : 8200 : 82	14
MF24MIG.NS	52	fb : 8200 : 82	44
MF24MIG2.NS	53	fb : 8200 : 82	14
MF24WORK.NS	54	fb : 8200 : 82	14
MF25EVAL.NS	55	fb : 8200 : 82	29
MF25INC.NS	56	fb : 8200 : 82	62
MF25OTH.NS	57	fb : 8200 : 82	25
MF25POS1.NS	58	fb : 8200 : 82	29
MF25POS2.NS	59	fb : 8200 : 82	29
MF25SUM.NS	60	fb : 8200 : 82	29
TRACKING.NS	61	fb : 8200 : 82	46
MF20CHLD.PC	62	fb : 8200 : 82	31
MF20OTH.PC	63	fb : 8200 : 82	37
MF20SUM.PC	64	fb : 8200 : 82	10
MF21ROST.PC	65	fb : 8200 : 82	85
MF21SUM.PC	66	fb : 8200 : 82	16
MF22BACK.PC	67	fb : 8200 : 82	17
MF22CARE.PC	68	fb : 8200 : 82	15
MF22CONT.PC	69	fb : 8200 : 82	88
MF22ED.PC	70	fb : 8200 : 82	17
MF22EDEX.PC	71	fb : 8200 : 82	27
MF22EVAL.PC	72	fb : 8200 : 82	17
MF22HC1.PC	73	fb : 8200 : 82	17
MF22HC2.PC	74	fb : 8200 : 82	7
MF22HP1.PC	75	fb : 8200 : 82	17
MF22HP2.PC	76	fb : 8200 : 82	11
MF22MARR.PC	77	fb : 8200 : 82	19
MF22MENS.PC	78	fb : 8200 : 82	15
MF22MIG.PC	79	fb : 8200 : 82	73
MF22PREG.PC	80	fb : 8200 : 82	88
MF22PSUM.PC	81	fb : 8200 : 82	15
MF22TRN.PC	82	fb : 8200 : 82	17
MF22WORK.PC	83	fb : 8200 : 82	30
MF23BACK.PC	84	fb : 8200 : 82	16
MF23ED.PC	85	fb : 8200 : 82	16
MF23EVAL.PC	86	fb : 8200 : 82	16
MF23HP1.PC	87	fb : 8200 : 82	16
MF23HP2.PC	88	fb : 8200 : 82	8
MF23MARR.PC	89	fb : 8200 : 82	19
MF23MIG.PC	90	fb : 8200 : 82	59
MF23SUM.PC	91	fb : 8200 : 82	16
MF23TRN.PC	92	fb : 8200 : 82	16
MF23WORK.PC	93	fb : 8200 : 82	47
MF25EVAL.PC	94	fb : 8200 : 82	16
MF25INC.PC	95	fb : 8200 : 82	38
MF25OTH.PC	96	fb : 8200 : 82	15
MF25POS1.PC	97	fb : 8200 : 82	16
MF25POS2.PC	98	fb : 8200 : 82	16
MF25SUM.PC	99	fb : 8200 : 82	16
TRACKING.PC	100	fb : 8200 : 82	23
MF22SUM.NS	101	fb : 9800 : 98	22
MF22SUM.PC	102	fb : 9800 : 98	17

File name	File #	Recfm : blksize : lrecl	# blocks

MF24SUM.NS	103	fb : 9000 : 90	14
MF21ROST.NSX	104	fb : 8000 : 80	203
MF21SUM.NSX	105	fb : 8000 : 80	36
MF22BACK.NSX	106	fb : 8000 : 80	47
MF22CARE.NSX	107	fb : 8000 : 80	22
MF22CONT.NSX	108	fb : 8000 : 80	123
MF22ED.NSX	109	fb : 8000 : 80	42
MF22EDEX.NSX	110	fb : 8000 : 80	48
MF22EVAL.NSX	111	fb : 8000 : 80	19
MF22HC1.NSX	112	fb : 8000 : 80	32
MF22HC2.NSX	113	fb : 8000 : 80	4
MF22HP1.NSX	114	fb : 8000 : 80	29
MF22HP2.NSX	115	fb : 8000 : 80	23
MF22MARR.NSX	116	fb : 8000 : 80	26
MF22MENS.NSX	117	fb : 8000 : 80	21
MF22MIG.NSX	118	fb : 8000 : 80	112
MF22PREG.NSX	119	fb : 8000 : 80	187
MF22PSUM.NSX	120	fb : 8000 : 80	17
MF22SUM.NSX	121	fb : 8000 : 80	49
MF22TRN.NSX	122	fb : 8000 : 80	37
MF22WORK.NSX	123	fb : 8000 : 80	58
MF23BACK.NSX	124	fb : 8000 : 80	33
MF23ED.NSX	125	fb : 8000 : 80	29
MF23EVAL.NSX	126	fb : 8000 : 80	13
MF23HP1.NSX	127	fb : 8000 : 80	21
MF23HP2.NSX	128	fb : 8000 : 80	17
MF23MARR.NSX	129	fb : 8000 : 80	19
MF23MIG.NSX	130	fb : 8000 : 80	67
MF23SUM.NSX	131	fb : 8000 : 80	27
MF23TRN.NSX	132	fb : 8000 : 80	26
MF23WORK.NSX	133	fb : 8000 : 80	68
MF24BACK.NSX	134	fb : 8000 : 80	19
MF24CHLD.NSX	135	fb : 8000 : 80	47
MF24EVAL.NSX	136	fb : 8000 : 80	12
MF24HC1.NSX	137	fb : 8000 : 80	20
MF24HC2.NSX	138	fb : 8000 : 80	16
MF24HLTH.NSX	139	fb : 8000 : 80	25
MF24HO1.NSX	140	fb : 8000 : 80	25
MF24HO2.NSX	141	fb : 8000 : 80	22
MF24HO3.NSX	142	fb : 8000 : 80	17
MF24HO4.NSX	143	fb : 8000 : 80	25
MF24HO5.NSX	144	fb : 8000 : 80	22
MF24HP1.NSX	145	fb : 8000 : 80	18
MF24LANG.NSX	146	fb : 8000 : 80	17
MF24MARR.NSX	147	fb : 8000 : 80	14
MF24MIG.NSX	148	fb : 8000 : 80	43
MF24MIG2.NSX	149	fb : 8000 : 80	13
MF24SUM.NSX	150	fb : 8000 : 80	30
MF24WORK.NSX	151	fb : 8000 : 80	22
MF25EVAL.NSX	152	fb : 8000 : 80	23
MF25INC.NSX	153	fb : 8000 : 80	80
MF25OTH.NSX	154	fb : 8000 : 80	37

File name	File #	Recfm : blksize : lrecl	# blocks
MF25POS1.NSX	155	fb : 8000 : 80	33
MF25POS2.NSX	156	fb : 8000 : 80	35
MF25SUM.NSX	157	fb : 8000 : 80	47
TRACKING.NSX	158	fb : 8000 : 80	77
MF20CHLD.PCX	159	fb : 8000 : 80	38
MF20OTH.PCX	160	fb : 8000 : 80	41
MF20SUM.PCX	161	fb : 8000 : 80	8
MF21ROST.PCX	162	fb : 8000 : 80	117
MF21SUM.PCX	163	fb : 8000 : 80	19
MF22BACK.PCX	164	fb : 8000 : 80	36
MF22CARE.PCX	165	fb : 8000 : 80	18
MF22CONT.PCX	166	fb : 8000 : 80	121
MF22ED.PCX	167	fb : 8000 : 80	32
MF22EDEX.PCX	168	fb : 8000 : 80	37
MF22EVAL.PCX	169	fb : 8000 : 80	15
MF22HC1.PCX	170	fb : 8000 : 80	25
MF22HC2.PCX	171	fb : 8000 : 80	9
MF22HP1.PCX	172	fb : 8000 : 80	23
MF22HP2.PCX	173	fb : 8000 : 80	15
MF22MARR.PCX	174	fb : 8000 : 80	21
MF22MENS.PCX	175	fb : 8000 : 80	17
MF22MIG.PCX	176	fb : 8000 : 80	83
MF22PREG.PCX	177	fb : 8000 : 80	184
MF22PSUM.PCX	178	fb : 8000 : 80	14
MF22SUM.PCX	179	fb : 8000 : 80	34
MF22TRN.PCX	180	fb : 8000 : 80	29
MF22WORK.PCX	181	fb : 8000 : 80	43
MF23BACK.PCX	182	fb : 8000 : 80	34
MF23ED.PCX	183	fb : 8000 : 80	30
MF23EVAL.PCX	184	fb : 8000 : 80	14
MF23HP1.PCX	185	fb : 8000 : 80	21
MF23HP2.PCX	186	fb : 8000 : 80	11
MF23MARR.PCX	187	fb : 8000 : 80	20
MF23MIG.PCX	188	fb : 8000 : 80	58
MF23SUM.PCX	189	fb : 8000 : 80	28
MF23TRN.PCX	190	fb : 8000 : 80	27
MF23WORK.PCX	191	fb : 8000 : 80	65
MF25EVAL.PCX	192	fb : 8000 : 80	13
MF25INC.PCX	193	fb : 8000 : 80	48
MF25OTH.PCX	194	fb : 8000 : 80	23
MF25POS1.PCX	195	fb : 8000 : 80	18
MF25POS2.PCX	196	fb : 8000 : 80	19
MF25SUM.PCX	197	fb : 8000 : 80	24
TRACKING.PCX	198	fb : 8000 : 80	37
MF26DIST	199	fb : 9300 : 465	4
MF26EB	200	fb : 7530 : 753	45
MF27COMM	201	fb : 9920 : 992	45
MF26DIST.EXP	202	fb : 8000 : 80	7
MF26EB.EXP	203	fb : 8000 : 80	67
MF27COMM.EXP	204	fb : 8000 : 80	82
READDIST.PGM	205	fb : 8000 : 80	2
READ26EB.PGM	206	fb : 8000 : 80	9
READ27.PGM	207	fb : 8000 : 80	10

Appendix C

AGE IMPUTATION ALGORITHM: SAS MACRO

```
*****
*****  MACRO COMP_AGE:    Computes age at event based on event date
*****                     and birth dates.  If partial dates only are
*****                     available, age is estimated.
*****
*****                     Creates FLG variable to indicate age is an
*****                     estimate.  Codes are:
*****
*****                     0 = exact age reported
*****                     Either full dates were provided or person only
*****                     reported AGE and no date
*****
*****                     1 = estimated age where had both event month/year
*****                     and month/year of birth, but at least one "range
*****                     value" month
*****
*****                     2 = estimated age where had month/year for
*****                     either the event or birth date but not both:
*****                     if event in first half of year, assumed no birthday yet,
*****                     if birthday in first half of year, assumed had birthday
*****                     before event.
*****
*****                     3 = estimated age where only year of event and
*****                     year of birth available--no months at all--age is
*****                     event year - birth year
*****
*****                     4 = estimated age where only had event year and
*****                     used estimated year of birth based on age at interview
*****
*****    Parameters for COMP_AGE macro are:
*****
*****          ESTAGE:    name for estimated age flag
*****          PASTAGE:   variable to old original age value
*****          EYEAR:     variable name for year of event
*****          EMTH:      variable name for month of event
*****          EDAY: variable name for day of event
*****          EAGE: variable name for age at event
*****          ROST:      flag indicating if file is roster or pregnancy data
*****                     (the only files with day of event)
*****
*****    Input data file already has date of respondent's birth and age at interview
*****    merged on from MF21ROST.  These variables are YEARBORN, MTHBORN,
*****    DAYBORN, ROSTAGE (renamed version of  AGE from MF21ROST
*****
*****    Month codes of 13-15 represent the following:
*****
```

```
*****            13 = Jan-Apr   14 = May-Aug   15 = Sept-Dec
*****
*****
;

%MACRO COMP_AGE(ESTAGE,PASTAGE,EYEAR,EMTH,EDAY,EAGE,ROST=0);

 IF &EMTH=98 OR &EMTH=88 THEN &EMTH=99;
 IF &EYEAR=98 THEN &EYEAR=99;
 IF &EDAY=98 THEN &EDAY=99;

 &ESTAGE=0;  /* FLAG FOR ESTIMATED AGE: WOULD BE 99 OTHERWISE */

 &PASTAGE=&EAGE;

 LABEL &PASTAGE="ORIGINAL &EAGE BEFORE UPDATE";

  IF 0<YEARBORN<99  AND 0<&EYEAR<99 THEN DO;

   IF 0<MTHBORN<13 AND 0<&EMTH<13 THEN DO;

    IF MTHBORN<&EMTH THEN &EAGE = &EYEAR-YEARBORN;
    ELSE IF MTHBORN>&EMTH THEN &EAGE=&EYEAR-YEARBORN-1;
    ELSE IF MTHBORN=&EMTH THEN DO;
          IF  0<DAYBORN<99 AND 0<&EDAY<99 THEN DO;
            IF DAYBORN<=&EDAY THEN &EAGE=&EYEAR-YEARBORN;
            ELSE IF DAYBORN>&EDAY THEN &EAGE=&EYEAR-YEARBORN-1;
          END;
          ELSE DO;
            &ESTAGE=1;
            &EAGE=&EYEAR-YEARBORN;
          END;
    END;
   END;
  ELSE IF 13<=MTHBORN<=15 AND 0<&EMTH<16 THEN DO;

    IF MTHBORN=13 THEN DO;
      IF 5<=&EMTH<13 OR 14<=&EMTH<=15 THEN
            &EAGE=&EYEAR-YEARBORN;
      ELSE IF &EMTH=13 OR 1<=&EMTH<=4 THEN DO;
            &ESTAGE=1;
            &EAGE=&EYEAR-YEARBORN;
      END;
    END;

    ELSE IF MTHBORN=14 THEN DO;
          IF 1<=&EMTH<=4 OR &EMTH=13 THEN
              &EAGE=&EYEAR-YEARBORN-1;
          ELSE IF 9<=&EMTH<13 OR &EMTH<=15
              THEN &EAGE=&EYEAR-YEARBORN;
          ELSE IF 5<=&EMTH<=8 OR &EMTH=14 THEN DO;
              &ESTAGE=1;
```

```
          &EAGE=&EYEAR-YEARBORN;
        END;
 END;

 ELSE IF MTHBORN=15 THEN DO;
        IF 1<=&EMTH<=8 OR 13<=&EMTH<=14 THEN
          &EAGE=&EYEAR-YEARBORN-1;
        ELSE IF 9<=&EMTH<13 OR &EMTH=15 THEN DO;
          &ESTAGE=1;
          &EAGE=&EYEAR-YEARBORN;
        END;
 END;
END;
ELSE IF 13<=&EMTH <=15 AND 0<MTHBORN<16 THEN DO;

 IF &EMTH=13 THEN DO;
        IF 1<=MTHBORN<=4 OR MTHBORN=13 THEN DO;
              &ESTAGE=1;
              &EAGE=&EYEAR-YEARBORN;
        END;
        ELSE IF 5<=MTHBORN<13 OR 14<=MTHBORN<=15 THEN
          &EAGE=&EYEAR-YEARBORN-1;
 END;
 ELSE IF &EMTH=14 THEN DO;
        IF 1<=MTHBORN<=4 OR MTHBORN=13 THEN
           &EAGE=&EYEAR-YEARBORN;
        ELSE IF 5<=MTHBORN<=8 OR MTHBORN=14 THEN DO;
           &ESTAGE=1;
           &EAGE=&EYEAR-YEARBORN;
        END;
        ELSE IF 9<=MTHBORN<13 OR MTHBORN=15
           THEN &EAGE=&EYEAR-YEARBORN-1;
 END;
 ELSE IF &EMTH=15 THEN DO;
       IF 1<=MTHBORN<=8 OR 13<=MTHBORN<=14
         THEN &EAGE=&EYEAR-YEARBORN;
        ELSE IF 9<=MTHBORN<13 OR MTHBORN=15 THEN DO;
           &ESTAGE=1;
           &EAGE=&EYEAR-YEARBORN;
        END;
 END;
END;
ELSE IF (MTHBORN<=0 OR MTHBORN=99) AND 0<&EMTH<16 THEN DO;

   &ESTAGE=2;

   IF &EMTH<7 OR &EMTH=13 THEN
         &EAGE=&EYEAR - YEARBORN - 1;
   ELSE IF 7<=&EMTH<13 OR 14<=&EMTH<=15 THEN
         &EAGE=&EYEAR - YEARBORN;

END;
```

```
    ELSE IF (&EMTH<=0 OR &EMTH=99) AND 0<MTHBORN<16 THEN DO;

        &ESTAGE=2;

        IF MTHBORN<7 OR MTHBORN=13 THEN
              &EAGE=&EYEAR - YEARBORN;
        ELSE IF 7<=MTHBORN<13 OR 14<=MTHBORN<=15 THEN
              &EAGE=&EYEAR - YEARBORN - 1;

    END;
    ELSE IF (MTHBORN<=0 OR MTHBORN=99) AND (&EMTH<=0 OR &EMTH=99)
      THEN DO;
            &ESTAGE=3;
            &EAGE=&EYEAR - YEARBORN;
    END;
   END; /* END OF YEAR VARIABLES PRESENT LOOP */

    ELSE DO;

      IF &ROST NE 1 AND 0<&EYEAR<99 AND (YEARBORN<0 OR YEARBORN=99)
          THEN DO;

                &ESTAGE=4;
          IF 0<=ROSTAGE<999 THEN
                &EAGE = &EYEAR - (YEARCOMP - ROSTAGE);
      END;

    END;

    DROP ROSTAGE AGER_FLG;

    %IF &ROST=0 %THEN %DO; DROP &EDAY; %END;


  %MEND COMP_AGE;
```

****

Appendix D

FREQUENCY OF IMPUTATION FOR MFLS-2 AGE-RELATED VARIABLES BASED ON RESPONDENTS TO GIVEN AGE QUESTION

File name	Age Variable	Imputation flag variable	New and Senior Sample	Panel and Children Sample
MF21ROST				
	AGE: age at interview	AGE_FLG	0= 88.1% 1= 0.2% 2= 11.8%	0=89.3% 1= 0.2% 2=10.4%
MF22MARR				
	AGEMARR: Age marriage began	AGEM_FLG	0=85.2% 1= 8.5% 2= 5.3% 3= 0.9%	0=74.2% 1= 7.8% 2=14.4% 3= 3.6%
	AGEEND: Age marriage ended	AGEE_FLG	0=77.7% 1= 5.1% 2=14.7% 3= 2.5%	0=59.2% 1= 3.6% 2=27.0% 3=10.2%
MF22MIG				
	AGEMOVE: age at move	AGEMV_FLG	0=88.2% 1= 3.8% 2= 7.4% 3= 0.6% 4= 0.0%	0=84.9% 1= 3.3% 2= 8.9% 3= 2.9%
MF22PREG				
	AGE: age at child's birth	AGE_FLG	0=86.6% 1= 1.4% 2=10.4% 3= 1.6%	0=64.1% 1= 1.0% 2=29.3% 3= 5.6%
MF22TRN				
	AGE1: age began 1st training	AGE1_FLG	0=85.2% 1= 8.0% 2= 6.8%	0=82.3% 1= 7.5% 2= 9.9% 3= 0.3%
	AGE2: age began 2nd training	AGE2_FLG	0=74.3% 1=11.2% 2=14.5%	0=81.3% 1=10.0% 2= 7.5% 3= 1.3%
MF22WORK				
	AGEBEGAN: age began type of work	AGEB_FLG	0=83.3% 1= 4.6% 2=11.6% 3= 0.5%	0=79.0% 1= 3.6% 2=12.8% 3= 4.6%

File name	Age Variable	Imputation flag variable	New and Senior Sample	Panel and Children Sample
MF23MARR				
	AGEMARR: Age marriage began	AGEM_FLG	0=81.1% 1=10.2% 2= 7.2% 3= 1.0% 4= 0.4%	0=66.8% 1= 6.4% 2=21.4% 3= 5.5%
	AGEEND: Age marriage ended	AGEE_FLG	0=60.2% 1=10.2% 2=22.4% 3= 5.1% 4= 2.0%	0=50.6% 1= 4.6% 2=28.2% 3=16.6%
MF23MIG				
	AGEMOVE: age at move	AGEMV_FLG	0=87.4% 1= 4.1% 2= 8.0% 3= 0.4% 4= 0.0%	0=85.8% 1= 2.8% 2= 9.0% 3= 2.4%
MF23TRN				
	AGE1: age began 1st training	AGE1_FLG	0=76.6% 1=11.1% 2=11.4% 3= 0.7% 4= 0.3%	0=71.8% 1= 9.1% 2=15.5% 3= 3.6%
	AGE2: age began 2nd training	AGE2_FLG	0=78.9% 1= 9.3% 2=10.9% 3= 0.4% 4= 0.4%	0=64.4% 1=15.5% 2=15.1% 3= 5.0%
MF23WORK				
	AGEBEGAN: age began type of work	AGEB_FLG	0=80.5% 1= 5.8% 2=12.6% 3= 1.0% 4= 0.2%	0=76.0% 1= 4.1% 2=15.4% 3= 4.4%
MF24MIG				
	AGEMOVE: age at move	AGEMV_FLG	0=91.8% 1= 0.4% 2= 4.9% 3= 2.6% 4= 0.3%	
MF24WORK				
	AGEBEGAN: age began type of work	AGEB_FLG	0=34.2% 1= 0.2% 2=65.7%	

Appendix E

DISCUSSION OF CASES 2 AND 7: SINGLE HOUSEHOLD REPRESENTED AS TWO

Two MFLS-1 households had joined together by the time of the MFLS-2 in 1988. Case 2 is the father and Case 7 is his son; as of 1988, the father and son lived together. Below we present a detailed discussion of the instruments administered and the relationship between the records for the two cases.

The instruments administered to CASE 2, the father's household from MFLS-1, in 1988 were the following:

MF20	
MF21	HH relationships centers on father's wife
MF22	Father's wife
MF22	Son's wife (duplicates first MF22 for Case 7)
MF23	Father
MF23	Son (duplicates MF23 for Case 7)
MF25	

Because the son had his own household in 1976, he is also considered a member of the Panel Sample in 1988. The instruments administered to CASE 7, were as follows:

MF20	
MF21	Duplicates MF21 for Case 2, except that HH relationships center around the son's wife
MF22	Son's wife
MF22	Son's daughter (selected child living at home)
MF23	Son
MF25	Duplicates MF25 for Case 2

The information in the MF21 household roster is essentially the same for CASE 2 and CASE 7. However, family members have different person numbers in the two households. The crosswalk for person numbers between the two households is as follows:

PERSON in CASE 2	Family Member	PERSON in CASE 7
1	Father's wife	4
2	Father	3
3	Son	2
4	Son's wife	1
5	Son's daughter	5
6	Son's daughter	6
7	Son's son	7
8	Son's son	8
9	Son's son	9

Appendix F

SAS EXAMPLE: LINKING HOUSEHOLD MEMBER COUNTS TO SENIOR HEALTH DATA

```
LIBNAME MFLS2NS 'location of MFLS-2 New/Senior data';

**** MACRO FOR COUNTING ADULT KIDS BY AGE/SEX FOR MF24RESP ***;

 *** IF M24RESP IS MAIN RESPONDENT TO MF21 ***;

%MACRO KIDS1;

 IF AGE=999 THEN AGE=.;
 IF STAYED = . THEN DO; /* children currently in household */
        IF 3<=RELATE<=5 AND AGE>=18 AND SEX=1 THEN
              N_MKID18=N_MKID18+1;
        IF 3<=RELATE<=5 AND AGE>=18 AND SEX=2 THEN
              N_FKID18=N_FKID18+1;
        IF RELATE=32 AND SEX=1 THEN N_SONLAW=N_SONLAW+1;
        IF RELATE=32 AND SEX=2 THEN N_DGTLAW=N_DGTLAW+1;
 END;

%MEND KIDS1;

 *** IF M24RESP IS NOT MAIN RESPONDENT TO MF21 ***;

%MACRO KIDS2;

 IF AGE=999 THEN AGE=.;
 IF STAYED=. THEN DO; /* children currently in household */
        IF (MOTHER=MF24ID OR FATHER=MF24ID) AND AGE>=18 AND SEX=1
              THEN N_MKID18=N_MKID18+1;
        IF (MOTHER=MF24ID OR FATHER=MF24ID) AND AGE>=18 AND SEX=2
              THEN N_FKID18=N_FKID18+1;

        IF (MOTHER=MF24ID OR FATHER=MF24ID) AND AGE>=18 AND SEX=1
              AND SPOUSE>. THEN N_DGTLAW=N_DGTLAW+1;
        IF (MOTHER=MF24ID OR FATHER=MF24ID) AND AGE>=18 AND SEX=2
```

```
                AND SPOUSE>. THEN N_SONLAW=N_SONLAW+1;
  END;
%MEND KIDS2;

*COUNT NUMBER OF MF24RESP'S RELATIVES IN HOUSEHOLD;
*IDENTIFY THE MF24 RESPONDENT IN HOUSEHOLD*;
DATA MF24ROST ;
  MERGE  MFLS2NS.MF21ROST(IN=A KEEP=CASE SPLIT PERSON RELATE)
         MFLS2NS.MF24SUM(IN=B KEEP =  CASE SPLIT PERSON);
         BY CASE SPLIT PERSON;
         IF A=1 AND B=1; /* keep matches */
         MF24ID = PERSON;
         RENAME RELATE = MF24REL;
         MF24RESP = 1;

         LABEL MF24ID ='HHTYPE=9:PERSON # FOR MF24 RESPONDENT';
         LABEL RELATE ='HHTYPE=9:REL OF MF24 RESP TO MR';
         LABEL MF24RESP='HHTYPE=9:INDICATES MF24 RESPONDENT';
RUN;

*MERGE MF24ID & MF24REL W/MF21ROST DATA ;
DATA SEN_ROST;
  MERGE         MFLS2NS.MF21ROST (IN = R)
                MF24ROST (IN=S DROP = MF24RESP PERSON);
         BY CASE SPLIT;
         IF R=1 AND S=1; /* keep roster records for MF24 hhlds */
RUN;

*MERGE IDENTIFIER W/MF21ROST DATA FOR MF24RESP IN HHTYPE = 9*;
DATA SEN_ROST;
  MERGE         SEN_ROST (IN = R)
                MF24ROST (KEEP = CASE SPLIT PERSON MF24RESP);
         BY CASE SPLIT PERSON;
         IF R=1 ; /* KEEP ALL SEN_ROST RECORDS */
         IF MF24RESP = . THEN MF24RESP = 0;
RUN;
```

```
PROC SORT;     BY CASE SPLIT; RUN;


*COUNT # OF SR'S ADULT KIDS, OTHER RELATIVES ETC.*;

DATA HHCOUNT (KEEP = CASE HHTYPE SPLIT PARENT HUSBWIFE
                     N_KIDS18 N_MKID18 N_FKID18 N_SONLAW N_DGTLAW
                     N_KIDS N_OTHREL N_NONREL);

 SET SEN_ROST (KEEP = HHTYPE CASE SPLIT SERIES RELATE MOTHER
                      FATHER SPOUSE AGE YEARBORN SEX STAYED MF24ID
                      MF24RESP MF24REL);

 BY CASE SPLIT ;


 IF FIRST.SPLIT THEN DO;

       N_KIDS = 0; N_OTHREL = 0; N_NONREL = 0; HUSBWIFE = 0;
       PARENT=0; N_MKID18=0; N_FKID18=0; N_SONLAW=0; N_DGTLAW=0;

 END;


 RETAIN N_KIDS N_OTHREL N_NONREL HUSBWIFE PARENT N_MKID18
       N_FKID18 N_SONLAW N_DGTLAW ;


 IF MF24RESP = 1 THEN DO;

       IF MOTHER = . & FATHER = . THEN PARENT = 0;
       IF MOTHER > 0 OR FATHER > 0 THEN PARENT = 1;
       IF MOTHER > 0 & FATHER > 0 THEN PARENT = 2;
       IF SPOUSE>0 THEN HUSBWIFE=1;

 END;


ELSE DO;


 IF MF24REL = 1 THEN DO; *mf24resp is MR*;

       IF 3 <= RELATE <= 5 AND STAYED=. THEN N_KIDS = N_KIDS + 1;
       IF  (11 <= RELATE <= 40) THEN N_OTHREL = N_OTHREL + 1;
       IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
       %KIDS1;

 END;


 IF MF24REL = 2 THEN DO; *mf24resp is spouse of MR*;

       IF 3 <= RELATE <= 5 AND STAYED=. THEN N_KIDS = N_KIDS + 1;
       IF 11 <= RELATE <= 53 THEN N_OTHREL = N_OTHREL + 1;
       IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
```

```
        %KIDS1;
END;


ELSE IF 3 <= MF24REL <= 5 THEN DO; *mf24resp is child of MR*;
        IF (MOTHER = MF24ID OR FATHER = MF24ID)
                AND STAYED=. THEN N_KIDS = N_KIDS + 1;
        ELSE IF 1 <= RELATE <= 53 THEN N_OTHREL = N_OTHREL + 1;
        ELSE IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
        %KIDS2;
END;


IF MF24REL = 11 THEN DO; *mf24resp is parent of MR*;
        IF (MOTHER = MF24ID OR FATHER = MF24ID)
                AND STAYED=. THEN N_KIDS = N_KIDS + 1;
        ELSE IF 2 <= RELATE <= 53 THEN N_OTHREL = N_OTHREL + 1;
        ELSE IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
        %KIDS2;
END;


IF 12 <= MF24REL <= 20 THEN DO; *mf24 resp is other own relative of MR;
        IF (MOTHER = MF24ID OR FATHER = MF24ID)
                AND STAYED=. THEN N_KIDS = N_KIDS + 1;
        ELSE IF 1 <= RELATE <= 53 THEN N_OTHREL = N_OTHREL + 1;
        ELSE IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
        %KIDS2;
END;


IF 31 <= MF24REL <= 40 THEN DO; *mf24 resp is rel by marriage of MR*;
        IF (MOTHER = MF24ID OR FATHER = MF24ID)
                AND STAYED=. THEN N_KIDS = N_KIDS + 1;
        ELSE IF 1 <= RELATE <= 53 THEN N_OTHREL = N_OTHREL + 1;
        ELSE IF RELATE = 61 THEN N_NONREL = N_NONREL + 1;
        %KIDS2;
END;


IF MF24REL = 61 THEN DO; *mf24 resp is non-relative of MR*;
        IF (MOTHER = MF24ID OR FATHER = MF24ID)
                AND STAYED=. THEN N_KIDS = N_KIDS + 1;
        ELSE IF 1 <= RELATE <= 61 THEN N_NONREL = N_NONREL + 1;
        %KIDS2;
END;
```

```
END;


*SUBTRACT PARENT FROM N_OTHREL*;
 IF LAST.SPLIT AND MF24REL NE 61  AND N_OTHREL>0 THEN
        N_OTHREL = N_OTHREL - PARENT - HUSBWIFE;


 IF LAST.SPLIT THEN DO;
        N_KIDS18=N_MKID18+N_FKID18;
        OUTPUT;
 END;


RUN;


*MERGE RELATIVE INFO ONTO MF24HLTH*;
DATA MF24HLTH;
 MERGE MFLS2NS.MF24HLTH(IN = R)  HHCOUNT;
 BY CASE SPLIT;
 IF R; /* KEEP ALL MF24HLTH RECORDS */
RUN;
```

Appendix G

SAS EXAMPLE: LINKING HOUSE CHARACTERISTICS AT TIME OF CHILD'S BIRTH

```
LIBNAME MFLS2NS  'location of new sample MFLS-2 files';

DATA MOVES;
        SET MFLS2NS.MF22MIG     (KEEP=CASE SPLIT PERSON MIG_NUM
                                AGEMOVE YEARMOVE MTHMOVE);
        BY CASE SPLIT PERSON;

        *** CREATE STANDARD MTH DATES ***;

        IF MTHMOVE=13 THEN MTHMOVE=2;  *** FEB ***;
        IF MTHMOVE=14 THEN MTHMOVE=6;  *** JUNE ***;
        IF MTHMOVE=15 THEN MTHMOVE=10;  ** OCT **;

        IF 0<MTHMOVE<99 AND 0<YEARMOVE<99 THEN
                STDMMOVE=(YEARMOVE*12) + MTHMOVE;

        **** CREATE 1 REC/WOMAN WITH MOVE DATES, AGES, AND IDS ****;

        /*USE MAXIMUM NUMBER OF MOVES FOR ARRAY LENGTH*/

        RETAIN STDMV1-STDMV17 AGEMV1-AGEMV17 MIGNUM1-MIGNUM17;

        ARRAY STDMV (17) STDMV1-STDMV17;
        ARRAY AGEMV (17) AGEMV1-AGEMV17;
        ARRAY MIGNUM (17) MIGNUM1-MIGNUM17;

        IF FIRST.PERSON THE DO I = 1 TO 17;
                STDMV(I) = 0; AGEMV(I)=0; MIGNUM(I)=0;
        END;

        **** ASSIGN EACH STD MTH, AGE, MIGNUM INTO AN ARRAY ****;

        STDMV(MIG_NUM) = STDMOVE;
        AGEMV(MIG_NUM) = AGEMOVE;
        MIGNUM(MIG_NUM) = MIG_NUM;

        **** VARIABLES TO KEEP FOR MERGE TO PREG FILE *****;

        KEEP CASE SPLIT PERSON
        STDMV1-STDMV17 AGEMV1-AGEMV17 MIGNUM1-MIGNUM17 ;

        **** OUTPUT LAST RECORD FOR EACH WOMAN *****;
```

```
IF LAST.PERSON THEN OUTPUT MOVES;

RUN;
***** MERGE MOVES DATA FILE TO MF22PREG FILE *****;

DATA MF22PREG;  MERGE MFLS2NS.MF22PREG(IN=A)
                                        MOVES(IN=B);
BY CASE SPLIT PERSON;

        IF A=1 AND B=1;  /* KEEP MATCHES */

ARRAY STDMV (17) STDMV1-STDMV17;
ARRAY AGEMV (17) AGEMV1-AGEMV17;
ARRAY MIGNUM (17) MIGNUM1-MIGNUM17;

**** CREATE STD MTH DATE FOR PREGNANCY DATE *****;

IF MONTH=13 THEN MONTH=2;  *** FEB ***;
IF MONTH=14 THEN MONTH=6;  *** JUNE ***;
IF MONTH=15 THEN MONTH=10;  ** OCT **;

IF 0<MONTH<99 AND 0<YEAR<99 THEN
        STDMBORN=(YEAR*12) + MONTH;

** ASSIGN MIG_NUM ASSOCIATED WITH MOVE NEAREST BIRTH **;

DO I = 1 TO 17;
        *** IF MOVE AND BIRTH DATES AVAILABLE ****;

        IF STDMV(I)>0 AND STDMBORN>0 THEN DO;
                IF I < 17 THEN DO;
                        IF (STDMV(I) <=STDMBORN<STDMV(I+1)) OR
                        (STDMV(I)<=STDMBORN AND STDMV(I+1)=0
                                AND AGEMV(I+1)=0) THEN
                                        MIG_NUM=MIGNUM(I);
                END;
                ELSE IF I=17 AND 0<STDMV(I)<=STDMBORN THEN
                        MIG_NUM=MIGNUM(I);
        END;
END;
**** IF NO MATCH ON DATES, CHECK AGES *****;
**** ASSUMES MOVE OCCURRED BEFORE BIRTH *****;

IF MIG_NUM=. THEN DO I = 1 TO 17;
        IF AGEMV(I)>0 AND 0<AGE<99 THEN DO;
                IF I < 17 THEN DO;
                        IF (AGEMV(I) <=AGE<AGEMV(I+1)) OR
                        (AGEMV(I)<=AGE AND AGEMV(I+1)=0
                                AND STDMV(I+1)=0 )THEN
                                        MIG_NUM=MIGNUM(I);
                END;
                ELSE IF I=17 AND 0<AGEMV(I)<=AGE THEN
```

```
                        MIG_NUM=MIGNUM(I);
        END;
END;

IF MIG_NUM=. THEN MOVEMISS=1; ELSE MOVEMISS=0;

DROP STDMV1-STDMV17 AGEMV1-AGEMV17 MIGNUM1-MIGNUM17 ;

RUN;
****  SORT  PREG FILE BY CASE SPLIT PERSON MIG_NUM  *****;

PROC SORT  DATA=MF22PREG; BY CASE SPLIT PERSON MIG_NUM;
RUN;

* LINK PREG FILE AND MF22MIG BY CASE SPLIT PERSON MIG_NUM*;

DATA MFLS2NS.MF22PREG;
        MERGE MF22PREG(IN=A)
                MFLS-2NS.MF22MIG(IN=B KEEP=CASE SPLIT PERSON
                                        MIG_NUM DRINK TOILET WASH
                                        DISTRICT STATE MTHMOVE
                                        YEARMOVE AGEMOVE);
        BY CASE SPLIT PERSON MIG_NUM;
                IF A-=1;  /* KEEP ALL PREGS REGARDLESS OF MATCH */
RUN;
```

The above program can be used as a guide to linking jobs and births, jobs and marriages, moves and marriages, and so on. Simply replace the age and date variables with the appropriate names as well as the file names. The strategy is the same. One could construct a macro or subroutine using variable and filenames as parameters, and setting the array size to encompass the highest possible number of events across all files.

RAND

The Second Malaysian Family Life Survey

Overview and Technical Report

John G. Haaga, Julie DaVanzo, Christine E. Peterson, Tey Nai Peng, Tan Boon Ann

Supported by the
National Institute of Child Health and Human Development
National Institute on Aging

PREFACE

This document discusses the purpose, design, fieldwork, and response rates for the Second Malaysian Family Life Survey (MFLS-2), carried out in Peninsular Malaysia in 1988–1989. MFLS-2 was a collaborative project of RAND and the National Population and Family Development Board (NPFDB) of Malaysia, with support from the (United States) National Institute of Child Health and Human Development and the National Institute on Aging. Julie DaVanzo and John Haaga were the RAND project directors. Tan Boon Ann and Tey Nai Peng were the NPFDB project directors. Ellen Starbird assisted with the development of the questionnaire and with the interviewer training in Malaysia. Christine Peterson has been the chief programmer for the MFLS-2 data. MFLS-2 was, in part, a follow-up to the original Malaysian Family Life Survey, which was fielded in 1976–1977. Both surveys produced household-level retrospective and current data from women and their husbands, covering traditional topics of demographic and household economic research (fertility, nuptiality, migration, mortality, employment, household composition), as well as social, economic, and community-level factors affecting family decisionmaking. MFLS-2 added a sample of older Malaysians (the Senior Sample) to support research on their living standards, health, and intergenerational transfers.

This document should interest all of those using the MFLS-2 (or combined MFLS-1 and MFLS-2) data for analyses. It should also interest those planning household surveys in Malaysia or elsewhere, especially those attempting to reinterview a panel of respondents to an earlier survey.

Other RAND publications essential for users of the MFLS-2 data include:

- MR-107-NICHD/NIA, *The Second Malaysian Family Life Survey: Survey Instruments*, 1993, by Julie DaVanzo, John G. Haaga, Tey Nai Peng, Ellen H. Starbird, and Christine E. Peterson with the Staff of the Population Studies Center of the National Population and Family Development Board of Malaysia. The document presents the actual questionnaires used in MFLS-2 and the Interviewers' Instruction Manual. The development of the instruments is discussed, as are the findings of debriefings with the field staff during and after the fieldwork.
- MR-108-NICHD/NIA, *The Second Malaysian Family Life Survey: Codebook*, 1993, by Christine E. Peterson, Jeffrey Sine, and Deborah Wesley. This

document provides descriptions of all variables and locations of the various subfiles that make up the MFLS-2 database.

- MR-109-NICHD/NIA, *The Second Malaysian Family Life Survey: User's Guide,* 1993, by Christine E. Peterson. This document provides descriptions of the MFLS-2 data format and the MFLS-2 data files and presents guidelines regarding how to use the data, with special focus on identifying individuals of interest and linking the various types of data.

Another document that may be useful to MFLS-2 users is:

- MR-110-NICHD, *The Second Malaysian Family Life Survey: Quality of Retrospective Data,* by Jeffrey Sine and Christine E. Peterson, forthcoming. This document assesses the quality of the retrospective data for the MFLS-2 New Sample on marital status, fertility, infant and fetal mortality, birthweight, contraception, breastfeeding, and education.

Persons interested in learning more about the 1976–1977 Malaysian Family Life Survey (MFLS-1) or using data from that survey should consult the following RAND publications:

- R-2351-AID, *The Malaysian Family Life Survey: Summary Report,* March 1978, by William P. Butz and Julie DaVanzo.
- R-2351/1-AID, *The Malaysian Family Life Survey: Appendix A, Questionnaires and Interviewer Instructions,* March 1978, by William P. Butz, Julie DaVanzo, Dorothy Z. Fernandez, Robert Jones, and Nyle Spoelstra.
- R-2351/3-AID, *The Malaysian Family Life Survey: Appendix C, Field and Technical Report,* March 1978, by Robert Jones and Nyle Spoelstra.
- R-2351/4-AID, *The Malaysian Family Life Survey: Appendix D, Descriptions of Sample Communities,* March 1978, by Fahmi Omar.
- R-2351/5-AID, *The Malaysian Family Life Survey: Appendix E, Master Codebook,* January 1982, by Terry Fain and Tan Poh Kheong.

The MFLS-1 data have been reorganized into files that more closely resemble the format of the MFLS-2 data, to make it easier for users to combine the MFLS-1 and MFLS-2 data in analyses. These reformatted MFLS-1 files are described in:

- MR-111-NICHD, *The First Malaysian Family Life Survey: Documentation for Subfiles,* 1993, by Christine E. Peterson and Nancy Campbell.

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SUMMARY

This document discusses the purpose, design, fieldwork, and response rates for the Second Malaysian Family Life Survey (MFLS-2), carried out in Peninsular Malaysia in 1988–1989. The MFLS-2 was, in part, a follow-up to the original Malaysian Family Life Survey (MFLS-1), which was fielded in 1976–1977. Both surveys produced household-level retrospective and current data for women and their husbands, covering traditional topics of demographic and household economic research (fertility, nuptiality, migration, mortality, employment, household composition), as well as social, economic, and community-level factors affecting family decisionmaking. MFLS-2 adds a sample of older Malaysians (the Senior Sample) to support research on their living standards, health, and intergenerational transfers.

The MFLS-2 contains four basic samples: the Panel, the Children, the New, and the Senior. The Panel Sample consists of those original 1,262 MFLS-1 respondents still living in Peninsular Malaysia who were reinterviewed in 1988 (926 original households were located and 889 of the original women completed the Female Life History Questionnaire). The Children Sample consists of selected children age 18 and older of the Panel respondents. There were interviews with one child, selected at random, still living in the same household with the Panel respondent (499 children), and as many as two children, selected at random, living elsewhere in Peninsular Malaysia (597 children). The New Sample consists of women age 18-49 (regardless of marital status) or an ever-married woman under age 18 in 1988 (2,184 women). The Senior Sample consists of people age 50 and over (1,357 seniors), where one senior per household was interviewed.

Spouses of the primary respondents in each of the above samples were also interviewed (2,865 spouses in total). When combined, the four samples result in 4,438 interviewed households, 3,851 female life histories, 3,053 male life histories, and 1,357 senior life histories. In addition, for all four samples, basic demographic and education information was collected about all members of the primary respondent's household (23,816 persons in total), and about all the respondent's children who lived elsewhere.

The New and Senior samples are representative samples for their respective populations within Peninsular Malaysia. Households for the New and Senior samples were located in 398 Enumeration Blocks (EBs) selected to be representative. Indian households were sampled at twice the rate of the other ethnic groups to provide sufficient sample sizes for analyses within each of Malaysia's major ethnic groups.

The response rates for the New and Senior samples were very high. Among households determined to have eligible respondents, interviews were conducted in 91.5 percent of the households. The refusal rate was just 2.6 percent. Within interviewed households, the response rate for any given section of the questionnaire was also very high. Ninety-eight percent of the women selected for the New Sample in those households completed the Female Life History Questionnaire (MF22); among husbands of the selected women, 92 percent had life histories completed (85 percent had the Male Life History Questionnaire [MF23] and 7 percent completed the Senior Life History Questionnaire [MF24]). The Senior Sample also had a very high response rate--97 percent of the selected seniors in households with eligible seniors completed the senior questionnaire (MF24).

When MFLS-1 was fielded in 1976, no one imagined that a second MFLS would be conducted and certainly no one expected that the respondents to MFLS-1 would ever be re-interviewed. Unlike longitudinal surveys designed to follow people through time, the MFLS-1 did not collect detailed location information or names of relatives or friends who might know where the MFLS-1 respondent lived if she had moved. Armed only with the original addresses from 1976 and the Primary Sampling Unit descriptions, interviewers set out to locate the original MFLS-1 respondents and their families. Thus, the fact that interviewers and field scouts were able to locate and interview over 70 percent of the eligible MFLS-1 respondents is quite remarkable.

Of the original 1,262 MFLS-1 women, interviewers and field scouts determined that 31 had died since 1976 and 2 had left Peninsular Malaysia, leaving 1,229 women presumed to be eligible for reinterview. Seventy-two percent (889 women) were located and completed the Female Life History Questionnaire (MF22); 25 percent could not be located (306 women, some of whom may have died or left Peninsular Malaysia); 1 percent refused (13 women) and 2 percent (21 women) could not complete MF22 for other reasons (e.g., illness or never home). Seven hundred and sixty-eight of the Panel women were currently married in 1988. The Male Life History Questionnaire (MF23) was completed by 93 percent of those 768 husbands.

Among the Panel respondents' children selected for interview, the overall response rate was 73 percent (1,096 children total). However, these response rates varied between those living with the Panel respondent and those living away. As might be expected, response rates were very high for children living in the Panel household. Ninety-three percent of the selected children age 18 and over living in the Panel household completed a life history questionnaire (MF22 or MF23, depending on the sex of the child). Among the selected children age 18 and over and living elsewhere in Peninsular Malaysia, on the other hand, interviews were completed with 63 percent of those children; among households with

at least one eligible adult child living away, 73 percent of those households had at least one completed interview for a child living elsewhere. The response rate for spouses of the interviewed adult children who were married was 95 percent (495 spouses were interviewed).

Nonresponse (both unlocatable and refusals) was not random among the Panel and Children samples. The Chinese women in the MFLS-1 sample were the least likely to be successfully reinterviewed in MFLS-2 (60 percent of those presumed eligible), while Malays were the most likely to be reinterviewed (83 percent). Urbanization and ethnicity are highly correlated in Malaysia where a much higher percentage of Malays than of Chinese live in rural areas. Thus, the higher response rates found among women living in rural areas in 1976 is partly due to ethnicity. However, within ethnic groups, Malay and Chinese women living in metropolitan areas in 1976 had lower response rates than those living in rural areas, but Indian women living in metropolitan areas had higher response rates than Indian women living in rural areas. This higher response rate for 1976 urban Indian women reflects the difficulty in tracking estate workers, who compose the majority of rural Indians. Older women were also more likely to be reinterviewed since they were likely to be less mobile than younger women in the 1976 MFLS-1 sample.

Within the Children Sample, Chinese children were the most difficult to locate and interview. Among the sample of adult children living in the Panel household, the ethnic differential in response rates is not large (95 percent for Malays, 89 percent for Chinese and 93 percent for Indians). However, among the sample of adult children living elsewhere (CLE) in Peninsular Malaysia, only 35 percent of the selected Chinese CLE were interviewed compared with 73 percent of the Malays and 78 percent of the Indians. Response rates also differed by sex, with daughters having response rates 8 percentage points higher than those of the sons.

Because of these differential response rates and the different cohorts represented, users must exercise caution in combining the Panel/Children and New/Senior sample data. In addition, the MFLS-2 samples are not directly comparable in a number of other aspects, such as, Indians were oversampled in the New/Senior data; male samples in the New data represent only currently married men; the Children Sample did not condition on marital status; and the Panel Sample included only ever-married women, while the New Sample is representative of all women of reproductive age.

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1. INTRODUCTION

The Second Malaysian Family Life Survey (MFLS-2) was a collaborative project between RAND and the National Population and Family Development Board (Lembaga Penduduk dan Pembangunan Keluarga Negara, or LPPKN) of Malaysia, with support from the (United States) National Institute of Child Health and Human Development and the National Institute on Aging. Fieldwork for MFLS-2 began in August 1988 and was completed in January 1989.

This document presents a general overview of the MFLS-2 survey, including its purpose, samples, questionnaires, and background information on Malaysia, and then provides a detailed discussion of response rates among the different MFLS-2 samples. The last section contains a discussion of general survey operations and fieldwork.

Specific information regarding survey instruments is presented in a separate document (Survey Instruments, MR-107-NICHD/NIA, 1993). Detailed information on specific data files is found in the Codebook, MR-108-NICHD/NIA, 1993, and in the User's Guide, MR-109-NICHD/NIA, 1993.

PURPOSE OF THE SURVEY

MFLS-2 was designed as a follow-up to the first Malaysian Family Life Survey (MFLS-1), which was fielded in three rounds in 1976–1977. Both surveys produced household-level retrospective and current data from women and their husbands, covering traditional topics of demographic research (fertility, nuptiality, migration, mortality), as well as social and economic factors affecting family decisionmaking.[1] MFLS-2 added a sample of older Malaysians, to support research on their living standards, health, and intergenerational transfers.

The overall purpose of the MFLS-2, like the MFLS-1, was to enable study of household behavior in diverse settings during a period of rapid demographic and socioeconomic change. The linked MFLS-1 and MFLS-2 data allow the study of intergenerational persistence, as well as change, in marriage and fertility norms and behavior, and in economic circumstances.

[1]MFLS-1 has been widely used by researchers throughout the world for studies of fertility and family planning, child health and survival, infant feeding, marriage, migration, employment and time allocation, income distribution, and intergenerational transfers. It has been the basis for about 175 articles, papers, and dissertations on these and other topics. A list of publications based on MFLS-1 is included as Appendix A.

SAMPLES

Four samples of the household population of Peninsular Malaysia were interviewed in MFLS-2:

Those eligible for the **Panel Sample** were the 1,262 women who were the primary respondents to MFLS-1 in 1976. At that time, all had been married and were aged 50 or younger. In MFLS-2, 889 of these Panel respondents completed the Female Life History questionnaire, a follow-up rate of 72 percent of those eligible.

The **Children Sample** consisted of the children aged 18 or older of the women interviewed as primary respondents for MFLS-1—that is, sons or daughters of the women eligible for the MFLS-2 Panel Sample. There were interviews with one child, selected at random, still living in the same household with the Panel respondent, and as many as two children, selected at random, living elsewhere in Peninsular Malaysia. There were 1,096 primary respondents in the Children Sample, of whom 499 were living in the Panel household and 597 were living elsewhere.

The **New Sample** consisted of women aged 18–49 (selected without regard to marital status) or ever-married women under age 18. There were 2,184 primary respondents in the New Sample, of whom six were under age 18.

The **Senior Sample** consisted of 1,357 persons (671 men and 686 women) aged 50 or older. Of these, 633 lived in the same households as members of the New Sample.

There were also interviews with the spouses of all primary respondents in the Panel, Children, and New samples who were married and living together at the time of the interview. There were interviews with 1,642 husbands of women selected for the New Sample, 728 husbands of women eligible for the Panel Sample, and 302 husbands of women selected for the Children Sample, plus 192 wives of men selected for the Children Sample, for a total of 2,864 spouses. Furthermore, for all four samples, basic demographic and educational information was collected about all members of the primary respondent's household—23,816 persons in total—and about all of the respondents' children who lived elsewhere.

The data also include detailed information on each household's wealth, earned income, and intergenerational transfers in the year preceding the interview. This information is available for 4,410 households.

For the Panel and Children samples, identifiers permit matching of households and persons to their MFLS-1 observations and to MFLS-2 information on other persons from their MFLS-1 household.

Households for the New and Senior samples were located in 398 Enumeration Blocks (EBs), selected to be representative of Peninsular Malaysia. Households headed by Indians were sampled at twice the rate of other ethnic groups to provide sufficient sample sizes for analyses within each of Malaysia's major ethnic groups. Community-level data were collected for each of the 398 EBs covered by the New and Senior samples, as well for the 52 Primary sampling units that composed the sample for MFLS-1.

SURVEY INSTRUMENTS

The MFLS-2 data were collected with nine instruments:[2]

TRACKING gathered information on all Living Quarters (LQs) selected for interview, regardless if an interview was completed. It contains sampling unit identifiers, final disposition of the entire survey, final completion date of interview process, MFLS-1 identifier for selected Children Sample respondent, plus completion codes for all MF questionnaires, and the number of persons eligible for New and Senior samples.

MF20 (MFLS-1 Roster Update and List of Eligible Children) was administered to the Panel Sample respondents. It collected information on the current location of all persons who lived in MFLS-1 households and of all other own children of MFLS-1 primary respondents. MF20 was used to trace those living elsewhere who were eligible for the Children Sample.

MF21 (1988 Household Roster) elicited data on the characteristics of all current members of all interviewed MFLS-2 households.

MF22 (Female Life History Questionnaire) was administered to all female primary respondents in the Panel, Children, and New samples, and to the wives of all male primary respondents in the Children Sample. MF22 collected retrospective data on pregnancies and related events (e.g., infant feeding and child survival), marriages, migration, education and training, and work, and it also included data on child care and educational expenses, family background, and intergenerational transfers between the respondent and her parents and between her and her children.

MF23 (Male Life History Questionnaire) was administered to all male primary respondents in the Children Sample and to current husbands of all female primary respondents in the Panel, Children, and New samples. Some husbands aged 50 and over of women in the New Sample were selected as respondents for the Senior Sample and were administered MF24 instead of MF23. MF23 collected retrospective data on marriages,

[2]A separate document, (MR–107– NICHD/NIA, DaVanzo et al., 1993) presents the actual instruments used and provides information about their development.

migration, education and training, and work, and it also included data on family background and on intergenerational transfers between the respondent and his parents.

MF24 (Senior Life History Questionnaire) was administered to all respondents in the Senior Sample. It collected retrospective data on marriages, children, migration, and work, and it also included data on family background, intergenerational transfers, and health and functional status.

MF25 (Household Economy Questionnaire) was administered to all MFLS-2 households and collected information, for each individual household member, on all sources of income during the 12 months preceding the survey. These sources included jobs; businesses; cottage industry; fishing; farming; interest, dividends, and pensions; and transfer payments from the government and from individuals outside the household. Some information on housing, property ownership, and household expenditures was also collected.

MF26 and MF27 (Community Questionnaires) collected current and historical information on the characteristics of all MFLS-1 and MFLS-2 sample areas, including data on family planning and health clinics, schools, job markets, water and sanitation, roads, and public transportation. These data were collected from administrative records and knowledgeable sources.

2. THE SETTING—PENINSULAR MALAYSIA

Peninsular Malaysia consists of 11 states and one federal territory,[3] in which resided 83 percent of the total 1988 Malaysian population of 16,921,000 (Department of Statistics, 1988). Figure 1 is a map showing the location of Peninsular (or "Western") Malaysia.

The ethnic composition of the Malaysian population reflects the history of the great population movements of the 19th and early 20th centuries. The Malays, who made up 58 percent of the population of Peninsular Malaysia in 1988, are almost all Muslims. Along with the few Orang Asli (original inhabitants), the Malays are considered the "Bumiputra," "or sons of the soil." Later waves of migration brought to the peninsula the Nanyang ("South Sea") Chinese, many of whom came to work the tin mines, and Tamils and other Indians to work on estates and in public services. Thirty-two percent of the population in 1988 were Chinese, and 10 percent were Indians. That is, Eurasians and others are less than 1 percent of the total. These ethnic groups differ markedly in occupational structure, average incomes, and most demographic and health indicators. Malaysian Chinese, for example, have higher household incomes on average than those of the Malays and are more likely to live in urban areas. A major policy goal of the government has been to eradicate poverty and to close economic and social gaps among the ethnic groups without jeopardizing the nation's rapid economic growth based on largely unfettered enterprise (Snodgrass, 1980; Government of Malaysia, 1986). The New Economic Policy was implemented in 1971 to help promote such changes (see Govindasamy, 1991) and in 1991 has been continued, with some modifications, as the New Development Policy.

Total fertility rates have fallen in Peninsular Malaysia from around 6.7 at the time of independence in 1957 to 3.6 in 1988 (Nor Laily et al., 1982; Department of Statistics, 1988). Considerable regional and ethnic variation remains in both levels and trends of fertility. Since the time of MFLS-1, fertility has continued to decline for the Chinese and Indians but has apparently risen somewhat for the Malays (Hirschman, 1986).

In 1982, the Prime Minister, Dato Seri Dr. Mahathir Mohamad, announced a goal to increase Malaysia's population to 70 million; this has become known as the "New Population Policy" (see Cheung, 1989, and Govindasamy, 1991). An Ad Hoc Committee on Population Issues appointed by the government recommended a goal of reaching replacement levels of

[3]The East Malaysian states of Sabah and Sarawak, and the federal territory of Labuan (near Borneo), were not covered in either MFLS-1 or MFLS-2, though they were the focus of a demographic survey fielded by LPPKN in 1989.

fertility by the year 2070, so that the population would stabilize at 70 million by the year 2100.

There is considerable variation cross-sectionally and over time in mortality rates. In 1987, for example, infant mortality rates in the most developed parts of Peninsular Malaysia—Selangor and the Federal Territory—were around 10–11 infant deaths per 1,000 births (comparable with the rates in New Zealand and Italy). In the least developed states on the peninsula—Kedah and Kelantan—infant mortality rates were nearly twice as high, around 18 per 1,000 (Department of Statistics, 1988). In the 1940s and early 1950s (the beginning of the period that the MFLS-1 covers retrospectively), infant mortality rates were around 100 per 1,000 live births—above current rates for many South Asian and sub-Saharan African countries.

The Government of Malaysia has continued to extend basic services—health care, clean water and sanitary services, schools, and family planning—to rural areas and less developed regions. But significant variation remains in access to some services and in the quality of services (Snodgrass, 1980; Young, Bussink, and Hasan, 1980). According to government estimates, around 90 percent of households in Pulau Pinang and the Federal Territory had piped water in 1985 (which, according to research with MFLS-1, is a significant determinant of infant mortality, interacting with behavioral factors like breastfeeding [Habicht, DaVanzo, and Butz, 1988]), compared to fewer than a third of households in the state of Kelantan. In Peninsular Malaysia as a whole, the percentage of households with their own piped water connection has increased from 48 percent in the 1970 Census to about 80 percent in 1985 (Government of Malaysia, 1986).

Malaysia's National Family Planning Programme was established in 1966. (Previously, family planning services had been provided on a limited basis by private physicians or the private Family Planning Association.) In the early 1970s, the program made remarkable progress in the extension of services into the previously unserved countryside, primarily through integration of family planning with maternal and child health services operated by the Ministry of Health. By the time of the World Fertility Survey in 1974, over a third of Malaysian women had used modern contraceptives (Nor Laily and Tan, 1986) and MFLS-1 showed that in 1976 the vast majority of women, even in rural areas, lived within three miles of a source of modern contraceptives (DaVanzo, Tan, and Ramli, 1989).

The program was growing rapidly in the mid-1970s, at the time of MFLS-1; for example, 1.8 million cycles of pills were distributed in 1974 and 2.9 million just three years later (NFPB annual reports, various years). There is evidence that the family planning

program has since reached a mature phase: By 1981, the number of cycles of pills had grown more slowly, to 3.1 million (Nor Laily et al., 1982). So retrospective data from MFLS-2 should document the later stages of diffusion of modern contraceptives, just as MFLS-1 documented the earlier stages.

In 1960, a quarter of Malaysians lived in urban areas (by World Bank definitions); this has since grown to 41 percent (World Bank, 1990). The pattern of urban growth in Malaysia is interesting; unlike its neighbors, Malaysia has not been dominated by one city. There are several medium-sized cities, much rural-to-rural migration, and a good deal of circulatory migration and onward migration from small cities to the larger ones (Nagata, 1978; Radloff, 1983).

Malaysia averaged 4 percent annual growth in real gross national product (GNP) per capita during the period 1965–1988; it is now classified by the World Bank as a "lower-middle-income country," with yearly GNP per capita of $1940 (in 1988 U.S. dollars), just below that of Panama and Brazil (World Bank, 1990). Yet Malaysia still confronts pockets of poverty in rural areas and urban squatter settlements (Government of Malaysia, 1986).

Nearly all the major types of economic activity of Asian developing countries are found in Peninsular Malaysia: extractive industries, plantation agriculture, manufacturing and assembly, rice farming (both traditional and modern), fishing, and large- and small-scale commerce. Women's labor force participation rates, along with their educational attainment, have increased considerably in recent years. By 1980, just under half of Malaysian women aged 15–64 years were counted as labor force participants (Ministry of Finance, 1984). Secondary school enrollment rates for Malaysian girls aged 12–17 reached 59 percent in 1987, and there were 98 girls in secondary school for every 100 boys (World Bank, 1990). These represent considerable improvements since 1960, when secondary school enrollment was less than 20 percent of children in the relevant age range (World Bank, 1980), and since 1970, when there were only 69 girls for every 100 boys in secondary school (World Bank, 1990).

These shifts in education levels in Malaysia were accompanied by an increase in the number of schools and reforms in the education system, directed primarily at unifying the country and integrating its ethnic groups. Foremost among these was the choice of Bahasa Malaysia as the language of instruction. The Education Act of 1961 regulated the language of instruction by restricting teaching in secondary government schools to either Bahasa Malaysia or English. Other government action included reserving the bulk of government scholarships for Malays and relaxing the entry requirements for them into scientific and technical courses of study. There are two types of government schools in Malaysia—*national*

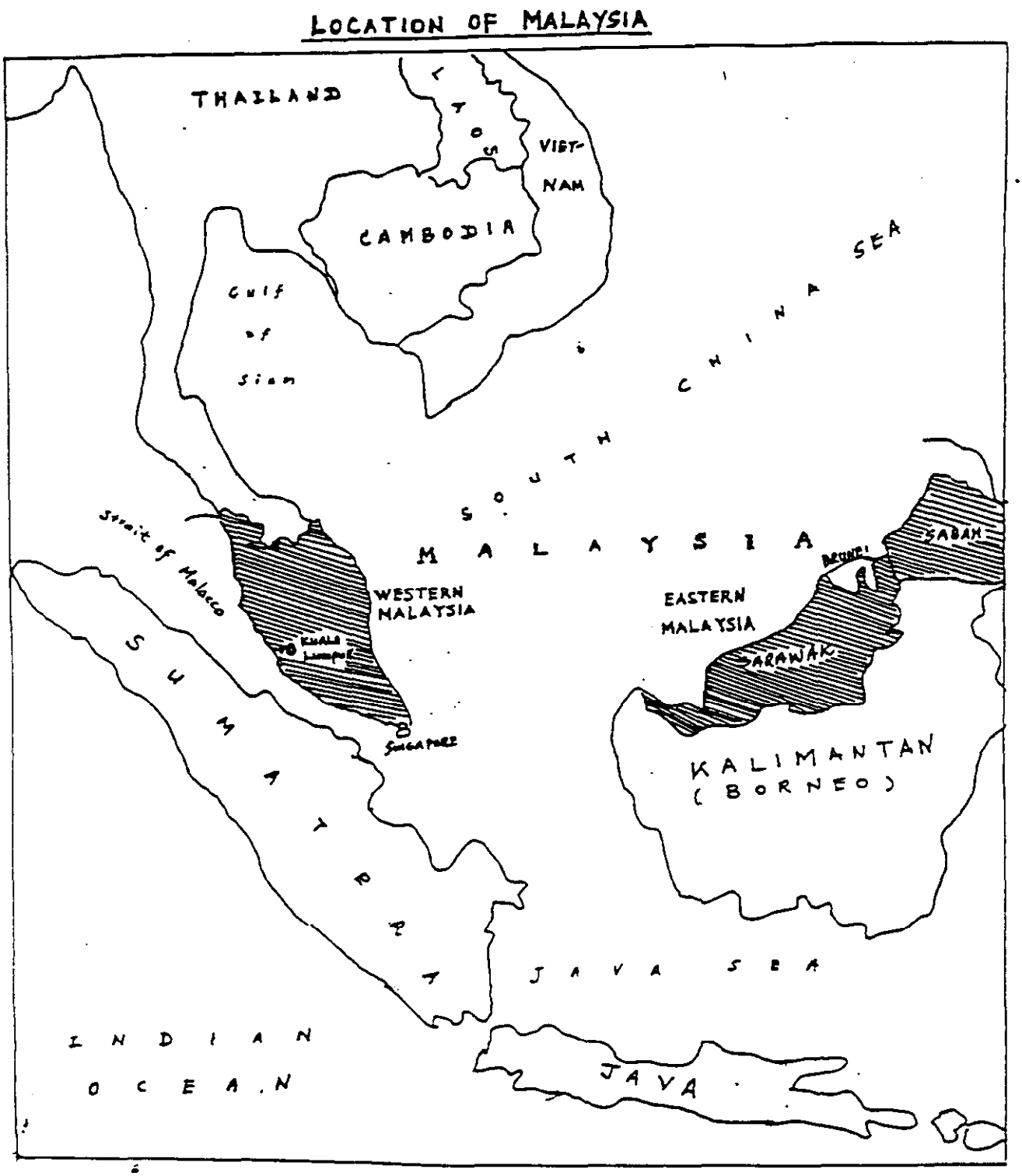

Figure 1

Map Showing the Location of Peninsular (or Western) Malaysia

and *national-type*. In the early 1970s, Bahasa Malaysia became the sole language of instruction for the cohort entering national primary schools; now all instruction in national primary schools is in Bahasa Malaysia. However, Chinese and Tamil are still being used as the language of instruction in national-type primary schools. In all government secondary schools, Bahasa Malaysia is the sole language of instruction. (For more information about changes in educational policy, see Pong, 1991.)

Thus, the combined MFLS-1 and MFLS-2 data cover a wide spectrum of the demographic and epidemiologic transitions that Malaysia has undergone. Variation, both cross-sectional and over time, in public services and indicators of economic welfare and development makes Malaysia a fascinating setting for studies of demographic and economic behavior and the effects of public policy.

3. NEW AND SENIOR SAMPLES

SAMPLING PLAN

This section describes the two-stage sampling plan for the MFLS-2 New and Senior samples. The selection procedures were designed so that (1) the New Sample is representative of the entire household population of women aged 18–49, and of ever-married women aged less than 18, in Peninsular Malaysia, and (2) the Senior Sample is representative of the household population of persons aged 50 and above. The smallest major ethnic group (Indians) was oversampled, and only one eligible respondent was selected in each household, so weights must be applied to the data to produce statistical estimates valid for the entire population.

In the first stage, EBs were selected from a sampling frame based on the 1980 Census covering all of Peninsular Malaysia. In the second stage, two lists of LQs in the selected EBs were compiled.

The first list, List A, was chosen to yield approximately 2,000 New Sample respondents. From this list of LQs, any household members age 50 or older were eligible for the Senior Sample. Previous field tests suggested that such a list of LQs would produce an insufficient number of seniors. A second list of LQs, List B, was drawn up from which Senior Sample members would be drawn. List A included 3,063 LQs, of which 2,184 women were eligible for the New Sample and completed the Female Life History Questionnaire (MF22), and 909 persons were eligible for the Senior Sample and completed the Senior Life History Questionnaire (MF24). (The process of screening is described below under "Respondent Selection.") List B contained 1,494 LQs from the same EBs, and these were screened only for persons eligible for the Senior Sample, producing an additional 448 respondents who completed MF24.[4] In all, 633 of the members of the Senior Sample live in the same households as members of the New Sample.

First Stage: Selection of EBs

The sampling frame maintained by the Statistics Department of the Government of Malaysia divides Peninsular Malaysia into about 26,000 EBs. The EB boundaries were drawn after the 1980 Census so that each EB would contain about 100 LQs. They were also

[4]An additional eligible Senior household completed MF21 and MF25 but not MF24.

drawn so that EBs fell entirely within administrative boundaries (i.e., an EB is never in more than one mukim, or gazetted area).

Each year, in preparation for the Labor Force Surveys, a sample of 2,500 EBs (two-thirds from the urban stratum and one-third from the rural stratum) is selected and the listing of LQs is updated by Statistics Department field staff. Thus, most of the EBs had had their listing updated, and measure of size (described below) reassigned, since 1980, but the year of the most recent listing varied.

For the MFLS-2, 280 EBs were selected at random from the list of 2,500 EBs whose listings were updated for the 1987 Labor Force Survey. Because the number of LQs in an EB may have grown or shrunk in the years since the Census, these 280 "old EBs" had been subdivided into 575 "new EBs" by the time of the 1987 listing. Each of the new EBs selected for MFLS-2 listing was assigned a "measure of size" (the rounded whole number of hundreds of LQs in the 1987 listing), so that the 575 new EBs were reapportioned into 1,446 measures of size (MOSs)— 844 urban MOSs and 602 rural MOSs. These MOSs were relisted in random order, then every fourth MOS was selected from the urban list and every other MOS from the rural list. (This was to give each MOS an equal probability of selection, since the Department of Statistics had double-weighted urban EBs in selecting the original list of 2,500 EBs for updating.) The result was that 213 MOSs were selected in the urban stratum and 297 in the rural stratum. These 510 MOSs were found in 401 of the new EBs. As noted below, three of these new EBs contained no LQs selected for the MFLS-2 sample, so the actual sample consists of 398 new EBs. The community data pertain to these 398 new EBs (hereinafter called "EBs" for simplicity), as well as the 52 Primary Sampling Units (PSUs) selected for MFLS-1.[5]

Second Stage: Selecting LQs

LQs are defined as using separate entrances to the outside (or to a public hallway in the case of multiple dwellings) as the main criterion. A block of flats, for example, contains many LQs, while a boarding house usually counts as only one. In deciding whether to count a dwelling place as a separate LQ or not, the field staff of the Department of Statistics also used such secondary criteria as whether utility bills treat a dwelling as a unit and whether there are separate cooking facilities.

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[5]PSUs are no longer used in Malaysia. The PSU codes used in the MFLS-2 Panel and Children samples refer to the location of the MFLS-1 household in 1976 and are not related to the household's location in 1988.

After the 401 EBs were selected, the Department of Statistics listed all the LQs in those EBs separately for four ethnic groups—Malays, Chinese, Indians, and others. (The 1987 listing contained information on the ethnicity of the head of the household.) Using a random start generated separately for each ethnic group list, we selected separate random samples of LQs, with a sampling fraction varying according to how many of the 510 MOSs were contained in the EB. Because Indian households were to be double-weighted, twice as many Indian households were selected as would have been expected based on their proportions in the 1980 Census. The remaining households were chosen from each ethnic list in proportion to their share of the non-Indian population in the 1980 Census. In all, 3,063 LQs were selected.

Table 1

Number of EBs and LQs Selected in Each State

State	EBs	LQs	
		List A	List B
Johor	103	533	265
Kedah	27	200	96
Kelantan	24	147	73
Melaka	12	74	31
Negri Sembilan	25	170	81
Pahang	32	345	168
Pulau Pinang	22	149	61
Perak	56	594	292
Perlis	3	23	10
Selangor	55	517	267
Terengganu	16	126	64
Wilayah Persekutuan (K.L.)	23	185	86
Total	398	3,063	1,494

By chance, no LQs were selected in three of the EBs originally selected at the first stage of sampling, so the final list has 398 EBs. Figure 2 shows how these 398 EBs are distributed across the districts of Peninsular Malaysia, while Table 1 summarizes the distribution of EBs and of households among the states of Peninsular Malaysia (separately for List A and List B). Appendix B presents distributions of households across EBs, districts, and the 11 states and Federal Territory of Kuala Lumpur (or Wilayah Persekutuan-Kuala Lumpur) of Peninsular Malaysia. Based on experience in fieldwork for the 1984–1985 Malaysia Population and Family Survey, it was expected that this number of LQs would

produce a final sample of approximately 2,000 women eligible for the MFLS-2 New Sample. As it turned out, this was a low estimate, since the final size of the New Sample was 2,184.

There are fewer households in Malaysia containing an older person than there are households containing a woman of reproductive age. When the MFLS-2 sampling was planned, we expected that there would be one household containing a person aged 50 and above (and in which an interview would be successfully completed) for every three LQs on the listing. After LQs were selected for List A, a similar procedure was applied to the remaining unselected LQs to generate a List B of 1,494 LQs. Only persons eligible for the MFLS-2 Senior Sample (men and women aged 50 or above) were selected from the List B LQs.

Table 2 shows the percentage of the 7,157 LQs on both lists that were drawn from each ethnic group list (first row) and the percentage of household heads in each ethnic group recorded in the 1980 Census of Population and Housing (second row). The Indian list contributed 19.8 percent of the MFLS-2 LQs, which is just over twice the percentage of Indian household heads in the preceding Census.

Selection of Main Respondents within LQs

When they first contacted each LQ in List A, the interviewers listed all the LQ residents (i.e., those who "usually eat and sleep here") eligible for the New Sample: women age 18–49 inclusive and women under age 18 if they had ever been married. These were numbered in order of age, beginning with the oldest. Interviewers then used a Kish selection key procedure to select, at random, one of the eligible persons to be the Main Respondent. A similar procedure was used to select Senior respondents in LQs on both List A and List B. (See the Respondent Selection Form reprinted in the DaVanzo et al., 1993.)

Table 2

Ethnic Distribution of the Population of Peninsular Malaysia and of Living Quarters Selected for MFLS-2

	Malays	Chinese	Indians	Other	Total
Percentage of LQs selected for MFLS-2 (List A and List B)[a]	51.5	27.4	19.8	1.3	100
Percentage of all household heads (1980 Census)[b]	58.5	31.2	9.6	0.7	100
Percentage of estimated population of persons aged 50+, 1986[c]	53.0	36.5	9.7	0.8	100

SOURCES: [a] MFLS-2 Unweighted Data.
[b] Department of Statistics, 1984.
[c] Department of Statistics, 1986 (Table 10).

DISTRIBUTION OF SELECTED EBs BY DISTRICTS IN PENINSULAR MALAYSIA MFLS II 1988.

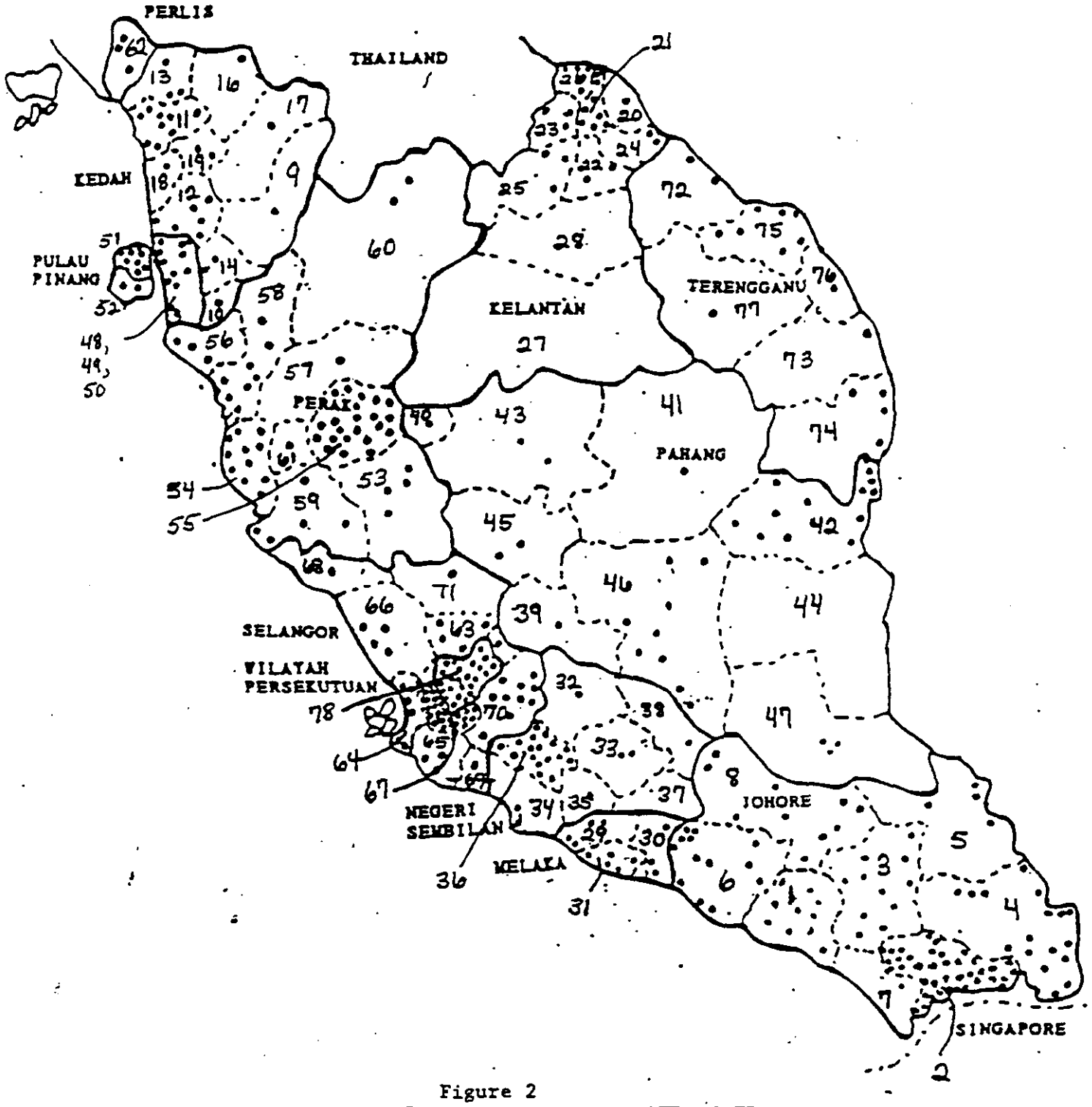

Figure 2
Map Showing the Distribution of the MFLS-2 EBs

Table 3 shows the frequency distribution of the number of persons who were eligible for the New and Senior samples in each household where an MF22 (New) or MF24 (Senior) questionnaire was completed. Twenty percent of households in the New Sample contained more than one woman eligible for that sample. Forty percent of the households in the Senior Sample contained more than one person eligible for that sample, but only 1.8 percent had more than two.

The "household" for purposes of MF21 and MF25 was defined by reference to these Main Respondents and included the Main Respondents' immediate family and other relatives (and nonrelatives who share living arrangements and contribute to the running of the household), provided they "usually eat and sleep" in the same LQ as the Main Respondent.[6] In 18 of the LQs on List A, the resident selected for the New Sample and the resident selected for the Senior Sample did not belong to the same household, as defined in MF21. In these cases, household-level data (MF21 and MF25) were collected separately for the two households, which can be distinguished in the MFLS-2 data by the split-off household identifier.

SAMPLING WEIGHTS

The scheme outlined above was intended to give every LQ in Peninsular Malaysia a probability of being selected approximately equal to that of all the other LQs in the same ethnic group list. To produce national estimates of proportions, means, and other parameters of interest, different weights have to be applied to data from the LQs in each ethnic group, reflecting the fact that the Indians were oversampled. The data must also be weighted to reflect the fact that the probability of a particular woman being selected for the New Sample was inversely proportional to the number of women living in the same LQ who were eligible for the New Sample, since only one was selected from each LQ because of concerns for efficiency and respondent burden. Similarly, the probability of selection for each person eligible for the Senior Sample was inversely proportional to the number of LQ residents eligible for the Senior Sample.

The MFLS-2 data tapes include variables to be employed as weights when using the data to produce estimates of statistics pertaining to the whole population. The variable WWEIGHT should be used to weight data collected from the New Sample for inferences about all women age 18–49 in Peninsular Malaysia. This variable is proportional to (1) the relative probability of selection for LQs in different ethnic group lists (one-half for LQs in the Indian list; one for all others), and (2) the number of female residents of the household age

[6]The definition of the household is discussed in more detail below under "MF21."

18–49 who were eligible for the New Sample (since only one Main Respondent was selected even if more than one was present in the household). The distribution of these is shown in Column 2 of Table 3. For ever-married women under age 18, WWEIGHT equals zero. WWEIGHT is scaled so that the weighted number of aged 18–49 New Sample respondents equals the actual number (2,179); that is, the mean value of WWEIGHT is 1.0.

Table 3

Number of Persons per Household Eligible for the New and Senior Samples (Households that Completed MF22 or MF24)

# Persons Eligible in the Household	Number of Households with: Women Eligible for New Sample*	Women Age 18–49 (WWEIGHT)	Ever-Married Women Age < 50 (EWEIGHT)	People Eligible for Senior Sample (Age 50+) (SWEIGHT)
0	0	5	188	0
1	1,754	1,754	1,891	809
2	308	305	95	523
3	88	86	7	22
4	24	24	2	2
5	8	8	0	1
6	1	1	1	0
7	0	0	0	0
8	0	1	0	0
9	1	0	0	0
Total # of households	2,184	2,184	2,184	1,357

* Women age 18–49 or ever-married women < age 18.

The variable EWEIGHT should be used to weight the New Sample for inferences about ever-married women, e.g., for fertility and breastfeeding rates. EWEIGHT uses the same logic as WWEIGHT except that it weights for the number of ever-married women in the household. The distribution of these is shown in Column 3 of Table 3. Respondents who

have never been married have a value of zero for EWEIGHT. EWEIGHT is scaled so that the weighted number of ever-married New Sample respondents equals the actual number (1,846).[7]

For each respondent in the Senior Sample, a separate variable, SWEIGHT, is included on the data tapes. SWEIGHT is inversely proportional to the probability that a person aged 50+ was selected for an interview. It is proportional to (1) the relative probability of selection for LQs in the different ethnic group lists (one-half for Indians; one for all others), (2) the ratio of the ethnic group's proportion of persons aged 50 and over divided by the same ethnic group's proportion of household heads (see Table 2), and (3) the number of household members eligible for the Senior Sample, since only one main respondent was selected even if more than one was present in the household (see Table 3). SWEIGHT is scaled so that the weighted number of Senior respondents is the same as the actual number of Senior respondents (1,357).

LQs were assigned to the separate ethnic lists on the sampling frame according to the recorded ethnicity of the head of household. Persons of different ethnic groups may, of course, live in the same households; and LQs may have changed hands between the time of the 1987 listing and the MFLS-2 fieldwork. The LQ residents selected for MFLS-2 samples may have identified with ethnic groups other than that of the head of household recorded on the sampling frame lists. Only 81 of the nearly 3,000 households enumerated in the New and Senior sample data (one-third of one percent) contained persons from more than one ethnic group, however, and the period between the updating of the sampling frame and fieldwork was relatively short. Hence, we doubt these possibilities would have any noticeable effect on the representativeness of the MFLS-2 samples of individuals and households.

RESPONSE RATES

Of the 3,063 LQs on List A, 224 were unoccupied, abandoned, or demolished since the 1987 listing (see Table 4). A further 143, after screening, proved to have no occupant eligible to be a respondent for either the New or the Senior samples. Of the remaining 2,696 LQs that may have had eligible respondents, interviews were conducted in 2,468 (91.6 percent).

In 118 of these, the full battery of MFLS-2 instruments was not completed, usually because the husband of a New Sample respondent was not available for the MF23 interview despite repeated callbacks.

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[7]There are 1,996 households that had at least one ever-married woman, but in 150 of these, a never-married woman (e.g., the unmarried daughter of the ever-married woman) was selected as the respondent for the New Sample; EWEIGHT is zero for these 150 cases.

Table 4

Response Rates for Households Selected for New and Senior Samples, Separately for List A and List B

	List A (Screened for New and Senior Respondents)	List B (Screened for Senior Respondents Only)	Total
Total selected	3,063	1,494	4,557
LQ vacant, demolished, not dwelling unit	224	81	305
No eligible respondent	143	920	1,063
Subtotal: LQs that may have had an eligible respondent	2,696 (100%)	493 (100%)	3,189 (100%)
Refusal	72 (2.7%)	12 (2.4%)	84 (2.6%)
Never home	115 (4.3%)	15 (3.0%)	130 (4.1%)
Illness, deafness, or confinement during delivery	16 (0.6%)	17 (3.5%)	33 (1.0%)
Language problem	4 (0.1%)	0 (0.0%)	4 (0.1%)
Moved or died before appointment	4 (0.1%)	0 (0.0%)	4 (0.1%)
Other or unknown	17 (0.6%)	0 (0.0%)	17 (0.6%)
Completed case	2,350 (87.2%)	444 (90.1%)	2,794 (87.6%)
Partially completed	118 (4.4%)	5 (1.0%)	123 (3.9%)

Of the 1,494 LQs on List B (from which only respondents for the Senior Sample were sought), only 493 were occupied by a potentially eligible respondent, and interviews were conducted in 449 (91.1 percent) of these households (Table 4). All or part of MF24 was completed in 448 of these cases.

There were 84 complete refusals from the two lists combined—under 3 percent of the 3,189 LQs that may have contained eligible respondents. The majority (58) of the LQs whose residents refused to participate had been drawn from the Chinese list (see Table 5). But even

for the Chinese, these represented only 6 percent of the LQs that may have contained eligible respondents.

Table 5

Response Rates for New and Senior Samples, by Ethnic Group (List A and List B Combined)

	Ethnic Group					
	Malay	Chinese	Indians	Other	Unknown*	Total
LQs with eligible respondents	1,578	927	627	50	7	3,189
Refusal	9 (0.6%)	58 (6.3%)	8 (1.3%)	6 (12.0%)	3 (42.9%)	84 (2.6%)
Never home	67 (4.2%)	42 (4.5%)	18 (2.9%)	0	3 (42.9%)	130 (4.1%)
Illness, deafness, confinement during pregnancy	15 (0.9%)	18 (1.9%)	0	0	0	33 (1.0%)
Language problem	0	0	0	4 (8.0%)	0	4 (0.1%)
Moved or died before appointment	3 (0.2%)	1 (0.1%)	0	0	0	4 (0.1%)
Other or unknown	10 (0.6%)	4 (0.4%)	2 (0.3%)	0	1 (14.3%)	17 (0.6%)
Completed case	1,425 (90.3%)	747 (80.6%)	584 (93.1%)	38 (76.0%)	0	2,794 (87.6%)
Partially completed	49 (3.1%)	57 (6.2%)	15 (2.4%)	2 (4.0%)	0	123 (3.9%)

* Ethnicity not recorded by interviewer.

A further 130 LQs were apparently occupied, but no resident was found despite repeated callbacks. (These include eight LQs selected on a naval base, from which the husbands were absent on duty, and their wives and children had returned to their home towns.) In 54 LQs, interviews could not be completed because of the illness or incapacity of the selected New or Senior sample member, or their failure to keep appointments for

callbacks, or other such problems. Despite the large number of Chinese dialects, Indian languages, Malay dialects, and other languages spoken in the Peninsula, language difficulties precluded interviews in only four LQs.

Response rates were judged to be sufficiently high that no attempts have been made to adjust sampling weights in the MFLS-2 data to account for differential nonresponse across strata. Analysts who wish to make such adjustments can use the information in Tables 4 and 5 to calculate such weights.

NUMBERS OF RESPONDENTS TO THE LIFE HISTORY QUESTIONNAIRES

The remainder of the discussion in this section deals with the number of respondents to the three Life History questionnaires (MF22, MF23, and MF24) for the New and Senior samples, and their distribution by ethnicity and, where relevant, by age and sex.

Female Life History Questionnaire (MF22)

Of the households in List A that responded, 2,213 contained at least one woman eligible for the New Sample. Of these, 2,177 women completed MF22 and another 7 partially completed MF22—for a response rate of 98.7 percent. There were 10 refusals, 9 of whom were Chinese (Table 6).

Of the 2,184 New Sample members who responded to MF22, just over half (1,128) were Malays, 569 (26.1 percent) were Chinese, and 454 (20.8 percent) were Indians (Table 6). In the 1980 Census, 10.0 percent of all women aged 15–49 in Peninsular Malaysia were identified as Indians (Department of Statistics, 1984, Table 2),[8] so Indians were over-represented in the MFLS-2 New Sample by about a factor of two, as intended.

The age and marital status of New Sample members are shown in Table 7. Most (80.9 percent) were married at the time of the survey. Of the 338 who had never been married, the majority were under age 25.

Male Life History Questionnaire (MF23)

Of the total of 2,184 New Sample members (MF22 respondents), 1,507 lived with husbands who were administered the MF23 instrument, and 129 lived with husbands who were age 50 or older and were selected for the Senior Sample and administered the MF24 instrument. In all, 1,513 men completed MF23; there were six cases where the husband

[8] A more exact comparison would be between the ethnic distribution of MFLS-2 New Sample members and that reported in the Census for women aged 18–49 and ever-married women aged under 18, rather than of all women aged 15–49. But the latter is the closest approximation to the MFLS-2 universe that can be obtained from published reports.

completed MF23 but the wife did not complete MF22. (In those six cases, interviews were scheduled with the New Sample members but could not be completed during the fieldwork period because of illnesses or confinement after childbirth.)

Table 6

MF22 Response Rates for Households Responding in the New Sample, by Ethnic Group

	Ethnic Group					
Disposition	Malays	Chinese	Indians	Other	Total	
Responded to MF22 MF22 completed	1,127	563	454	33	2,177	(98.4%)
MF22 partially complete	1	6	0	0	7	(0.3%)
Total	1,128	569	454	33	2,184	(98.7%)
Did not respond to MF22						
Refusal	1	9	0	0	10	(0.5%)
Never home	2	3	1	0	6	(0.3%)
Respondent ill	3	0	1	0	4	(0.2%)
Other	5	1	1	2	9	(0.4%)
Total	1,139	582	457	35	2,213	(100%)

As is shown in Table 7, 1,767 of the MF22 respondents were currently married at the time of the survey, so the 1,507 cases in which both MF22 and MF23 were completed represent a response rate of 85.3 percent. However, if the husband of the MF22 respondent was the only person in the household age 50 or older, he was given MF24, the Senior Life History Questionnaire, and not MF23. There were 127 such cases, plus two others where the husband age 50 or more was selected for MF24 from among the others in the household eligible for the Senior Sample.[9] (In an additional eight cases, husbands age 50 and over

[9]The ethnic distribution of these cases was the same as for the 1,507 who were given MF23.

Table 7

New Sample Members (MF22 Respondents), by Age and Marital Status

Age	Marital Status					
	Never Married	Currently Married	Widowed	Divorced	Separated	Total
Under 18	(not eligible)	6	0	0	0	6 (0.3%)
18–19	79	19	0	0	0	98 (4.5%)
20–24	158	197	1	0	0	356 (16.3%)
25–29	60	435	1	5	1	502 (23.0%)
30–34	24	436	6	5	2	473 (21.7%)
35–39	11	349	6	6	5	377 (17.3%)
40–44	5	187	13	4	4	213 (9.7%)
45–49	1	138	16	2	2	159 (7.3%)
Total	338 (15.6%)	1,767 (80.9%)	43 (2.0%)	22 (1.0%)	14 (0.6%)	2,184 (100%)

were selected to be the Senior respondent but did not complete MF24.) Thus, the number of husbands of MF22 respondents actually interviewed is 1,636, or 92.6% of the number of husbands. An additional six husbands were interviewed whose wives did not complete MF22, for a total of 1,642 husbands completing MF23. Of the husbands not interviewed at all, 48 were not living with the New Sample respondent, 13 refused, 47 were never home, and 15 were not interviewed for unspecified reasons (Table 8).[10]

[10]The refusals were virtually all Chinese. The "never home" cases were basically split 50-50 between Malays and Chinese.

Table 9 shows the age distribution of MF23 respondents in the New Sample, by ethnic group. Most of the MF23 respondents are between the ages of 25 and 44. Chinese respondents are older on average. Sixty-eight percent of Chinese MF23 respondents are age 30 or older compared with 54 percent of Indians and 50 percent of Malays. Because husbands over age 50 were considered eligible for the Senior Sample (and indeed 129 of these responded to MF24), there are only 6 husbands over age 50 who responded to MF23 in the New Sample.

Table 8

Life History Questionnaires (MF23 or MF24) Administered to Husbands of Married Female Respondents in the New Sample

Number of married MF22 respondents in New Sample	1,767	
Husband selected for Senior Sample	137	
MF24 completed	129	(7.3%)
MF24 not completed	8	(0.5%)
Husband was to be given MF23	1,630	
MF23 completed	1,504	(85.1%)
MF23 partially completed	3	(0.2%)
Refused MF23	13	(0.5%)
Never home	47	(2.3%)
No response, reason unknown	15	(0.8%)
Husband not in household	48	(3.2%)
Additional cases where husband responded to MF23, but wife did not complete MF22	6	
Total number of MF23 respondents	1,513	
Total number of MF24 respondents who are married to New Sample respondents	129	
Total number of husbands of women selected for New Sample who are interviewed with a life history questionnaire (MF23 or MF24)	1642	

Senior Life History Questionnaire (MF24)

Of the households in List A and B that responded, 1,404 contained at least one person eligible for the Senior Sample. Of these, 1,357 responded to MF24 (in two of these cases, the questionnaire was only partially completed). Of the remaining 47 cases, 8 refused to respond

Table 9

Age Distribution of New Sample MF23 Respondents, by Ethnic Group

Age Group	Ethnic Group				Total	
	Malay	Chinese	Indian	Other		
Under 20	0	0	1	0	1	(0.1%)
20–24	28	6	8	1	43	(2.8%)
25–29	172	32	54	11	269	(17.8%)
30–34	216	80	72	5	373	(24.7%)
35–39	198	100	78	3	379	(25.0%)
40–44	122	89	50	3	264	(17.5%)
45–49	93	57	27	1	178	(11.8%)
50–54	2	1	2	0	5	(0.3%)
55–59	1	0	0	0	1	(0.1%)
Total	832 (55.0%)	365 (24.1%)	292 (19.3%)	24 (1.6%)	1,513 (100%)	

to MF24; in 25 cases the selected Senior respondent was either never home or too ill to respond (see Table 10).

Of the 1,357 MF24 respondents, 600 (44.2 percent) were Malays, 432 (31.8 percent) were Chinese, and 314 (23.1 percent) were Indians (Table 10). When the data are weighted using SWEIGHT, the percentages are 45.2 percent Malays, 42.0 percent Chinese, and 12.0 percent Indians (and 0.8 percent others). Only 9.7 percent of the population aged 50 and over recorded in the 1980 Census were Indians (see above, Table 2), so the over-representation of Indians in the MFLS-2 Senior Sample was somewhat greater than the doubling that had been planned.

The 1,357 Senior Sample members include 671 men and 686 women (Table 11). Over half of the Senior respondents are aged 50–59 (Table 11).

Table 10

MF24 Response Rates for Households Responding in the Senior Sample, by Ethnic Group

	Ethnic Group					
Disposition	Malays	Chinese	Indians	Other	Total	
Responded to MF24						
MF24 completed	600	430	314	11	1,355	(96.6%)
MF24 partially complete	0	2	0	0	2	(0.1%)
Total	600	432	314	11	1,357	(96.7%)
Did not respond to MF24						
Refusal	3	5	0	0	8	(0.6%)
Never home	7	6	3	0	16	(1.1%)
Respondent ill	5	0	4	0	9	(0.6%)
Other	5	6	3	0	14	(0.4%)
Total	620	449	324	11	1,404	(100%)

Combinations of Respondents to Life History Questionnaires

Table 12 shows, separately for each ethnic group, the frequency of various combinations of the MFLS-2 life history questionnaires (MF22, MF23, and MF24) in the 2,913 households in the New and/or Senior samples where one or more of these instruments were completed. The majority of the households (1,931, or 66 percent) contain respondents to more than one of the life history questionnaires, permitting very rich analyses of interrelations between household members. Two hundred and ten households contain respondents to all three life history questionnaires.

Table 11

Senior Sample Members (MF24 Respondents), by Age and Sex

Age	Men	Women	Total
50– 54	229 (34.1%)	171 (24.9%)	400 (29.5%)
55– 59	156 (23.3%)	197 (28.7%)	353 (26.0%)
60– 64	96 (14.3%)	117 (17.1%)	213 (15.7%)
65– 69	74 (11.0%)	87 (12.7%)	161 (11.9%)
70– 74	53 (7.9%)	59 (8.6%)	112 (8.2%)
75+	63 (9.4%)	55 (8.0%)	118 (8.7%)
Total	671	686	1,357

Table 12

Combinations of Life History Questionnaires in Households with New and/or Senior Sample Members, by Ethnic Group of Main Respondent

	Ethnic Group				
	Malays	Chinese	Indians	Other	Total
List A (screened for New and Senior respondents)					
MF22 resp. only	115	89	46	4	254
MF22 and MF23	757	278	237	25	1,297
MF22, MF23, MF24	64	88	56	2	210
MF22 and MF24	192	114	115	2	423
MF23 resp. only	1	4	0	0	5
MF23 and MF24	0	1	0	0	1
MF24 resp. only	147	85	38	5	275
List B (screened for Senior respondents only)					
MF24 resp. only	197	144	105	2	448
TOTAL MF22 resp.	1,128	569	454	33	2,184
TOTAL MF23 resp.	822	371	293	27	1,513
TOTAL MF24 resp.	600	432	314	11	1,357
Total number of households with respondents	1,473	803	597	40	2,913
Additional households for which MF21 only was completed	1	1	2	0	4

NOTE: These numbers may not correspond exactly to those in earlier tables because of cases where not all members of the households are of the same ethnic group.

4. PANEL AND CHILDREN SAMPLES

RESPONSE RATES FOR THE PANEL SAMPLE

When MFLS-1 was fielded in 1976, no one imagined that a second MFLS would be conducted, and certainly no one expected that the respondents to MFLS-1 would ever be re-interviewed. Unlike longitudinal surveys designed to follow people through time, the MFLS-1 did not collect detailed location information or names of relatives or friends who might know where the MFLS-1 respondent lived if she had moved. Armed only with the original addresses from 1976 and the PSU descriptions, interviewers set out to locate the original MFLS-1 respondents and their families. A more detailed discussion of the procedures used to locate the MFLS-1 respondent after 12 years appears in the Questionnaires and Interviewer Instructions Manual.[11]

Follow-up of MFLS-1 Female Respondents

There were 1,262 ever-married women who completed interviews in Round 1 of MFLS-1 in 1976. The MFLS-2 interviewers and field scouts learned that 31 of these women had died during the years between MFLS-1 and MFLS-2 (Table 13). Two had moved either to East Malaysia or to another country, according to neighbors, and the interviewers were instructed to drop them from their lists. Of the remaining 1,229 women presumed eligible, 889 (72 percent) were located and successfully reinterviewed with the Female Life History Questionnaire (MF22).[12] Thirteen of the women eligible for the Panel Sample were located but refused to participate in MFLS-2. Twenty were unable to participate for other reasons (most because they were never at home during the fieldwork period). The other 306 appeared to have moved away, and attempts to locate and interview them were unsuccessful. (Some of these 306 may have died or moved outside Peninsular Malaysia.)

Some data are available for a further 35 households, where the Panel Sample member could not be interviewed but another household member completed a Household Roster Update (MF20), providing some basic information on the members of the household listed in 1976. These include 16 of the 31 households where the Panel Sample member is reported to have died, 2 of the 13 where the Panel Sample member refused to participate in the second

[11]DaVanzo et al., 1993.

[12]For Case No. 1531, the original MFLS-1 respondent was interviewed as the "child living at home." Her mother, who lives in the household, insisted that she was the MFLS-1 respondent and not her daughter.

survey, and 17 of the 21 for which some other problem precluded an interview with the Panel Sample member. In 6 cases (5 Malay and 1 Chinese), the original MFLS-1 respondent was not interviewed because another household member (primarily a mother or mother-in-law) insisted *she* was the MFLS-1 respondent.[13] In these cases, interviewers did not try to interview the original MFLS-1 respondent for fear of losing the household altogether. In all, MF20 was filled out for 926 of the original 1,262 MFLS-1 households.

Table 13 also shows the response rates separately for each of the main ethnic groups in Peninsular Malaysia.

Table 13

Follow-up Rates for Potential Panel Sample Members, by Reason Not Interviewed and by Ethnic Group

	Ethnic Group				
	Malays	Chinese	Indians	Others	Total
Potential (interviewed in MFLS-1, round 1)	603	496	148	15	1,262
Died, 1976–88	22	7	2	0	31
Moved outside Peninsular Malaysia	1	0	1	0	2
Subtotal: Presumed eligible for MFLS-2 interview	580	489	145	15	1,229
Completed MF22 questionnaire (percent of eligible)	482 (83.1%)	293 (59.9%)	101 (69.6%)	13 (86.7%)	889 (72.3%)
Unable to locate	87 (15.0%)	176 (36.0%)	42 (29.0%)	1 (6.7%)	306 (24.9%)
Refusal	1 (0.2%)	11 (2.2%)	1 (0.7%)	0 (0.0%)	13 (1.1%)
Other incomplete (respondent ill, never home, etc.)	10 (1.7%)	9 (1.8%)	1 (0.7%)	1 (6.7%)	21 (1.6%)

[13]The case numbers for those households are: 519, 1104, 1118, 1213, 1575, and 2111. When case 1531 (see footnote above) is added, there are seven total cases where the woman selected as the MFLS-1 respondent was erroneous. It is important to note that the interviewers encountered no cases where it appeared that the MFLS-1 data had been made up; that is, no household denied participating in MFLS-1.

The Chinese women in the MFLS-1 sample were the least likely to be successfully re-interviewed in MFLS-2 (59.9 percent of those presumed eligible), while the Malays were the most likely to be reinterviewed (83.4 percent). The rate for Malaysian Indians (69.6 percent) was between those for the two larger ethnic groups. As shown in Table 14, the differences between ethnic groups were only partly attributable to differences in urbanization. (A much higher percentage of Malays than of Chinese live in rural areas, where follow-up rates were generally higher.) Within each of the strata, follow-up rates were always higher for Malays than Chinese. Within ethnic groups, follow-up rates for Malays and Malaysian Chinese were lowest for those who lived in the largest cities in 1976 and highest for rural dwellers (Table 14). The reverse was true for Malaysian Indians (the smallest of the ethnic groups, with 10 percent of the population); this reflects the difficulty of tracking estate workers, who comprise the majority of rural Indians.[14]

Table 14

Follow-up Rates for Potential Panel Sample Members, by Ethnic Group and Urban/Rural Residence

	Residence in 1976		
Ethnic Group	Metropolitan	Smaller Cities	Rural
Malays	63.8%	77.2%	87.0%
Chinese	45.3%	65.5%	66.8%
Indians	80.6%	67.7%	65.4%
Total	54.9% (244)	69.8% (272)	79.4% (713)

The age distribution of respondents in the Panel Sample is shown in Column 1 of Table 15. The median age group is 45–49, and 37.5 percent of the women were aged 50 or over.

Ages are based on birth date reported in 1988. This table does not include respondents from the six households where women other than the MFLS-1 respondent were mistakenly interviewed as the Panel respondent.

The MFLS-2 data tapes do not contain weights for data collected from the Panel Sample. Some analysts of data from the Panel Samples may wish to adjust for differential

[14]Further analysis of the selectivity of follow-up in the Panel Sample can be found in Haaga, DaVanzo, Peterson, and Tey (1991).

loss to follow up, using the data presented in Tables 13 and 14 or in Haaga, DaVanzo, Peterson, and Tey (1991). Analysts may also want to adjust for the fact that three of the MFLS-1 PSUs (numbers 451225, 454945, and 440574) were purposively selected[15] and for the fact that, as in the MFLS-2 New Sample, when more than one woman in a household was eligible to be the MFLS-1 Main Respondent, one was selected at random to be the Main Respondent using the Kish procedure.[16]

Table 15

Age Distributions of MF22 and MF23 Respondents in the Panel and Children Samples

	Panel Sample				Children Sample			
	MF22		MF23		MF22		MF23	
Under 20	0		0		96	(12.3%)	96	(11.8%)
20–24	0		0		239	(30.7%)	175	(21.6%)
25–29	8	(0.9%)	3	(0.4%)	220	(28.3%)	207	(25.5%)
30–34	65	(7.3%)	14	(1.9%)	141	(18.1%)	167	(20.6%)
35–39	141	(15.9%)	71	(9.8%)	57	(7.3%)	99	(12.2%)
40–44	156	(17.5%)	107	(14.7%)	22	(2.8%)	37	(4.6%)
45–49	186	(20.9%)	127	(17.4%)	3	(0.4%)	17	(2.1%)
50–54	155	(17.4%)	144	(19.8%)	0		10	(1.2%)
55–59	128	(14.4%)	115	(15.8%)	0		3	(0.3%)
60–64	50	(5.6%)	79	(10.9%)	0		0	
65+	0		68	(9.3%)	0		1	(0.1%)
Total	889		728		778		812	

[15]These three PSUs were selected to add to the representation of Indian households and fishing villages, which were of particular concern for government programs to eliminate poverty. (Further details of the MFLS-1 sampling plan can be found in Jones and Spoelstra [1978].)

[16]In MFLS-1, only ever-married women under age 50 were eligible. The number of such women can be inferred from the MFLS-1 household roster (MF1).

Response Rates for Husbands of Panel Women

Of the MFLS-1 respondents who were successfully interviewed with MF22 in MFLS-2, 768 (or 86.3 percent) reported that they were currently married at the time of the MFLS-2 interview. For 717 (or 93.4 percent) of these cases, the Panel respondent's spouse completed the Male Life History Questionnaire, MF23. Table 16 shows the disposition of the other 51 cases. For all three of the main ethnic groups, the main reason MF23 was not completed was that the husband was not living in the household at the time when MFLS-2 was fielded. An additional 11 men responded to MF23 even though their wives did not complete MF22.

Of the 728 total respondents to MF23 in the Panel Sample, 644 (88.5 percent) had been interviewed with the life history questionnaire (MF3) in MFLS-1 also. The age distribution of MF23 respondents in the Panel Sample is shown in Table 15. The median age group is 50–54. Fifty-six percent of the husbands interviewed were age 50 or older.

Response Rates for MFLS-1 Primary Sampling Units

Because variables measured at the community level are important for many analyses of the combined MFLS data, it is useful to look at aggregate follow-up rates for the MFLS-1 PSUs. Like MFLS-2, MFLS-1 had a two-stage sampling plan. The first stage had been the selection of 49 PSUs from a sampling frame that had been updated following the 1970 Census and of the three PSUs that were purposively selected to increase the number of Indian households and households in fishing villages. PSUs covered larger areas than the EBs used in drawing the MFLS-2 New and Senior samples.

In MFLS-2, three PSUs (two from the rural stratum, one from the urban nonmetropolitan stratum) had 100 percent follow-up rates. One metropolitan PSU had no successful follow-ups out of the five women eligible. (This was the smallest number of women presumed eligible for any PSU; the average was 23.) Most PSUs, especially the rural ones, had rates well above 50 percent, so almost all of the original MFLS-1 communities are well represented in the MFLS-2 Panel data (Appendix Table C-1). Appendix C shows, for each MFLS-1 PSU and district and each state, the number of women who had completed interviews in Round 1 of MFLS-1 and the number and percentage of those reinterviewed for the MFLS-2 Panel Sample.[17] All states had response rates exceeding 60 percent (Appendix Table C-3), and all but 3 of the 37 districts represented in the MFLS-1 sample had response rates of at least 50 percent.

[17]These PSU, district and state response rates are relative to the respondents' 1976 locations. For example, of those women originally interviewed in PSU = 430094, 91.3 percent were reinterviewed.

Table 16

Response and Nonresponse to MF23 in the Panel Sample, by Ethnic Group

	Ethnic Group				
	Malays	Chinese	Indians	Others	Total
Number of MF22 Panel respondents currently married at the time of MFLS-2	413	260	83	12	768
MF23 completed by current husband	396 (95.9%)	230 (88.5%)	80 (96.4%)	11 (91.7%)	717 (93.4%)
MF23 refused	0	7 (2.7%)	0	1 (8.3%)	8 (1.0%)
MF23 respondent never home	5 (1.2%)	5 (1.9%)	0	0	10 (1.3%)
MF23 respondent ill	0	1 (0.4%)	0	0	1 (0.1%)
Other reason MF23 not completed	0	2 (0.8%)	0	0	2 (0.3%)
Husband not living in household	12 (2.9%)	15 (5.8%)	3 (3.6%)	0	30 (3.9%)
Additional MF23 respondents					
MF23 completed; Panel woman no longer in the household	1	1	1	0	3
MF23 completed; Panel woman in household but did not complete MF22	3	5	0	0	8
Total number of MF23 respondents in Panel Sample	400	236	81	11	728
Number of MF23 respondents in Panel Sample who completed MF3 in MFLS-1	352 (88.0%)	202 (85.6%)	80 (98.8%)	10 (90.9%)	644* (88.5%)

NOTE: Ethnicity is that of the MF22 respondent.

* This includes 11 cases where the Panel woman was not interviewed in MFLS-2.

RESPONSE RATES FOR THE CHILDREN SAMPLE

The Children Sample consisted of the children aged 18 or older of the women interviewed as primary respondents for MFLS-1—that is, sons or daughters of the women eligible for the MFLS-2 Panel Sample. There were interviews with one child, selected at random, still living in the same household with the Panel respondent, and as many as two children, selected at random, living elsewhere in Peninsular Malaysia (Children Living Elsewhere [CLEs]). The number of eligible children at home (the variable NHOME) and the number away (the variable NAWAY) are available in the Tracking Data for the Panel (split-off indicator equals zero) households and can be used as weights for analyses of the Children Sample. Except for the last two rows of Table 23, all tables in this section exclude the seven cases (all Malays) where the MFLS-1 respondent was erroneously not selected as the Panel respondent, and thus none of the MFLS-1 respondents' children were selected for interview.

Children Living with the Panel Sample Members

Table 17 shows the response rates for children living with the Panel Sample members. No information was collected for 336 of the 1,262 possible Panel Sample households.

In 387 of the Panel Sample households that were contacted, there was no child in the right age range (18 or over) living at home. The remaining 539 households were found to have household members eligible for the Children Sample. One child at home was selected at random in each of these households,[18] and interviews (either MF22 or MF23, depending on the sex of the child selected) were completed with 499 respondents (92.6 percent). The response rates are high for all of the ethnic groups, with the lowest rate being 88 percent for Chinese households (Table 18). Most nonresponders were males; the main reasons for nonresponse were "refusal" and "never home."

Assuming the 336 households for which MF20 was not completed had the same percentage (58 percent) with a resident who *would* have been eligible for the Children-at-home Sample, an additional 196 persons in these households would have been eligible, suggesting that we interviewed around two-thirds (498/[539+196] = 67.8 percent) of all children presumed eligible for the sample of children still living with the MFLS-1 Main Respondent.

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[18]The total number of children aged 18 and over living with the Panel Sample member, from which respondents were selected, was 1,092. Table 17 shows the frequency distribution of the number of children per household eligible for this sample.

Table 17

Response Rates for Children Aged ≥ 18, Living in Panel Sample Households, by Number of Children Eligible

# Children Aged ≥ 18 Living in Panel Sample Households (NHOME)	# Cases	# Cases with Completed Interview with Selected Eligible Child (MF22 or MF23)	%
0	387	NA	NA
1	220	201	91.4
2	166	158	95.2
3	99	92	92.9
4	36	31	86.1
5	13	13	100.0
6	4	3	75.0
7	1	1	100.0
Subtotal—Panel Sample households known to have at least one resident eligible for the Children Sample	539	499	92.6
Unknown (MF20 not completed)	336	0	
Total MFLS-1 cases	1,262	499	

Table 18

Response Rates for Children Living with Panel Member, by Ethnic Group

	Ethnic Group				
	Malays	Chinese	Indians	Other	Total
Panel sample households known to have at least one resident eligible for the Children Panel Sample	282	177	75	5	539
Completed interview with one eligible child	267	157	70	5	499
Response rate	94.7%	88.7%	93.3%	100.0%	92.6%

Table 19

Response Rates for Children Aged ≥ 18 Living in Separate Households from Panel Sample Member (Children Living Elsewhere), by Number of Children Eligible

# of Eligible Children Living Elsewhere (CLE) (NAWAY)	# of Cases	# of Eligible CLE (up to Two per Case)	# of Cases with MF22/ MF23 Completed by at Least One Eligible CLE		# of House-holds with MF22/MF23 Completed by 2nd Eligible CLE	% of Eligible Children Interviewed
0	374	0	NA	%	NA	NA
1	149	149	91	61.1	NA	61.1
2	137	274	109	79.5	66	63.9
3	82	164	66	80.5	47	68.9
4	65	130	50	76.9	34	64.6
5	45	90	33	73.3	16	54.4
6	40	80	32	80.0	22	67.5
7	18	36	9	50.0	3	33.3
8	10	20	7	70.0	3	50.0
9	2	4	2	100.0	0	50.0
10	1	2	1	100.0	1	100.0
11	3	6	3	100.0	2	83.3
Subtotal	552	955	403	73.0	194	62.5
Unknown (MF20 not completed)	336	DK	0		0	
Total MFLS-1 cases	1,262	DK	403		194	

NOTE: Includes the six households where some woman other than the one eligible for the Panel Sample was erroneously selected as the Panel respondent.

Children Living Elsewhere (CLES)

Table 19 shows the response rates for CLEs. Again, there was no information about 336 of the 1,262 original MFLS-1 households. In a further 368, there were no children of the Panel Sample member aged 18 or over living apart from her in Peninsular Malaysia; the six households where the MFLS-1 respondent was not selected are treated as if they had no eligible CLEs; in total, then, 374 households had no eligible CLEs. Of the 374, 348 had no child age 18+ living away, and 26 had all children age 18+ living outside Peninsular

Malaysia. The remaining 552 cases had from 1 to 11 children living elsewhere in Peninsular Malaysia.

The frequency distribution of the number of eligible CLEs (NAWAY) is shown in Table 20.[19] Interviews were completed with at least one of the selected CLEs for 403 of these cases (73.0 percent). For those with two or more CLEs two were selected for the sample, making a total of 955 selected in all. Interviews were completed with 597 individual CLEs respondents (62.5 percent), of which 376 were daughters and 221 were sons of women in the Panel Sample. Of the 398 cases where the person selected for the Children Living Elsewhere Sample was not interviewed, 156 were daughters and 204 were sons; for another 38, gender of the child was not reported.[20]

Table 20 shows response rates for CLEs by ethnic group. The response rates for CLEs are relatively high for Malays, Indians, and "Others"; in over 80 percent of the cases for these groups at least one selected CLE was interviewed and over 70 percent of all selected CLEs were interviewed. However, the rates are low for Chinese—46 percent and 35 percent, respectively. Not only were Chinese MFLS-1 respondents the most difficult to find and successfully reinterview for the Panel Sample, but, even when they were reinterviewed, it was very difficult to find and interview their CLEs. Hence, the Chinese Children Living Elsewhere Sample is doubly selected—by the greater difficulty in finding and interviewing their mothers for the Panel Sample and by our inability to find and successfully interview the CLE of the Chinese MFLS-1 respondents whom we did reinterview for the Panel Sample. Nonrespondents were primarily children who could not be located. This accounted for 70 percent of Malay nonresponse, 80 percent of Chinese, and 62 percent of Indian. Those who were located but were never home for interview made up the majority of the remainder. As with the Panel women, refusals were quite low.

Response Rates of Sons and Daughters

Forty percent of the selected children living with the Panel members were female, while 57 percent of the selected CLEs whose gender was reported were female (see Table 21). (In 38 cases the gender of the selected CLE was not recorded because the child was not interviewed.) These differences reflect the fact that women marry (and leave home) at younger ages than men. In both subsamples of the Children Sample, response rates are

[19]The total number of CLEs, from whom eligble CLEs were selected, was 1,665.

[20]In nearly all CLE cases the Panel woman is still alive, but there are two potential households (cases 1802 and 1947) where the MFLS-1 female respondent had died, but a CLE was interviewed.

higher for female children respondents than for males (Table 21); this is especially true for the Children Living Elsewhere Sample.

Table 20

Response Rates for Children Living Elsewhere, by Ethnic Group

	Ethnic Group				
	Malays	Chinese	Indians	Other	Total
Percentage of cases where MFLS-1 household was found with at least one CLE interviewed	83.9% (261/311)	46.5% (79/170)	87.9% (58/66)	100% (5/5)	73.0% (403/552)
Percentage of selected CLEs who were interviewed	73.3% (401/547)	35.0% (99/283)	77.8% (91/117)	75.0% (6/8)	62.5% (597/955)

Spouses of Members of the Children Sample

The wives or husbands of the currently married members of the Children Sample were also supposed to be interviewed. Table 22 shows the number of Children Sample members who were currently married and the numbers of interviews successfully completed with the spouses of those who were married.

Of the Children Sample still living with the Panel women who were interviewed, 17 percent of the daughters and 15 percent of the sons were married. Of the Children Living Elsewhere Sample who were interviewed, 80 percent of the daughters and 62 percent of the sons were married. Many of the spouses of the married Children Sample respondents were interviewed. In some cases, the selected child was not interviewed (e.g., he or she was never home or refused), but his or her spouse was interviewed. In fact, for both Children Sample members still at home and those living elsewhere, there were more interviews with wives of selected sons living at home than there were with married sons (see Table 22). However, there are fewer interviews with husbands than there are with married daughters. In all, life history questionnaires (MF22 or MF23) were administered to 494 spouses of Children Sample members living with a Panel member—302 sons-in-law and 192 daughters-in-law of the Panel members.

Table 21

Response Rates for Children Sample, by Subsample and by Sex of Selected Child

	Children Living with Panel Member	Children Living Elsewhere	Total
Selected child known to be female (i.e., daughter)	217	525	742
Number of daughters interviewed with MF22	210	376	586
Response rate*	96.8%	66.8%–71.6%	75.1%–79.0%
Selected child known to be male (i.e., son)	322	392	714
Number of sons interviewed with MF23	289	221	510
Response rate*	89.8%	51.4%–56.4%	67.8%–71.4%
Gender of selected child not reported	0	38	
Total number selected	539	955	1,494
Total number interviewed	499	597	1,096
Response rate	92.6%	62.5%	73.4%

* The ranges are based on the alternative assumptions that all or none of the children whose gender was not reported are of the gender under consideration.

Total Number of Respondents in the Children Sample

In all, there are 1,096 children of Panel respondents covered in the Children Sample (586 daughters and 510 sons) and 494 spouses (192 wives and 302 husbands). Table 23 shows numbers of children and spouses by gender and ethnic group. There are more daughters than sons in the Children Sample for Malays, but the opposite is true for Chinese. There are relatively fewer spouses of children among Chinese, owing to their later ages at marriage. Chinese are underrepresented among respondents and spouses in the Children Sample (23 percent and 15 percent, respectively). This occurs for several reasons: (1) Of the three main ethnic groups in Malaysia, Chinese women have the lowest response rates in the Panel Sample; (2) Chinese had a lower average number of children eligible for the Children

Sample (1.5 versus 1.9 for Malays and Indians); (3) Chinese children had a lower response rate; and (4) Chinese children were less likely to be married.

Table 22

Numbers of Respondents and Spouses in the Children Sample, by Subsample and by Sex of Selected Child

	Part of Children Sample for Which Selected Child Was Eligible		
	Children Living with Panel Member	Children Living Elsewhere	Total
Number of female respondents (daughters) (MF22)	210	376	586
Number of those who are married	36	300	336
Number of selected daughters whose husbands were interviewed with MF23*	25	277	302
Number of male respondents (sons) (MF23)	289	221	510
Number of those who are married	43	138	181
Number of selected sons whose wives were interviewed with MF22*	45	147	192
Number of children interviewed	499	597	1,096
Number of children's spouses interviewed	70	424	494
Total number of MF22 respondents	255	523	778
Total number of MF23 respondents	314	498	812
	569	1,021	1,590

*Includes some cases where MF22 or MF23 was completed by the spouse, but the selected child did *not* complete MF22 or MF23. There were 14 such cases—3 for children at home (all with MF22 being the questionnaire *not* completed), 11 for children living elsewhere (1 MF22, 10 MF23).

The last two rows of Table 23 present data on selected children from the seven households where the original MFLS-1 respondent was *not* selected to be the Panel respondent.

The age distributions on MF22 and MF23 respondents in the Children Sample are presented in Table 15, above. The median age group for both the MF22 and MF23 respondents in the Children Sample is 25–29. Ten percent of the MF22 respondents and 21 percent of the MF23 respondents in the Children Sample are age 35 or older.

Number of Siblings in the Children Sample

Some users of the MFLS data may be particularly interested in comparing siblings in the Children Sample. Table 24 shows the number of cases where there are data (MF22 or MF23) on more than one child per Panel woman, by whether those children live at home or elsewhere. In 344 instances there are at least two children of the Panel woman; in 145 of these cases, there is data on three children of the same mother.

Table 25 shows the number of children interviewed among Panel women who completed MF22. While 926 Panel households completed an MF20, the original MFLS-1 respondent was interviewed in 889 of those households. The Panel cases where MF20 was completed for the household but the Panel woman did not complete MF22 tend to be those with no or only one child interviewed. This is not surprising given that 16 of the 37 cases with an MF20 but not a Panel woman responding to MF22 represent households where the Panel woman had died. In such cases, only a child currently living in the original Panel household was to be interviewed.[21] In addition, 6 of the 12 cases where there was an MF20 but no Panel MF22 belong to households where someone other than the original MFLS-1 respondent was interviewed as the Panel respondent. Thus, there are only 5 cases where no children were interviewed and no Panel woman was interviewed and only 6 where one child was interviewed and there is no corresponding MF22 for the mother.

Note that in Table 25 there are 344 cases where we have information on at least two children of a particular mother and in 143 of these cases we have data on three siblings. Of the 833 children (2*199 + 3*145) for whom we have data on at least one sibling, 295 still live in their parents' household and 538 live elsewhere (see Table 24).

Table 26 provides a breakdown of the number of children interviewed by the ethnicity of the Panel household. Among Panel households completing MF20, Indians are the most likely to have children in the Children Sample—an average of 1.42 children per household. The average number of Children Sample respondents per Panel household is nearly as high for Malays—1.33 Children Sample respondents per Panel household. Chinese Panel households had the lowest number of Children Sample respondents, with 0.85 per Panel

[21]Of those 16 cases, 13 had only a child at home interviewed, 2 had children living elsewhere interviewed, and 1 had no children interviewed.

household. Forty-two percent of the Chinese Panel households had no children interviewed for the Children Sample compared with 32 percent of Malay households and 24 percent of Indian households. The percentages are similar when we consider only those Panel households where the Panel woman completed MF22.

Table 23

Children Sample Respondents and Spouses, by Ethnic Group

	Malays	Chinese	Indians	Others	Total
Children living with Panel Sample member:					
Daughters (MF22)	127	56	24	3	210
Husbands of daughters (MF23)	20	4	1	0	25
Sons (MF23)	140	99	47	3	289
Wives of sons (MF22)	15	19	11	0	45
Children living elsewhere in Peninsular Malaysia:					
Daughters (MF22)	254	66	55	1	376
Husbands of daughters (MF23)	188	38	50	1	277
Sons (MF23)	155	33	31	2	221
Wives of sons (MF22)	115	11	18	3	147
Total number of daughters	381	122	79	4	586
Total number of sons	295	132	78	5	510
Total number of Children Sample respondents	676	254	157	9	1,096
	(61.7%)	(23.1%)	(14.3%)	(0.8%)	(100%)
Total number of spouses of Children Sample respondents	338	72	80	4	494
	(68.4%)	(14.5%)	(16.2%)	(0.8%)	(100%)
Total number of MF22 respondents	511	152	108	7	778
Total number of MF23 respondents	503	174	129	6	812
Total	1,014 (63.8%)	326 (20.5%)	237 (14.9%)	13 (10.8%)	1,590 (100%)
Women who should not have gotten MF22 (but did)	3	0	0	0	3
Men who should not have gotten MF23 (but did)	4	0	0	0	4

Table 24

Number of Children Living at Home by Children Living Elsewhere

Children Living Elsewhere	No Child Living at Home	One Child Living at Home	Total
None	319	204	523
One	59	150	209
Two	49	145	194
Total	427	499	926

NOTE: Based on all households completing MF20; the number of children is those completing MF22 or MF23.

Table 25

Number of Children Interviewed Among Households Completing MF20 and Completing a Panel MF22

Number of Children Interviewed	MF20 Completed by Panel Household	MF22 Completed by Panel Woman	MF20 and No Panel MF22
None	319	307	12
One	263	244	19
Two	199	195	4
Three	145	143	2
Total	926	889	37

NOTE: Based on all households completing MF20; the number of children is those completing MF22 or MF23.

Users may also be interested in examining daughter-daughter, son-son or son-daughter comparisons among siblings. Table 27 shows the gender distribution of children in the Children Sample by the number and gender of their siblings who were also interviewed, plus the ethnic breakdown of those sibling combinations. For those interested in comparing children of the same gender, there are 113 Panel households with 1 pair of daughters interviewed and 24 with three daughters appearing in the Children Sample. The resulting number of possible daughter-daughter pairs is 185 since households with 3 interviewed daughters have 3 possible daughter-daughter pairs. The comparable numbers for sons are 87 Panel households with 1 pair of sons and 10 with 3 interviewed sons, which result in 117 possible son-son comparisons. As for son-daughter comparisons, there are 332 possible son-daughter pairs.

Table 26

Number of Children Interviewed Per Panel Woman by Ethnic Group

Number of Children Interviewed	Malay	Chinese	Indian	Other	Total
None	162	128	24	5	319
One	120	110	28	5	263
Two	124	51	22	2	199
Three	103	15	27	0	145
Total	509	304	101	12	926

NOTE: Based on all households completing MF20; the number of children is those completing MF22 or MF23.

Table 27

Number of Interviewed Son-Daughter Combinations by Ethnicity

Number of Children Interviewed	Malay	Chinese	Indian	Other	Total
One Child					
Son	60	59	16	2	137
Daughter	60	51	12	3	126
Two children					
2 sons	23	7	4	1	35
1 son,1 daughter	59	36	14	1	110
2 daughters	42	8	4	0	54
Three Children					
3 sons	6	3	1	0	10
2 sons, 1 daughter	35	5	12	0	52
1 son, 2 daughters	42	6	11	0	59
3 daughters	20	1	3	0	24
Total	347	176	77	7	607

NOTE: Based on all households completing MF20 with at least one child interviewed for the Children Sample.

5. POOLING MFLS-2 SAMPLES

The four MFLS-2 samples may be pooled together. Such pooling increases potential samples for analysis. However, analysts must be very careful when pooling since the samples were collected under different designs. Below we present the maximum number of respondents and households resulting from pooling the MFLS-2 samples. We also present response rates for the household-level questionnaires, MF21 (Household Roster) and MF25 (Household Economy). Lastly, we present points of consideration when pooling MFLS-2 samples.

SUMMARY OF SAMPLE SIZES FOR ALL MFLS-2 SAMPLES AND INSTRUMENTS

Table 28 summarizes information from the two previous sections regarding the numbers of cases, for each sample, that completed the life history questionnaires (MF22, MF23, and MF24). In all, in MFLS-2 there are 3,851 respondents to the Female Life History Questionnaire (MF22), 3,053 respondents to the Male Life History Questionnaire (MF23), and 1,357 respondents to the Senior Life History Questionnaire (MF24).

HOUSEHOLD ROSTER (MF21) AND HOUSEHOLD ECONOMY (MF25)

Table 29 presents information on the two household-level instruments (MF21 and MF25) that were to be completed by each separate household included in any of the MFLS-2 samples. In all, there are over 4,400 cases that responded to these questionnaires. Of households thought to contain an eligible respondent, the response rates for these household-level questionnaires are particularly high for the Senior Sample and are lowest for the Children Living Elsewhere Sample (because many of these were not located). All but one of the 4,410 cases that responded to MF25 also responded to MF21, but there are 28 cases that responded to MF21, but not MF25. Altogether the 4,438 MF21 rosters provide data on 23,816 persons living in MFLS-2 sample households.

CONSIDERATIONS WHEN POOLING SAMPLES

Some analysts may wish to combine data from two or more MFLS-2 samples to increase their sample sizes for analysis. It is important to keep in mind, however, that the various samples were selected under different designs. For example, the New and Panel samples were selected, separately in 1988 and 1976 respectively, to be representative of the household populations of women in Peninsular Malaysia in those years.

The MFLS-2 samples are not directly comparable in a number of respects:

(1) Some birth cohorts of women are represented in several samples, while others are represented in only one (see Table 24). For example, Panel Sample respondents are much older than New Sample respondents and Children Sample respondents are much younger.

(2) Indians were greatly overrepresented, by design, in the MFLS-2 New and Senior samples but were only slightly overrepresented in MFLS-1 (Panel and Children samples). (Weighting the MFLS-2 New and Senior data and excluding from the Panel and Children samples the three PSUs purposively selected for MFLS-1 can adjust for this.)

Table 28

Total Number of MFLS-2 Cases for Each Life History Questionnaire (MF22, MF23, MF24), by Sample

	Number of Respondents to Life History Questionnaire			
	Female (MF22)	Male (MF23)	Senior (MF24)	Total
New Sample	2,184	1,513[a]	NA[b]	3,697
Senior Sample	NA	NA	1,357[b]	1,357
Panel Sample	889	728[c]	NA	1,617
Children Sample Living with panel Member[d]	255	314	NA	569
Children Sample Living elsewhere[d]	523	498	NA	1,021
Total	3,851	3,053	1,357	8,261

[a]Includes 6 men whose wives did not respond to MF22.

[b]Of the respondents to MF24, 129 are married to women who are the Main Respondents in the New Sample; these men are considered members of the Senior Sample.

[c]Includes 11 men whose wives did not respond to MF22.

[d]Includes spouses as well as selected Children Sample respondents.

Note: Table 28 excludes all but two of the respondents from the seven households where the original MFLS-1 respondent was not selected as the Panel woman. In Case No. 1531, the original MFLS-1 woman was interviewed as the child of the Panel respondent. In the table above, she and her husband are included in the Panel Sample row.

Table 29

Response Rates for Household-Level Questionnaires (MF21 and MF25), by Sample

		Completed			
		MF21		MF25	
Sample	No. Attempted[a]	No.	(%)	No.	(%)
New only	1,745	1,519	(87.1%)	1,507	(86.4%)
New and Senior	678	675	(99.6%)	672	(99.1%)
Senior only	766	722	(94.3%)	719	(93.9%)
Panel with or without child at home[b]	1,247	926	(74.3%)	922	(73.9%)
Children living elsewhere[b]	876	596	(68.0%)	590	(67.4%)
Total	5,312	4,438	(83.6%)	4,410	(83.0%)
Totals for the New and Senior samples					
New Sample	2,423	2,194	(90.5%)	2,180	(90.0%)
Senior Sample	1,444	1,397	(96.7%)	1,391	(96.3%)

[a]Case was "attempted" if LQ was thought to contain an eligible respondent.

[b]The Panel data do not include those households where potential Panel member died or left Peninsular Malaysia and no family members were found at original residence. The children living elsewhere row does include the two households where the Panel woman had died, but a child living away was interviewed (Case Nos. 1802 and 1947).

(3) The MFLS-1 (and hence Panel) sample only included *ever-married* women (now aged 27–64), whereas the New Sample included women aged 18–49 *regardless of their marital status* (and also ever-married women under 18).[22]

(4) The Senior sample included people aged 50 and older regardless of their marital status.

(5) The sample of MFLS-1 women's own children in the Children Sample did not condition on marital status.

[22]Although the oldest women in MFLS-1 were supposed to be under the age of 50 in 1976, and hence would be under the age of 62 in 1988, some of those women reported an earlier birth date, and hence older age, in MFLS-2.

(6) The spouses of these Children respondents, as well as spouses of New and Panel respondents, are obviously restricted to those who are currently married.

(7) The Panel women's own children in the Children Sample are a sample of individuals whose mothers were aged 50 or younger in 1976.

(8) As discussed in the previous section, there was selectivity in the follow-up of the Panel and Children samples.

For some analyses (e.g., of an individual's educational attainment or income), researchers may wish to consider all members of MFLS households, including those who are not respondents to one of the life history questionnaires, and one could even also include children of MFLS-1 or MFLS-2 respondents who no longer live with the Main Respondent (for example, for studies of educational attainment). For such samples, researchers should keep in mind that the MFLS-1 and MFLS-2 samples did not cover all households in Peninsular Malaysia in 1976 and 1988, respectively. In particular, (1) group living quarters (e.g., dormitories, barracks) were not covered by either MFLS-1 or MFLS-2; (2) the combined MFLS-2 New and Senior samples do not include households that contain only men under age 50 and/or never-married women under age 18; and (3) the MFLS-1 sample included only households with an ever-married women under age 50 in 1976.

Table 30 shows which birth cohorts are represented in each of the MFLS-2 samples and presents estimates from the Malaysian Department of Statistics for the number of women in Peninsular Malaysia alive in June 30, 1988, in each case of these birth cohorts, by ethnic group. Subject to all of the caveats above, these can be used to construct weights for data from women of different ages and ethnic groups so that estimates based on data from combined MFLS-2 samples could be representative of the total population of Peninsular Malaysia in 1988.

Table 30

Birth Cohorts of Women Represented in MFLS-2 Samples and Sizes of These Cohorts in Peninsular Malaysia, by Ethnic Group

		Birth Cohort Included in MFLS-2 Sample				Population of Women in 1000's (June 30, 1988)[d]				
Respondent's Years of Birth:	Age in 1988	Panel[a]	New[b]	Children[c]	Senior	Malays	Chinese	Indians	Others	Total
Before 1919	70+				X	76	85	10	1	175
1919–1923	65–69				X	67	41	10	1	119
1924–1928	60–64	*			X	84	50	12	1	147
1929–1933	55–59	X			X	105	67	17	1	190
1934–1938	50–54	X			X	134	80	23	2	240
1939–1943	45–49	X	X	*		143	106	25	2	276
1944–1948	40–44	X	X	X		170	120	30	3	323
1949–1953	35–39	X	X	X		232	154	47	3	437
1954–1958	30–34	X	X	X		297	175	60	3	536
1959–1963	25–29	*	X	X		356	198	70	3	627
1964–1968	20–24	X	X			387	226	69	4	686
1969–1973	15–19	*	*			402	234	69	4	710

[a]Sample includes only those ever-married as of 1976.

[b]All women born between 1939 and 1970, regardless of marital status, and ever-married women born after 1970.

[c]If respondent is daughter of MFLS-1 respondent, sample is irrespective of Children Sample respondent's marital status but is restricted to women whose mothers are age 62 or younger. Children Sample respondents who are daughters-in-law of an MFLS-1 respondent are currently married to men whose mothers are aged 62 or younger.

[d]Source = Department of Statistics (1988), Table 15.

X = Women born during entire period included in sample.

* = Women born during part of period included in sample.

6. SURVEY OPERATIONS

TRAINING

Thirty-six interviewers and field scouts were selected from the regular staff of the LPPKN, and 42 more were hired on a temporary basis for the MFLS-2 project. All had at least the SRP qualification (Sijil Rendah Pelajaran, usually earned after 11–12 years of schooling). Selections among applicants were made in part to ensure a balance of the three major ethnic groups (since each household was to be contacted by an interviewer of the same ethnic group) and adequate representation on each team of persons fluent in Bahasa Malaysia as well as each of the major Chinese dialects, Tamil, and English. Fifty-five members of the field staff were women, whose job title was Interviewer, and 25 were men, whose job title was Field Scout. All attended the complete training sessions for all instruments. The three computer programmers responsible for data entry attended most sessions, as well as special ones designed for them and the interviewers who doubled as data entry clerks. The 14 field supervisors and research officers who worked on the survey also attended most sessions. (See Appendix D for a list of the MFLS-2 field staff.)

The first training session was held in Melaka from July 27 until August 7, 1988. During these 12 days, formal sessions were conducted from 8:00 AM until 5:30 PM, with two sessions in the morning and two in the afternoon. Informal sessions in the evening were used to answer questions about the instruments and discuss the logistics of fieldwork. All lived together in hotels and dormitories. After a short break, the second session of training resumed in Kuala Lumpur for a further 10 days of practice interviews and discussions.

The training sessions included lectures and demonstrations, role-playing sessions, small group discussions, and practice interviews in the city of Melaka, nearby villages and estates, and housing estates and squatter settlements in Kuala Lumpur. Besides going through each section of the instruments, the trainers covered the following topics:

- a survey overview (to emphasize, among other points, why only the selected LQs and respondents should be interviewed);
- methods of respondent selection;
- basic interviewing techniques;
- communication and sensitivity training;

- background sessions on family planning and the health and education systems in Malaysia so that interviewers would understand responses and be able to rephrase questions and choose among the precoded responses;
- specialized skills such as map-reading for the field scouts.

Sessions were conducted in Bahasa Malaysia and English. The training was conducted by LPPKN officers, all of whom had experience on at least two previous demographic surveys; by two members of the RAND staff who had worked on the design of the survey both in Santa Monica and Kuala Lumpur; by senior LPPKN interviewers; and by other LPPKN staff as needed. The *Interviewer's Instruction Manual* appears in *Survey Instruments*.[23] That document also discusses the development of the MFLS-2 questionnaires.

FIELDWORK

Fieldwork was conducted by three teams working simultaneously from mid-August 1988 to January 1989. The North team covered the states of Kedah, Pinang, Perak, and Perlis; the South team covered Johor, Melaka, and Negri Sembilan; and the East team covered Kelantan, Pahang, and Terengganu. The teams moved every week or two to a new field headquarters, from which small groups would disperse each morning to conduct interviews in nearby EBs and PSUs. Occasionally the full teams would break into smaller groups. After several months, the teams all converged at Bangi, Selangor, from which they covered Selangor and Wilayah Perseketuan-K.L.

During the first phase of the fieldwork, the teams regularly reported back to LPPKN headquarters the addresses of Panel or Children sample respondents who had moved out of the team's territory to that of another team. Selangor and Wilayah Perseketuan-K.L. were covered last because we expected that they would be the most common destinations of migrants from the states covered earlier. By December 1988, all of Peninsular Malaysia had been covered; each MFLS-1 PSU and MFLS-2 EB had been visited at least once. There still remained a list of households from all four samples where interviews were not completed during the first phase, despite callbacks, and of addresses of Panel and Children sample respondents who had moved and not yet been contacted. During December 1988 and January 1989 some of the members of each team were sent back out for a mop-up round to reach as many of these as possible.

Each team was led by a senior field supervisor with experience in previous household surveys. Field supervisors were assisted by research officers, who had particular

[23]DaVanzo et al., 1993.

responsibility for collecting community data. Other officers, and the survey directors, made frequent trips from LPPKN headquarters to join each team to answer questions that had arisen and to check to see that procedures were the same across teams. Teams had from 6 to 10 field scouts and from 13 to 19 interviewers. Each team included members of each of the three major ethnic groups (Malays, Chinese, Indians), roughly in proportion to the expected ethnic composition of the areas in which they were to work. Each team contained Malay interviewers able to speak in the regional dialects of the states they were covering, Chinese interviewers who could speak the most common dialects of Chinese in the states, and Indian interviewers who could speak appropriate Indian languages. Respondents in the three major ethnic groups were almost always interviewed by a member of their own ethnic group.

The languages in which interviews were conducted vary with the ages of respondents. We demonstrate this in Table 31 by comparing the languages of interview for New Sample respondents and for Senior Sample respondents. In both the New and Senior samples, virtually all Malays (more than 99 percent) were interviewed in Bahasa Malaysia. New Sample members were more likely than Senior Sample members to be interviewed in English; those in the Senior Sample were more likely to be interviewed in Tamil and Chinese languages than those in the New Sample. Among Chinese-language interviews, Mandarin was the most common in the New Sample interviews, while Cantonese and Hokkien were the most common among Senior respondents.

Table 31

Language of Interview for New Sample and Senior Sample Respondents

Language of Interview	New Sample Respondent	Senior Sample Respondent	Total
Bahasa Malaysia	53.3	45.5	52.7
Tamil	16.1	20.6	16.2
English	8.6	4.4	7.9
Cantonese	6.6	9.1	6.8
Hokkien	4.0	11.9	5.7
Mandarin	10.9	4.9	10.2
Hakka	0.4	2.0	0.3
Hainanese	0.0	0.3	0.1
Teochew	0.1	1.1	0.1
Other	0.0	0.2	0.1

NOTE: Based on MF22 and MF24 respondents from the New and Senior Samples.

Women were always interviewed by a female interviewer. Men were usually interviewed by a male field scout, but occasionally by a female interviewer. Over half of all

households (53 percent) were interviewed by two different interviewers, while 39 percent were interviewed by only one. In households with more than one selected Main Respondent (households eligible for both the New and Senior samples, and especially those eligible for both the Panel and Children samples), it was not uncommon to have three interviewers working in the case (see Table 32).

Table 32

Percentage Distribution of Number of Interviewers Per Household by Household Type

# Inter-viewers	Panel only	Children Living Elsewhere	Panel and Child	New	Senior only	New and Senior	All MFLS-2 households
1	39.3	39.8	15.3	34.8	71.5	26.9	38.6
2	53.8	57.3	49.2	61.7	27.8	55.8	52.6
3	6.9	2.9	30.6	3.3	0.7	16.2	8.1
4	-	-	4.3	0.2	-	1.1	0.7
5	-	-	0.6	-	-	-	0.1
	100%	100%	100%	100%	100%	100%	100%

The field supervisors allocated and assessed the work of each interviewer, field scout, and data entry person in their teams and kept in contact with the project directors to report problems that arose in the field operation. The supervisors decided how the discrepancies discovered by the data entry software should be resolved and whether resolution required a revisit to the household. From time to time, the supervisors called meetings to discuss and correct common mistakes and to reemphasize quality control.

The interviewers were responsible for determining eligibility of respondents for the Children, New, and Senior samples, and for collecting information from respondents using the printed instruments. Interviewers were responsible for checking and editing the completed questionnaires and revisiting the household if necessary.

The field scouts (1) assisted in locating the original MFLS-1 respondents and their children and the selected houses for the New and Senior samples, (2) did screening interviews to determine whether the MFLS-1 respondent or her children lived at the address, (3) provided transportation (by motorcycle) to the female interviewers, and (4) interviewed most male respondents. They also assisted in editing questionnaires and in conducting interviews for the community data (MF26).

A letter from the Director General of the LPPKN describing the purpose of the survey and requesting the cooperation of potential respondents was sent to each LQ selected for

screening for the New and Senior samples. (A copy of this letter appears in Appendix E.) Interviewers explained the purpose of the survey briefly to potential respondents and assured them of the confidentiality of all data produced by the survey. Respondents were informed of their right to refuse to be interviewed at all, or to refuse to answer particular questions. Each respondent was given a ballpoint pen as a token of appreciation. Procedures for collecting, processing, and storing the data were in conformity with LPPKN practice, and were approved by the RAND Institutional Review Board.

The MF26 Community Questionnaire was fielded by 28 interviewers (largely supervisors and field scouts) during the period August 1988 through March 1989, though 12 interviewers did nearly 90 percent of the interviewing. The Supplementary Community Questionnaire, MF27, was fielded later, in early 1991, by these same 12 interviewers.

INTERVIEW LENGTHS

Tables 33 and 34 present data on median interview lengths for the MF21–25 household questionnaires. (Data are not available on time spent on respondent selection, the MFLS-1 Roster Update [MF20] and the community questionnaires.) The median per household for the MF21–25 questionnaires was 64 minutes, with interview lengths being shorter in Senior-only households and longest in households with both a Panel member and a member of the Children Sample still living at home.

Of the questionnaires, the Female Life History Questionnaire (MF22) took the longest. Both the male and female life history interviews took longer for ever-married respondents than for never-married respondents (see Table 29).

INTERVIEWER EVALUATIONS FOR MF22–MF25

At the end of each questionnaire, MF22–MF25, the interviewer was asked to record his/her opinion of the overall reliability of the respondent's answers and the respondent's level of interest during questioning. Table 35 shows the distribution of the interviewers' opinions about the reliability of the information in each of the questionnaires. These tabulations pool data across all relevant MFLS-2 samples.

The results in Table 35 are consistent with the comments made by interviewers during the debriefings, namely that the data appear to be reliable for the vast majority of respondents and that Senior sample respondents (MF24) had more problems in providing answers to questions. Interestingly, the reliability levels for MF23 and MF25 are very high,

Table 33

Median Interview Length (in Minutes), by Questionnaire and by Sample (# of cases in parentheses)

Sample	MF21	MF22		MF23		MF24	MF25	All MFs combined[a]	Median # of visits to household
		MR_F	Child at home	MR_M	Child at home				
Panel only	6 (419)	35 (414)	NA	18 (356)	NA	NA	10 (420)	69 (422)	2
Panel w/child living at home	10 (503)	40 (480)	15 (257)	17 (378)	10 (314)	NA	10 (500)	94 (503)	2
Children living elsewhere	5 (595)	25 (525)	NA	17 (501)	NA	NA	9 (591)	55 (598)	1
New only	5 (1,551)	30 (1,549)	NA	20 (1,300)	NA	NA	10 (1,537)	65 (1,555)	2
New & Senior	7 (910)	25 (635)	NA	15 (212)	NA	20 (909)	10 (910)	60 (912)	1
Senior only	7 (449)	NA	NA	NA	NA	20 (448)	10 (446)	39 (449)	1
Total[b]	5 (4,427)	30 (3,609)	15 (251)	18 (2,822)	10 (239)	20 (1,357)	10 (4,404)	64 (4,440)	2 (4,472)

MR_F = Panel woman, selected New respondent, daughter or daughter-in-law of Panel woman who no longer lives with her (CLE Sample).

MR_M = Husband of Panel woman, husband of selected New respondent son or son-in-law of Panel woman who no longer lives with Panel woman (CLE Sample).

[a]These totals do not include time spent on respondent selection, or MF20 for the Panel Sample.

[b]Median for all households where questionnaire given.

suggesting that husbands did not find MF23 too burdensome, and that resistence to answering questions about income was limited.

We have also calculated the information presented in Table 35 separately for each ethnic group to see if any notable ethnic differences appeared with respect to response reliability. While Chinese respondents were reported as giving somewhat less reliable answers to income questions in MF25 (79.4% were rated "good" or "very good" compared with 91.5% for Malays and 86.7% for Indians), Chinese women had the highest percentage of "very good" reliability for MF22 (35.4% compared with 30.3% for Malays and 26.6% for Indians).

Table 34

MF22 and MF23 Median Interview Length in Minutes, by Sample and by Whether Ever-Married (# of cases in parentheses)

	MF22 Main Respondent		MF22 Child at Home		MF23 Main Respondent		MF23 Child at Home	
Sample	Never married	Ever married	Never married	Ever married	Never married	Ever married	Never married	Ever married
Panel	NA	35 (413)	NA	NA	NA	18 (356)	NA	NA
Panel w/child at home	NA	40 (480)	10 (158)	25 (99)	NA	17 (378)	10 (241)	15 (73)
Children living elsewhere	15 (71)	28 (454)	NA	NA	15 (83)	19 (418)	NA	NA
New only	15 (99)	32 (1,450)	NA	NA	NA	20 (1,300)	NA	NA
New & Senior	14 (239)	34 (396)	NA	NA	NA	15 (212)	NA	NA
Total (median for all households where questionnaire was given)	15 (410)	33 (3,193)	10 (158)	25 (99)	15 (83)	18 (2,664)	10 (241)	15 (73)

Among men, Chinese males were rated "very good" at the same level as Malays in the interviewers' evaluations of MF23. Among seniors, 84% of the Malay interviews for MF24 were rated "good" or "very good," while only 71% of both Chinese and Indian respondents received those ratings.

In addition, interviewers were also asked to rate the level of interest the respondent showed with regard to the survey. Generally, 40 to 50 percent of respondents were rated as "very" interested and only 4 percent rated as "not interested." The remainder were rated "somewhat interested." The level of interest ratings tends to be very consistent with the reliability ratings. Among those rated "very interested," 70 percent were rated as "very good" reliability and 30 percent were rated "good"; for the "somewhat interested," 70 percent were rated "good" reliability and 20 percent were rated "average." The "not interested" tended to be 50 percent "average reliability" and 30 percent "unsatisfactory."

Table 35

Interviewers' Opinions of Respondent Reliability of Answers for Each Main Survey Instrument

Reliability of Respondent's Answers	MF22	MF23	MF24	MF25
Very good	31.0%	37.5%	28.7%	33.8%
Good	51.0%	49.5%	48.3%	53.5%
Average	15.0%	11.0%	17.8%	10.7%
Unsatisfactory	2.0%	1.4%	4.1%	1.3%
Very unsatisfactory	1.0%	0.6%	1.1%	0.5%
	100.0%	100.0%	100.0%	100.0%
	(N=3857)	(N=3063)	(N=1357)	(N=4410)

DATA CHECKING AND ENTRY IN MALAYSIA

The recording forms for each MFLS-2 household were checked at least once by a supervisor or another interviewer before the data were entered. Usually the checking took place the same day as the interview. This was to make sure that all the required instruments were completed and legible, that skip patterns appeared to have been followed correctly, and that missing values and "Other" codes could be explained by the interviewers' notes or recollections. The checkers also did preliminary logic checks, for example, comparing dates from marriage and pregnancy and migration histories. The most common discrepancies were found in the pregnancy histories (e.g., a pregnancy outcome occurring implausibly soon after the previous one, or postpartum amenorrhea reported to last into the next pregnancy). These were discussed with the interviewer, who often reported that the respondent had repeated the implausible answer in response to a prompt. Occasionally the questions were repeated on a subsequent visit to the same household.

Several of the interviewers were trained in data entry. Each team usually had a programmer from LPPKN headquarters assigned to it, especially in the first few months of fieldwork, to supervise data entry, to make corrections, and to make back-up copies. Original plans had called for the data to be entered in the field at the end of each day. However, some of the data entry staff were pressed into service to help with the interviewing, and, as a result, only about half the data were entered in the field headquarters while the data collection was taking place, while half remained in a backlog for entry at LPPKN headquarters in Kuala Lumpur.

After the preliminary checking, the data were entered on Compaq Portable II microcomputers, using Entry Point 90 (EP90) software.[24] The EP90 programs displayed screens that replicated either an entire page of the MFLS-2 recording forms, or else individual rows (for the event histories, for which each respondent would report a different number of events, like marriages, births, jobs, etc.). Range checks were built into the programs, so that out-of-range values were flagged. The EP90 programs included branching logic, so that the skip instructions were correctly followed, and also some logic checks. Examples of the latter were checks to see that women were over age 12 at the time of their first reported pregnancy outcome, that dates of death were always later than dates of birth for the same individual, and that educational qualifications corresponded approximately to the level of schooling reported. These checks could be overridden by the data entry person, so that special cases could always be entered. Most errors discovered at this stage were data entry mistakes rather than out-of-range or illogical codes on the recording forms.

Data were stored in batches on the microcomputer hard disks and on floppy diskettes. The most recent three days of information were backed up every day, so that all temporary files existed in three copies at the field offices. Copies were sent periodically to the LPPKN central office for storage.

DATA CHECKING AND CLEANING AT RAND AND LPPKN

The data on diskettes were sorted and uploaded to an IBM mainframe computer. Mainframe programs were written to sort the files and to create and insert summary records for each instrument and event history. Erroneous Case IDs were uncovered and corrected. We checked frequencies for data from the tracking forms and important variables from the survey instruments, and anomalies were cleared up in many cases by referring back to the hard copies of the recording forms. In some cases, new codes were created to reflect information collected in interviewers' notes. We did not attempt at this stage to reconcile all inconsistencies in the data and produce an entirely "clean" data set, but only to flag the most important ones and correct them when possible. This work took place in parallel at RAND offices in Santa Monica and at LPPKN headquarters in Kuala Lumpur. Three RAND staff members worked at LPPKN headquarters during part of this time. Anomalies in the data uncovered by either team were discussed and resolved together.

Once this initial round of data checking was completed, the main data cleaning tasks carried on by RAND and LPPKN staff focused largely on:

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[24]Entry Point 90 is a product of the Datalex Corporation of San Francisco, CA.

1. Whether all records were present (e.g., if the pregnancy summary said that there were five pregnancies, then the pregnancy history should have five records).
2. Whether the identifiers were consistent across files (e.g., the correct person number for the MF22 respondent was recorded on the MF22 summary data).
3. Whether birth dates were consistent across files (e.g., the birth date on MF22 summary record should match MF21 household roster birth date information).
4. Whether event dates (or ages) were consistent (e.g., the marriage end date should be after the marriage start date, the age at event should be less than or equal to age at interview).
5. Whether location information was consistent (e.g., the district code in the tracking data should match district code on last migration record).
6. Whether trigger questions and their responses were consistent (e.g., if status of a given marriage is divorced, widowed, or separated, the marriage record should have an end-of-marriage date or age).
7. Whether similar information reported across files was consistent (e.g., if family background data say male parent only lives with respondent, then male parent should be listed in MF21 household roster).

When inconsistent information was uncovered, corroborating information from other files was examined to determine which data appeared to be correct. If corroborating information did not exist or provided no insight, RAND staff requested copies of the relevant recording forms from LPPKN. The recording forms were then consulted to determine the correct response. The data entry package, EP90, had been programmed to uncover out-of-range responses and to skip sections when the associated trigger question had a negative response. However, if responses were misentered within valid ranges, the only way to detect such errors was by cross-checking data with corroborating information, if such information existed. Such cross-checking was very time-consuming but proved crucial in ensuring data quality.

EXPERIENCE WITH PC-BASED DATA ENTRY

The PC-based data entry process was a first for both RAND and LPPKN. Our experiences mirrored those of other surveys using PC-based data entry, such as the Demographic Health Surveys. The key lessons learned involve training and supervision of data entry, and the need for on-site data quality checks.

Data entry staff, like interviewers, need detailed training. They must not only learn how to use the data entry package but must also be schooled in why the package responds as

it does and why the data need to be entered as they appear. Specific "do's" and "don'ts" need to be stressed. Also, just as interviewers do field tests of survey instruments, data entry personnel should do field tests of the data entry process to isolate possible problems that can be corrected before actual data entry begins. This is especially true when personnel hired for data entry are not "seasoned" veterans with lots of survey experience.

Considerable supervision of data entry personnel is needed when using PC-based data entry packages. Supervisors can provide guidance when problems arise and monitor the quality of staff performance. At the time the MFLS-2 was going into the field, the Demographic Health Surveys (DHSs) were just gaining experience in PC-based data entry. The DHS now issues a detailed manual to local staff administering the surveys (Cushing, 1991). Those manuals stress the need for close supervision and monitoring of data entry staff. Unfortunately these materials were not available when MFLS-2 was fielded to provide us with information on the experiences of others using PC-based packages for data entry.

Periodic checking of data quality is a necessity in addition to the usual verification procedure of "double punching." Ideally, one wants to have programs that can be run on data entered to date to look for specific problems such as missing records, miscoded identifiers, and inconsistent information across questionnaire sections. For example, if in a pregnancy summary section the woman says she has 5 children living, 3 children that are dead, and 2 non-live births, then her pregnancy history should show 8 live births, 3 of which subsequently died, and 2 non-live births for a total of 10 pregnancy records. Such a system reduces the need for extensive double punching to check the accuracy of data entry, plus provides immediate feedback on what problems need to be addressed. This also allows data cleaning to take place on-site with the hard copy recording forms on hand.

Much of the MFLS-2 data cleaning occurred at RAND; yet the original recording forms were located at LPPKN in Malaysia. Questions raised by the data cleaning processes were sent by fax to LPPKN. Some questions could be resolved only by checking the original recording forms. At LPPKN, staff members located the requested recording forms and sent xeroxed copies of the relevant questionnaire sections. This process required a great deal of additional paperwork for both RAND and LPPKN, and, of course, lengthened the period over which the data were cleaned. With ready access to the original recording forms, the time-consuming step of xeroxing forms would be bypassed, as would the time required to process the xeroxed copies at both locations.

Based on our experience, we recommend that in the future the majority of the data checking and cleaning should be done where there is immediate access to the recording forms. Indeed, by instituting data checking programs that process the data periodically

during the data entry process, records can be corrected within the data entry package. This would reduce the amount of postprocessing needed once the data have been output from the data entry package format.

Appendix A

LIST OF PUBLICATIONS USING MFLS-1 DATA

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Appendix B

MFLS-2 SAMPLE HOUSEHOLDS BY STATE, DISTRICT, AND ENUMERATION BLOCK

Table B-1 shows the numbers of MFLS-2 New and Senior households (those for which MF21 was completed) in each of the 398 EBs, listed according to the state and administrative district in which they were located. Tables B-2 and B-3 show the total numbers of households in each district and each state. In all three tables households are classified according to whether they were selected from List A (where both New Sample and Senior Sample respondents were sought) or List B (where only Senior Sample respondents were sought). The List A households are further subdivided into those where only a New Sample respondent was identified, those where New Sample and Senior Sample respondents living in the same household were identified, and those where only a Senior Sample respondent was identified.

Table B-1

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A			LIST B	Total Number of HHs
			New Sample Only	New and Senior Samples	Senior Sample Only	Senior Sample Only	
101040-000	Johor	Batu Pahat	2	3	2	2	9
102035-A00	Johor	Batu Pahat	1	1	0	0	2
102035-B00	Johor	Batu Pahat	3	0	1	1	5
102042-000	Johor	Batu Pahat	3	2	2	1	8
103002-A00	Johor	Batu Pahat	2	4	0	3	9
103002-B00	Johor	Batu Pahat	1	1	2	2	6
103002-C00	Johor	Batu Pahat	1	2	1	1	5
103002-D00	Johor	Batu Pahat	1	1	0	1	3
103002-E00	Johor	Batu Pahat	2	1	1	0	4
105010-A00	Johor	Johor Bahru	1	2	2	2	7
105010-B00	Johor	Johor Bahru	3	0	0	2	5
105010-C00	Johor	Johor Bahru	8	3	0	1	12
105010-D00	Johor	Johor Bahru	4	1	1	1	7
105010-E00	Johor	Johor Bahru	9	1	0	2	12
105010-F00	Johor	Johor Bahru	6	4	1	1	12
105010-I00	Johor	Johor Bahru	0	2	0	0	2
105010-J00	Johor	Johor Bahru	2	0	0	0	2
105075-000	Johor	Johor Bahru	3	1	0	0	4
106053-000	Johor	Johor Bahru	1	2	0	0	3
107141-000	Johor	Johor Bahru	4	0	1	1	6
108017-000	Johor	Johor Bahru	4	1	0	0	5
108044-000	Johor	Johor Bahru	1	4	1	1	7
108099-000	Johor	Johor Bahru	1	2	2	0	5
109029-000	Johor	Johor Bahru	4	1	0	1	6
109082-B00	Johor	Johor Bahru	2	0	0	0	2
109082-C00	Johor	Johor Bahru	3	0	0	0	3
109082-D00	Johor	Johor Bahru	2	0	2	0	4
109108-000	Johor	Johor Bahru	1	4	1	3	9
110024-000	Johor	Keluang	1	2	1	1	5
110070-A00	Johor	Keluang	3	3	0	2	8
110070-B00	Johor	Keluang	1	2	0	0	3
110070-C00	Johor	Keluang	6	0	0	2	8
110070-D00	Johor	Keluang	4	2	0	0	6
110070-E00	Johor	Keluang	2	1	0	2	5
110148-000	Johor	Keluang	15	1	1	0	17
111018-000	Johor	Keluang	0	3	1	0	4
111084-000	Johor	Keluang	1	2	0	1	4
112077-000	Johor	Keluang	3	2	0	0	5
112094-000	Johor	Keluang	2	0	2	0	4
113051-A00	Johor	Kota Tinggi	3	0	0	0	3
113051-B00	Johor	Kota Tinggi	1	0	0	0	1
113051-C00	Johor	Kota Tinggi	1	1	0	0	2
113083-A00	Johor	Kota Tinggi	2	0	0	0	2
113083-B00	Johor	Kota Tinggi	1	0	0	0	1
113083-C00	Johor	Kota Tinggi	1	0	0	1	2

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
113083–D00	Johor	Kota Tinggi	1	0	0	0	1
113083–E00	Johor	Kota Tinggi	1	0	0	0	1
113083–F00	Johor	Kota Tinggi	2	0	0	0	2
113083–G00	Johor	Kota Tinggi	2	0	0	0	2
113083–H00	Johor	Kota Tinggi	1	0	0	0	1
113083–I00	Johor	Kota Tinggi	3	0	1	0	4
113083–J00	Johor	Kota Tinggi	1	1	1	0	3
113083–K00	Johor	Kota Tinggi	0	1	0	0	1
113083–L00	Johor	Kota Tinggi	3	0	0	1	4
113083–M00	Johor	Kota Tinggi	1	0	0	0	1
114026–000	Johor	Kota Tinggi	0	4	0	2	6
115002–B00	Johor	Mersing	3	2	0	1	6
115002–C00	Johor	Mersing	3	0	0	0	3
115002–D00	Johor	Mersing	6	0	0	0	6
117060–000	Johor	Muar	6	1	2	4	13
118036–A00	Johor	Muar	5	0	0	0	5
118036–B00	Johor	Muar	5	0	0	0	5
118036–C00	Johor	Muar	4	1	0	1	6
118036–D00	Johor	Muar	3	0	0	0	3
118100–000	Johor	Muar	5	1	0	0	6
120006–000	Johor	Muar	1	3	3	2	9
120081–A00	Johor	Muar	1	4	0	2	7
120081–B00	Johor	Muar	1	2	0	0	3
120086–000	Johor	Muar	2	4	0	3	9
121002–000	Johor	Muar	3	3	0	3	9
121017–000	Johor	Muar	6	2	1	2	11
121059–000	Johor	Muar	4	0	1	2	7
123023–000	Johor	Pontian	1	0	1	1	3
124064–000	Johor	Segamat	4	1	0	1	6
125031–A00	Johor	Segamat	1	1	0	1	3
125031–B00	Johor	Segamat	1	0	0	0	1
125031–C00	Johor	Segamat	1	0	0	0	1
127001–A00	Johor	Johor Bahru	5	0	1	2	8
127001–B00	Johor	Johor Bahru	1	1	0	0	2
127019–000	Johor	Johor Bahru	3	0	1	0	4
128029–A00	Johor	Johor Bahru	2	2	0	1	5
128029–B00	Johor	Johor Bahru	5	2	0	1	8
128029–C00	Johor	Johor Bahru	2	1	0	0	3
128029–D00	Johor	Johor Bahru	1	0	0	0	1
128029–F00	Johor	Johor Bahru	5	0	1	1	7
128041–A00	Johor	Johor Bahru	3	0	0	1	4
128041–B00	Johor	Johor Bahru	3	0	0	0	3
128041–C00	Johor	Johor Bahru	1	0	0	1	2
128041–D00	Johor	Johor Bahru	3	1	0	0	4
128041–E00	Johor	Johor Bahru	4	0	0	0	4

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
128041–F00	Johor	Johor Bahru	3	1	0	2	6
128041–G00	Johor	Johor Bahru	3	2	0	0	5
130016–000	Johor	Segamat	1	0	1	0	2
130037–000	Johor	Segamat	5	1	3	4	13
130080–A00	Johor	Segamat	3	2	0	2	7
130080–C00	Johor	Segamat	3	1	0	0	4
130080–D00	Johor	Segamat	8	0	1	0	9
131002–000	Johor	Batu Pahat	2	4	0	2	8
201070–000	Kedah	Baling	6	1	0	1	8
203036–000	Kedah	Bandar Baharu	0	0	1	0	1
204056–000	Kedah	Kota Setar	10	1	1	3	15
204101–000	Kedah	Kota Setar	2	0	1	1	4
205079–A00	Kedah	Kota Setar	6	1	0	2	9
205079–B00	Kedah	Kota Setar	7	3	1	1	12
205079–C00	Kedah	Kota Setar	10	1	0	1	12
205079–D00	Kedah	Kota Setar	5	6	2	4	17
205079–F00	Kedah	Kota Setar	3	0	0	1	4
206033–000	Kedah	Pendang	3	2	4	1	10
207012–000	Kedah	Kota Setar	3	4	0	0	7
207077–000	Kedah	Kota Setar	1	2	1	0	4
210097–000	Kedah	Kuala Muda	3	0	2	2	7
211027–000	Kedah	Kuala Muda	3	1	2	2	8
211083–000	Kedah	Kuala Muda	10	0	0	0	10
212010–000	Kedah	Kuala Muda	2	5	1	3	11
212040–000	Kedah	Kuala Muda	3	5	1	2	11
212068–000	Kedah	Kuala Muda	2	2	0	1	5
214015–000	Kedah	Kubang Pasu	3	1	2	2	8
214125–000	Kedah	Kubang Pasu	1	2	0	1	4
216025–000	Kedah	Kulim	3	2	0	1	6
216071–000	Kedah	Kulim	2	3	0	1	6
218075–000	Kedah	Padang Terap	4	0	1	2	7
219047–000	Kedah	Sik	4	1	1	1	7
221009–000	Kedah	Yen	3	2	1	3	9
224001–000	Kedah	Pendang	2	3	0	2	7
225027–000	Kedah	Kubang Pasu	2	2	1	1	6
301084–000	Kelantan	Bachok	5	0	0	1	6
302048–000	Kelantan	Kota Bahru	2	0	1	2	5
302096–000	Kelantan	Kota Bahru	3	1	1	1	6
303071–000	Kelantan	Kota Bahru	1	1	0	1	3
303092–000	Kelantan	Kota Bahru	4	0	0	0	4
303113–000	Kelantan	Kota Bahru	4	0	1	0	5
305006–000	Kelantan	Kota Bahru	3	3	1	0	7
305043–000	Kelantan	Kota Bahru	3	0	0	2	5
305073–000	Kelantan	Kota Bahru	2	2	0	1	5
305098–000	Kelantan	Kota Bahru	8	0	0	0	8

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
306033-000	Kelantan	Machang	2	0	3	1	6
306095-000	Kelantan	Machang	4	2	1	2	9
308004-000	Kelantan	Pasir Mas	2	3	1	0	6
308098-000	Kelantan	Pasir Mas	3	1	4	2	10
308110-000	Kelantan	Pasir Mas	3	1	0	0	4
309030-000	Kelantan	Pasir Puteh	6	2	0	2	10
310053-000	Kelantan	Tanah Merah	3	2	0	0	5
311010-000	Kelantan	Tanah Merah	4	0	0	0	4
311066-000	Kelantan	Tanah Merah	4	3	2	1	10
313015-000	Kelantan	Tumpat	0	1	3	2	6
314079-000	Kelantan	Kuala	11	0	1	3	15
316011-000	Kelantan	Tanah Merah	4	0	0	1	5
316014-000	Kelantan	Tumpat	1	4	0	1	6
318083-000	Kelantan	Pasir Puteh	2	3	1	3	9
401065-000	Melaka	Utara(A. Gajah)	5	4	0	2	11
402052-000	Melaka	Utara(A. Gajah)	2	1	0	0	3
402103-000	Melaka	Utara(A. Gajah)	3	3	0	0	6
404023-000	Melaka	Selatan(Jasin)	2	2	0	2	6
404062-A00	Melaka	Selatan(Jasin)	2	2	0	1	5
404062-B00	Melaka	Selatan(Jasin)	3	2	1	2	8
405034-000	Melaka	Melaka Tengah	4	1	0	0	5
405072-000	Melaka	Melaka Tengah	3	0	1	1	5
408038-000	Melaka	Melaka Tengah	4	3	1	2	10
408068-000	Melaka	Melaka Tengah	3	3	2	2	10
408098-000	Melaka	Melaka Tengah	1	1	0	1	3
409053-000	Melaka	Utara(A. Gajah)	3	3	2	1	9
501052-000	N.Sembilan	Jelebu	8	0	0	0	8
502036-000	N.Sembilan	Kuala Pilah	2	0	5	2	9
502112-000	N.Sembilan	Kuala Pilah	3	0	3	3	9
504056-000	N.Sembilan	Port Dickson	10	7	0	5	22
505059-000	N.Sembilan	Port Dickson	8	5	2	4	19
506048-000	N.Sembilan	Rembau	2	3	3	2	10
508023-000	N.Sembilan	Seremban	2	1	1	1	5
508080-000	N.Sembilan	Seremban	2	4	0	0	6
509074-000	N.Sembilan	Seremban	7	4	0	0	11
509099-000	N.Sembilan	Seremban	4	1	0	3	8
511028-000	N.Sembilan	Seremban	4	3	1	1	9
511115-A10	N.Sembilan	Seremban	1	2	1	1	5
511115-A20	N.Sembilan	Seremban	2	0	0	1	3
511115-A30	N.Sembilan	Seremban	0	1	1	0	2
511115-A40	N.Sembilan	Seremban	2	0	0	0	2
511115-BC0	N.Sembilan	Seremban	0	1	0	0	1
511115-DE0	N.Sembilan	Seremban	0	1	0	0	1
511115-FG0	N.Sembilan	Seremban	2	1	0	0	3
511115-H00	N.Sembilan	Seremban	1	0	0	1	2

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
511115-I00	N.Sembilan	Seremban	1	0	0	0	1
511115-J00	N.Sembilan	Seremban	1	0	0	1	2
511122-A00	N.Sembilan	Seremban	3	1	1	0	5
511122-B00	N.Sembilan	Seremban	3	2	3	2	10
511122-C00	N.Sembilan	Seremban	2	1	1	0	4
512083-000	N.Sembilan	Jempol	3	5	1	3	12
602061-000	Pahang	Bentong	14	13	3	6	36
603030-000	Pahang	C.Highlands	12	3	1	0	16
606027-000	Pahang	Jerantut	1	2	3	1	7
607016-A00	Pahang	Kuantan	9	2	2	0	13
607016-B00	Pahang	Kuantan	3	1	2	1	7
609032-000	Pahang	Kuantan	0	0	1	0	1
609071-A00	Pahang	Kuantan	5	0	0	0	5
609071-B00	Pahang	Kuantan	2	2	1	0	5
609115-A00	Pahang	Kuantan	3	1	1	1	6
609115-B00	Pahang	Kuantan	5	1	0	1	7
609115-C00	Pahang	Kuantan	5	0	1	1	7
609115-D00	Pahang	Kuantan	5	0	0	1	6
609115-E00	Pahang	Kuantan	2	0	0	1	3
609115-F00	Pahang	Kuantan	4	1	0	0	5
609115-G00	Pahang	Kuantan	3	2	0	0	5
609129-000	Pahang	Kuantan	7	3	0	2	12
611006-000	Pahang	Lipis	1	1	1	1	4
611071-000	Pahang	Lipis	0	2	1	1	4
612044-A00	Pahang	Rompin	16	1	0	2	19
612044-B00	Pahang	Rompin	29	2	0	0	31
612044-C00	Pahang	Rompin	32	2	0	1	35
616012-000	Pahang	Raub	1	3	1	1	6
616113-000	Pahang	Raub	3	3	2	2	10
617002-000	Pahang	Temerloh	9	3	1	1	14
617058-000	Pahang	Temerloh	9	0	1	0	10
617115-A00	Pahang	Temerloh	2	2	0	2	6
617115-B00	Pahang	Temerloh	2	4	0	1	7
618068-000	Pahang	Temerloh	17	5	0	3	25
618105-000	Pahang	Temerloh	1	0	0	0	1
619040-000	Pahang	Temerloh	1	2	1	2	6
620003-000	Pahang	Temerloh	3	0	0	0	3
620088-000	Pahang	Temerloh	4	0	2	1	7
701061-000	P. Pinang/S.Prai	S.P.Tengah	0	0	0	0	0
701079-000	P. Pinang/S.Prai	S.P.Tengah	9	8	2	6	25
701122-000	P. Pinang/S.Prai	S.P.Tengah	0	1	0	0	1
703040-000	P. Pinang/S.Prai	S.P.Utara	3	3	0	2	8
703102-000	P. Pinang/S.Prai	S.P.Utara	0	0	1	2	3
704035-000	P. Pinang/S.Prai	S.P.Utara	2	0	0	0	2
705020-000	P. Pinang/S.Prai	S.P.Utara	1	3	1	2	7

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
705072-000	P. Pinang/S.Prai	S.P.Utara	2	1	0	2	5
705129-000	P. Pinang/S.Prai	S.P.Utara	2	2	0	1	5
706025-000	P. Pinang/S.Prai	S.P.Selatan	1	3	1	2	7
707049-000	P. Pinang/S.Prai	Timor Laut	2	1	3	2	8
708024-000	P. Pinang/S.Prai	Timor Laut	3	2	0	0	5
708054-000	P. Pinang/S.Prai	Timor Laut	3	0	3	3	9
710010-000	P. Pinang/S.Prai	Timor Laut	3	4	0	2	9
712039-000	P. Pinang/S.Prai	Timor Laut	3	2	2	3	10
712069-000	P. Pinang/S.Prai	Timor Laut	1	3	0	1	5
713025-000	P. Pinang/S.Prai	Timor Laut	1	1	0	1	3
715027-000	P. Pinang/S.Prai	Barat Daya	4	2	1	2	9
715047-000	P. Pinang/S.Prai	Barat Daya	1	0	0	0	1
716045-000	P. Pinang/S.Prai	S.P.Selatan	5	2	0	0	7
717087-000	P. Pinang/S.Prai	S.P.Tengah	3	2	0	0	5
718087-000	P. Pinang/S.Prai	Timor Laut	1	1	0	0	2
801033-000	Perak	Batang Padang	1	0	1	1	3
802033-000	Perak	Batang Padang	1	4	2	3	10
804001-000	Perak	Manjong	8	7	0	2	17
804103-000	Perak	Manjong	3	2	2	2	9
804107-000	Perak	Manjong	9	6	5	2	22
805034-000	Perak	Kinta	1	6	0	2	9
807025-000	Perak	Kinta	3	1	1	0	5
807095-000	Perak	Kinta	4	4	0	2	10
808065-000	Perak	Kinta	0	1	0	0	1
809045-000	Perak	Kinta	5	3	1	3	12
810046-B00	Perak	Kinta	0	3	2	1	6
811001-000	Perak	Kinta	9	0	1	2	12
811083-000	Perak	Kinta	0	0	1	0	1
812014-A00	Perak	Kinta	5	3	2	1	11
812014-B00	Perak	Kinta	7	2	0	3	12
812014-C00	Perak	Kinta	6	1	2	0	9
812016-000	Perak	Kinta	8	5	1	2	16
813020-000	Perak	Kinta	5	0	0	0	5
813049-000	Perak	Kinta	1	5	0	3	9
813079-000	Perak	Kinta	4	0	0	1	5
813086-000	Perak	Kinta	6	1	3	2	12
816033-000	Perak	Kerian	3	3	1	4	11
816105-000	Perak	Kerian	0	1	2	1	4
820028-000	Perak	Larut & Matang	2	1	3	1	7
820084-000	Perak	Larut & Matang	5	5	0	1	11
821038-000	Perak	Larut & Matang	12	8	4	6	30
821118-000	Perak	Larut & Matang	7	1	2	5	15
822026-000	Perak	Larut & Matang	0	3	1	1	5
823005-000	Perak	Larut & Matang	5	1	0	1	7
823090-000	Perak	Larut & Matang	2	3	1	1	7

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
824063-000	Perak	Perak Tengah	1	0	0	0	1
826020-000	Perak	Hilir Perak	3	0	2	3	8
826078-000	Perak	Hilir Perak	2	3	0	2	7
827038-000	Perak	Hilir Perak	3	1	1	2	7
830002-000	Perak	Ulu Perak	1	1	2	1	5
830020-000	Perak	Ulu Perak	10	1	2	3	16
832034-A00	Perak	Manjong	16	0	0	0	16
832034-B00	Perak	Manjong	11	0	0	0	11
832034-C00	Perak	Manjong	14	0	0	0	14
832034-D00	Perak	Manjong	8	0	0	0	8
832034-E00	Perak	Manjong	31	1	2	1	35
832034-F00	Perak	Manjong	15	0	0	0	15
832034-G00	Perak	Manjong	10	0	0	0	10
832034-H00	Perak	Manjong	12	0	0	0	12
833013-A00	Perak	Batang Padang	3	1	0	1	5
833013-B00	Perak	Batang Padang	16	1	0	0	17
834075-000	Perak	Kuala Kangsar	3	2	0	1	6
835041-000	Perak	Hilir Perak	1	0	2	1	4
835072-000	Perak	Hilir Perak	3	0	1	1	5
836038-000	Perak	Kerian	1	3	1	1	6
837048-ABC	Perak	Kinta	4	0	1	0	5
837048-DEF	Perak	Kinta	6	1	1	1	9
837048-H00	Perak	Kinta	3	3	1	1	8
837093-000	Perak	Kinta	1	3	1	2	7
901151-000	Perlis	Perlis	5	1	3	1	10
902024-000	Perlis	Perlis	3	2	0	1	6
903062-000	Perlis	Perlis	2	3	1	2	8
1001043-000	Selangor	Kelang	10	4	0	3	17
1001136-000	Selangor	Kelang	2	4	0	2	8
1003018-000	Selangor	Kelang	0	1	1	2	4
1003043-000	Selangor	Kelang	4	0	2	3	9
1003087-000	Selangor	Kelang	9	4	0	2	15
1004002-000	Selangor	Kelang	4	3	1	3	11
1004025-000	Selangor	Kelang	6	2	0	1	9
1005049-000	Selangor	Kuala Langat	3	6	2	1	12
1006033-000	Selangor	Kuala Langat	5	4	1	3	13
1006047-000	Selangor	Kuala Langat	5	5	1	4	15
1007004-000	Selangor	Petaling	12	4	0	2	18
1007103-000	Selangor	Petaling	4	3	2	3	12
1008027-000	Selangor	Petaling	5	3	0	0	8
1008035-A00	Selangor	Petaling	8	1	0	0	9
1008035-B00	Selangor	Petaling	7	1	0	0	8
1008050-000	Selangor	Petaling	5	1	1	0	7
1008074-A00	Selangor	Petaling	23	1	0	1	25
1008074-B00	Selangor	Petaling	3	0	0	0	3

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
1008074–C00	Selangor	Petaling	3	1	0	0	4
1008074–D00	Selangor	Petaling	3	0	0	0	3
1008074–E00	Selangor	Petaling	3	1	0	2	6
1008098–A00	Selangor	Petaling	1	0	1	0	2
1008098–B00	Selangor	Petaling	4	2	0	2	8
1008098–C00	Selangor	Petaling	5	4	1	2	12
1008098–D00	Selangor	Petaling	5	2	0	1	8
1009048–000	Selangor	Gombak	2	1	1	1	5
1009066–000	Selangor	Gombak	2	6	0	1	9
1009118–000	Selangor	Gombak	0	0	4	2	6
1010082–000	Selangor	Gombak	6	0	2	0	8
1011001–000	Selangor	Gombak	7	3	1	4	15
1019005–000	Selangor	Petaling	9	5	1	0	15
1019007–000	Selangor	Petaling	4	4	0	2	10
1020084–000	Selangor	Petaling	3	3	1	2	9
1021008–A00	Selangor	Petaling	0	0	1	0	1
1021008–B00	Selangor	Petaling	0	0	0	1	1
1021034–000	Selangor	Petaling	2	1	0	0	3
1021113–000	Selangor	Petaling	11	2	0	1	14
1023011–000	Selangor	Kuala Selangor	1	2	1	1	5
1024009–000	Selangor	Kuala Selangor	12	5	4	5	26
1025001–000	Selangor	Kuala Selangor	3	2	0	1	6
1025084–000	Selangor	Kuala Selangor	3	1	2	1	7
1026026–000	Selangor	Sabak Bernam	2	1	1	1	5
1028008–A00	Selangor	Ulu Langat	4	5	0	2	11
1028008–B00	Selangor	Ulu Langat	8	0	1	0	9
1028097–000	Selangor	Ulu Langat	5	2	0	1	8
1030100–000	Selangor	Ulu Selangor	2	0	1	1	4
1032019–000	Selangor	Sepang	5	2	0	2	9
1033037–A00	Selangor	Ulu Langat	4	1	0	2	7
1033037–B00	Selangor	Ulu Langat	4	1	0	0	5
1033037–C00	Selangor	Ulu Langat	4	2	0	3	9
1033037–D00	Selangor	Ulu Langat	1	0	0	1	2
1033037–E00	Selangor	Ulu Langat	4	0	0	1	5
1033059–000	Selangor	Ulu Langat	2	4	0	2	8
1033065–000	Selangor	Ulu Langat	0	2	0	0	2
1101087–000	Trengganu	Besut	2	2	1	1	6
1103038–000	Trengganu	Dungun	10	4	1	2	17
1104022–000	Trengganu	Kemaman	2	3	1	1	7
1104069–000	Trengganu	Kemaman	11	4	2	1	18
1104083–A00	Trengganu	Kemaman	3	1	2	1	7
1104083–B00	Trengganu	Kemaman	2	4	0	2	8
1106020–000	Trengganu	Kuala Trengganu	4	0	1	2	7
1106070–000	Trengganu	Kuala Trengganu	5	1	2	2	10
1107040–000	Trengganu	Marang	6	0	1	1	8

Table B-1 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ENUMERATION BLOCK

NUMBER	STATE	DISTRICT	LIST A: New Sample Only	LIST A: New and Senior Samples	LIST A: Senior Sample Only	LIST B: Senior Sample Only	Total Number of HHs
1108009-000	Trengganu	Kuala Trengganu	2	0	0	0	2
1108034-000	Trengganu	Kuala Trengganu	5	0	0	2	7
1110014-000	Trengganu	Ulu Trengganu	2	0	1	0	3
1112053-000	Trengganu	Besut	4	3	0	0	7
1113012-000	Trengganu	Kuala Trengganu	2	0	2	3	7
1113034-A00	Trengganu	Kuala Trengganu	11	1	0	0	12
1113034-B00	Trengganu	Kuala Trengganu	4	0	0	1	5
1401001-000	W. Persekutuan	W.P. (K.L.)	1	1	0	0	2
1402001-000	W. Persekutuan	W.P. (K.L.)	12	5	0	3	20
1402026-000	W. Persekutuan	W.P. (K.L.)	1	1	0	1	3
1402095-A00	W. Persekutuan	W.P. (K.L.)	10	3	1	2	16
1402095-B00	W. Persekutuan	W.P. (K.L.)	3	1	1	0	5
1402095-C00	W. Persekutuan	W.P. (K.L.)	1	0	0	0	1
1402095-D00	W. Persekutuan	W.P. (K.L.)	3	0	0	0	3
1404033-000	W. Persekutuan	W.P. (K.L.)	4	1	0	0	5
1404064-000	W. Persekutuan	W.P. (K.L.)	3	2	1	1	7
1404094-000	W. Persekutuan	W.P. (K.L.)	0	0	0	0	0
1405105-000	W. Persekutuan	W.P. (K.L.)	11	3	1	2	17
1406004-000	W. Persekutuan	W.P. (K.L.)	2	0	1	0	3
1406029-000	W. Persekutuan	W.P. (K.L.)	1	0	2	1	4
1406084-000	W. Persekutuan	W.P. (K.L.)	4	1	1	3	9
1408091-000	W. Persekutuan	W.P. (K.L.)	3	0	0	0	3
1410029-000	W. Persekutuan	W.P. (K.L.)	0	1	0	0	1
1411115-000	W. Persekutuan	W.P. (K.L.)	3	0	0	0	3
1412080-000	W. Persekutuan	W.P. (K.L.)	12	4	1	1	18
1412108-000	W. Persekutuan	W.P. (K.L.)	3	2	1	0	6
1414021-000	W. Persekutuan	W.P. (K.L.)	2	2	0	1	5
1414077-000	W. Persekutuan	W.P. (K.L.)	2	3	0	2	7
1415046-000	W. Persekutuan	W.P. (K.L.)	7	6	0	3	16
1415062-000	W. Persekutuan	W.P. (K.L.)	7	1	0	4	12
Total			1,555	640	273	449	2,917

Table B-2

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ADMINISTRATIVE DISTRICT

		LIST A			LIST B	
STATE	DISTRICT	New Sample Only	New and Senior Samples	Senior Sample Only	Senior Sample Only	Total Number of Households
Johor	Batu Pahat	18	19	9	13	59
Johor	Johor Bahru	105	39	15	26	185
Johor	Keluang	38	18	5	8	69
Johor	Kota Tinggi	24	7	2	4	37
Johor	Mersing	12	2	0	1	15
Johor	Muar	46	21	7	19	93
Johor	Pontian	1	0	1	1	3
Johor	Segamat	27	6	5	8	46
Kedah	Baling	6	1	0	1	8
Kedah	Bandar Baharu	0	0	1	0	1
Kedah	Kota Setar	47	18	6	13	84
Kedah	Kuala Muda	23	13	6	10	52
Kedah	Kubang Pasu	6	5	3	4	18
Kedah	Kulim	5	5	0	2	12
Kedah	Padang Terap	4	0	1	2	7
Kedah	Sik	4	1	1	1	7
Kedah	Yen	3	2	1	3	9
Kedah	Pendang	5	5	4	3	17
Kelantan	Bachok	5	0	0	1	6
Kelantan	Kota Bahru	30	7	4	7	48
Kelantan	Machang	6	2	4	3	15
Kelantan	Pasir Mas	8	5	5	2	20
Kelantan	Pasir Puteh	8	5	1	5	19
Kelantan	Tanah Merah	15	5	2	2	24
Kelantan	Tumpat	1	5	3	3	12
Kelantan	Kuala Krai	11	0	1	3	15
Melaka	Utara (A. Gajah)	13	11	2	3	29
Melaka	Selatan (Jasin)	7	6	1	5	19
Melaka	Melaka Tengah	15	8	4	6	33
N.Sembilan	Jelebu	8	0	0	0	8
N.Sembilan	Kuala Pilah	5	0	8	5	18
N.Sembilan	Port Dickson	18	12	2	9	41
N.Sembilan	Rembau	2	3	3	2	10
N.Sembilan	Seremban	37	23	9	11	80
N.Sembilan	Jempol	3	5	1	3	12
Pahang	Bentong	14	13	3	6	36
Pahang	C.Highlands	12	3	1	0	16
Pahang	Jerantut	1	2	3	1	7
Pahang	Kuantan	53	13	8	8	82
Pahang	Lipis	1	3	2	2	8
Pahang	Raub	4	6	3	3	16
Pahang	Temerloh	48	16	5	10	79

Table B-2 (continued)

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY ADMINISTRATIVE DISTRICT

		LIST A			LIST B	
STATE	DISTRICT	New Sample Only	New and Senior Samples	Senior Sample Only	Senior Sample Only	Total Number of Households
Pahang	Rompin	77	5	0	3	85
P. Pinang/S.Prai	S.P.Tengah	12	11	2	6	31
P. Pinang/S.Prai	S.P.Utara	10	9	2	9	30
P. Pinang/S.Prai	S.P.Selatan	6	5	1	2	14
P. Pinang/S.Prai	Timor Laut	17	14	8	12	51
P. Pinang/S.Prai	Barat Daya	5	2	1	2	10
Perak	Batang Padang	21	6	3	5	35
Perak	Manjong(Dindings)	137	16	9	7	169
Perak	Kinta	78	42	18	26	164
Perak	Kerian	4	7	4	6	21
Perak	Kuala Kangsar	3	2	0	1	6
Perak	Larut & Matang	33	22	11	16	82
Perak	Hilir Perak	12	4	6	9	31
Perak	Ulu Perak	11	2	4	4	21
Perak	Perak Tengah	1	0	0	0	1
Perlis	Perlis	10	6	4	4	24
Selangor	Gombak	17	10	8	8	43
Selangor	Kelang	35	18	4	16	73
Selangor	Kuala Langat	13	15	4	8	40
Selangor	Kuala Selangor	19	10	7	8	44
Selangor	Petaling	120	39	8	19	186
Selangor	Sabak Bernam	2	1	1	1	5
Selangor	Sepang	5	2	0	2	9
Selangor	Ulu Langat	36	17	1	12	66
Selangor	Ulu Selangor	2	0	1	1	4
Trengganu	Besut	6	5	1	1	13
Trengganu	Dungun	10	4	1	2	17
Trengganu	Kemaman	18	12	5	5	40
Trengganu	Kuala Trengganu	33	2	5	10	50
Trengganu	Marang	6	0	1	1	8
Trengganu	Ulu Trengganu	2	0	1	0	3
W. Persekutuan	W.P. (K.L.)	95	37	10	24	166
Total		1,555	640	273	449	2,917

Table B-3

MFLS-2 NEW AND SENIOR SAMPLE HOUSEHOLDS, BY STATE

STATE	LIST A			LIST B	Total Number of Households
	New Sample Only	New and Senior Samples	Senior Sample Only	Senior Sample Only	
Johor	271	112	44	80	507
Kedah	103	50	23	39	215
Kelantan	84	29	20	26	159
Melaka	35	25	7	14	81
N.Sembilan	73	43	23	30	169
Pahang	210	61	25	33	329
P. Pinang/S.Prai	50	41	14	31	136
Perak	300	101	55	74	530
Perlis	10	6	4	4	24
Selangor	249	112	34	75	470
Trengganu	75	23	14	19	131
W. Persekutuan (K.L.)	95	37	10	24	166
Total	1,555	640	273	449	2,917

Appendix C

MFLS-1 AND MFLS-2 PANEL SAMPLE HOUSEHOLDS BY STATE, DISTRICT, AND PRIMARY SAMPLING UNIT (TABLES C-1, C-2, and C-3)

Table C-1 presents the number of MFLS-1 households in each of the 52 MFLS-1 PSUs, listed according to the state and administrative district in which they were located in 1976. Table C-2 presents the total numbers of households by district, and Table C-3 presents the number of households by state. The last column shows the number (and percent) of those households in which the Roster Update (MF20) was completed in MFLS-2. Note that the state and district listed here are those in which the respondent lived at the time of the MFLS-1 interview in 1976. The MF22 migration history updates subsequent migration. (This is summarized in Haaga et al., 1991.)

Table C-1

MFLS-1 AND MFLS-2 PANEL SAMPLE HOUSEHOLDS PRIMARY SAMPLING UNIT, STATE AND DISTRICT

PSU NUMBER	STATE	DISTRICT	NUMBER OF HOUSEHOLDS	NUMBER WHO COMPLETED MF20 IN MFLS-2	%
50975	Melaka	Melaka Tengah	37	36	97.3
120424	Johor	Keluang	26	22	84.6
120674	Johor	Batu Pahat	33	22	66.7
150115	Perlis	Perlis	20	14	70.0
150725	Johor	Muar	23	22	95.7
151905	Johor	Batu Pahat	27	25	92.6
220144	Kedah	Kota Setar	14	7	50.0
220514	Kedah	Kota Setar	15	6	40.0
250285	Kedah	Baling	28	21	75.0
251515	Kedah	Pendang	22	19	90.5
252705	Kedah	Pendang	28	26	92.9
253935	Kedah	Kuala Muda	27	19	70.3
255165	Kedah	Kubang Pasu	24	20	83.3
256395	Kedah	Padang Terap	27	23	85.2
310733	P. Pinang/S.Prai	Timor Laut	6	3	50.0
311393	P. Pinang/S.Prai	Timor Laut	21	11	52.4
350055	P. Pinang/S.Prai	S.P.Tengah	40	34	85.0
350503	P. Pinang/S.Prai	S.P.Utara	57	33	57.9
351445	P. Pinang/S.Prai	Barat Daya	9	4	44.4
410812	Perak	Kinta	41	18	43.9
411562	Perak	Kinta	21	6	28.6
421174	Perak	Kuala Kangsar	22	15	68.2
430094	Perak	Batang Padang	23	21	91.3
440574	Perak	Manjong (Dindings)	35	24	68.6
450965	Perak	Kerian	32	22	68.8
451225	Perak	Larut & Matang	20	13	65.0
452195	Perak	Larut & Matang	15	14	93.0
453425	Perak	Perak Tengah	9	8	88.9
454655	Perak	Manjong (Dindings)	16	13	81.3
454945	Perak	Manjong (Dindings)	46	23	50.0
455875	Perak	Kinta	36	25	69.4
457105	Perak	Batang Padang	29	20	69.0
458335	Perak	Hilir Perak	8	6	75.0
540064	Kelantan	Kuala Krai	42	32	76.2
550465	Kelantan	Bachok	26	25	96.2
551695	Kelantan	Kota Bahru	15	15	100.0
620194	Trengganu	Kuala Trengganu	17	17	100.0
650115	Trengganu	Besut	31	30	96.8
651345	Trengganu	Kuala Trengganu	21	19	90.5

Table C-1 (continued)

MFLS-1 AND MFLS-2 PANEL SAMPLE HOUSEHOLDS BY PRIMARY SAMPLING UNIT, STATE AND DISTRICT

PSU NUMBER	STATE	DISTRICT	NUMBER OF HOUSEHOLDS	NUMBER WHO COMPLETED MF20 IN MFLS-2	%
750555	Pahang	Lipis	10	8	80.0
751785	Pahang	Temerloh	7	7	100.0
810931	W. Persekutuan	W.P. (Kuala Lumpur)	42	35	83.3
812301	W. Persekutuan	W.P. (Kuala Lumpur)	5	0	0.0
813791	W. Persekutuan	W.P. (Kuala Lumpur)	25	9	36.0
820231	Selangor	Petaling	13	11	84.6
830034	Selangor	Ulu Langat	23	9	39.1
850745	Selangor	Kuala Langat	19	15	78.9
852325	Selangor	Sabak Bernam	27	25	92.6
853651	W. Persekutuan	W.P. (Kuala Lumpur)	18	12	66.7
920364	N.Sembilan	Kuala Pilah	29	24	82.8
950155	N.Sembilan	Rembau	18	17	94.4
951375	N.Sembilan	Kuala Pilah	37	21	56.8
Total			1,262	926	73.4

Table C-2

MFLS-1 AND MFLS-2 PANEL SAMPLE HOUSEHOLDS, BY ADMINISTRATIVE DISTRICT

STATE	DISTRICT	MFLS-1 HHLDS	COMPLETED MF20 IN MFLS-2	%
Johor	Batu Pahat	60	47	78.3
Johor	Keluang	26	22	84.6
Johor	Muar	23	22	95.6
Kedah	Baling	28	21	75.0
Kedah	Kota Setar	29	13	44.8
Kedah	Kuala Muda	27	19	70.4
Kedah	Kubang Pasu	24	20	83.3
Kedah	Padang Terap	27	23	85.2
Kedah	Pendang	50	45	90.0
Kelantan	Bachok	26	25	96.2
Kelantan	Kota Bahru	15	15	100.0
Kelantan	Kuala Krai	42	32	76.2
Melaka	Melaka Tengah	37	36	97.3
N.Sembilan	Kuala Pilah	66	45	68.2
N.Sembilan	Rembau	18	17	94.4
Pahang	Lipis	10	8	80.0
Pahang	Temerloh	7	7	100.0
P. Pinang/S.Prai	S.P.Tengah	40	34	85.0
P. Pinang/S.Prai	S.P.Utara	57	33	57.9
P. Pinang/S.Prai	Timor Laut	27	14	51.9
P. Pinang/S.Prai	Barat Daya	9	4	44.4
Perak	Batang Padang	52	41	78.8
Perak	Manjong (Dindings)	97	60	61.9
Perak	Kinta	98	49	50.0
Perak	Kerian	32	22	68.8
Perak	Kuala Kangsar	22	15	68.2
Perak	Larut & Matang	35	27	77.1
Perak	Hilir Perak	8	6	75.0
Perak	Perak Tengah	9	8	88.9
Perlis	Perlis	20	14	70.0
Selangor	Kuala Langat	19	15	78.9
Selangor	Petaling	13	11	84.6
Selangor	Sabak Bernam	27	25	92.6
Selangor	Ulu Langat	23	9	39.1
Trengganu	Besut	31	30	96.8
Trengganu	Kuala Trengganu	38	36	94.7
W. Persekutuan	W.P. (Kuala Lumpur)	90	56	62.2
Total		1,262	926	73.4

Table C-3

MFLS-1 AND MFLS-2 PANEL SAMPLE HOUSEHOLDS, BY STATE

STATE	MFLS-1 HHLDs	COMPLETED MF20 IN MFLS-2	%
Johor	109	91	83.5
Kedah	185	141	76.2
Kelantan	83	72	86.7
Melaka	37	36	97.3
N.Sembilan	84	62	73.8
Pahang	17	15	88.2
P. Pinang/S.Prai	133	85	63.9
Perak	353	228	64.6
Perlis	20	14	70.0
Selangor	82	60	73.2
Trengganu	69	66	95.7
W. Persekutuan	90	56	62.2
Total	1,262	926	73.4

Appendix D

FIELD STAFF FOR THE SECOND MALAYSIAN FAMILY LIFE SURVEY

Table D-1

Interviewers and Field Scouts

Adnan Jaafar	(M)	Norlaily Mohd. Yaakob	(F)
Ahmad Faizul Mohd. Nor	(M)	Norma Mokhtaram	(F)
Aishah Abdul Kareem	(F)	Normah Daud	(F)
Aizatal Habib A. Ariffin	(F)	Ong Paik Choo	(F)
Amutha d/o Pariasamy	(F)	Ooi Lay Hong	(F)
Au Yong Ping	(M)	Ooi Poh Huat	(M)
Azizah Abdullah	(F)	Palaniayee d/o S.L. Subbiah	(F)
Azlina Rawi	(F)	Patham Seliyan s/o Shanmugam	(M)
Azmi Najib Othman	(M)	Raizah Jaafar	(F)
Bag Yuen Hong	(F)	Rakma Ibrahim	(F)
Balarsundram s/o Vethamuthu	(M)	Rohani Abdul Rahman	(F)
Bay Wen Chyang	(M)	Roslan Hussein	(M)
Chua Lay Suat	(F)	Rosdina Abdullah	(F)
Faridah Rejab	(F)	Roslinawati Omar	(F)
Foo Vin Seong	(F)	Rozaini Rashid	(F)
Goh Hee Hock	(M)	Rozana Abdul Samad	(F)
Hafizah Shafie	(F)	Saadiah Liri	(F)
Hajah Zaitun Saad	(F)	Saasma Omar	(F)
Haji Abdul Razak Abdullah	(F)	Sabriah Ismail	(F)
Hamidah Nuruddin	(F)	Sabariah Daud	(M)
Hatijah Abdul Wahab	(M)	Salamah Yassin	(F)
Ho Chok Eng	(F)	Saleh Daud	(F)
Humeani Suip	(F)	Siow Kim Foong	(F)
Ismail Hj. Wahab	(F)	Sujata R. Ramakrisnam	(F)
Jeyanthi d/o Sithiram	(F)	Tan Lee Heong	(F)
Khairul Azmi Kamaruddin	(M)	Tan Siew Chui	(F)
Khairulzaman Mohd. Yunus	(M)	Teo Tian Hua	(M)
Khoo Gaik Sim	(F)	Theresa Chiew	(F)
Lily Soon Ka Fong	(M)	Thiagarajah s/o Vengadasalam	(M)
Lim Dy Yok	(F)	Thiru Varasu s/o Kamarusamy	(M)
Loo Wai Keong	(F)	Thoong Sok Heng	(F)
Magasvarey d/o Sinadurai	(F)	Tong Siew Peng	(F)
Maragatham d/o Kalidas	(F)	Vijaya Letsumi d/o Tharuman	(F)
Mohd. Husairi Ishak	(M)	W. Ahmad Sayuti	(M)
Mohd. Zahir Ismail	(M)	Wong Kim Lan	(F)
Mustapha Kamil Baharuddin	(M)	Yahya Abu Hassan	(M)
Nasir Abdullah	(M)	Yam Mohd. Nor	(F)
Noriyati Tahir	(F)	Yvonne Cecilia Xavier	(F)
Norrizan Abu Kassim	(F)	Zaharuddin Hassan	(M)

Table D-2

Supervisors, Programmers, and Research Officers

Abd. Rahim Hasnan	(M)
Abu Bakar Hassan	(M)
Abdul Manan Rahaman	(M)
Asma Hussein	(F)
Azizan Omar	(M)
Azuddin Arshat	(M)
Foo Sya Tong	(M)
Khalipah Mohd. Tom.	(F)
Kipli Ali	(M)
Philomena Ganga	(F)
Nazileh Ramli	(F)
Ng Tuck Seng	(M)
Nordin Abd. Samad	(M)
Rohani Abdul Rahman	(F)
Rohani Abdul Razak	(F)
Teng Soon Sian	(F)

Table D-3

Typists

Norlin Said
Norhasimah Abdul Rauf

Appendix E

LETTER FROM DIRECTOR GENERAL OF LPPKN DESCRIBING THE PURPOSE OF THE MFLS-2 SURVEY

LEMBAGA PENDUDUK dan PEMBANGUNAN KELUARGA NEGARA, MALAYSIA
(Jabatan Perdana Menteri)
Bangunan LPPKN, No.129, Jalan Raja Laut, Peti Surat 10415, 50712 Kuala Lumpur. Tel : 03-2937555
Kabel : FAMILI K.LUMPUR
Teleks : POPMAL MA 31911

Ruj. Tuan:

Ruj. Kami: Bil.(45)dlm.LPPKN.34/17/I

Tarikh : 1988

Tuan/Puan,

Perkara : PENYIASATAN KEHIDUPAN KELUARGA MALAYSIA II 1988

Dengan segala hormatnya adalah dimaklumkan bahawa Lembaga Penduduk dan Pembangunan Keluarga Negara, Jabatan Perdana Menteri, Malaysia sedang menjalankan Penyiasatan Kehidupan Keluarga Malaysia II.

Tujuan utama penyiasatan ini ialah untuk mengumpulkan maklumat maklumat tentang aspek aspek kehidupan keluarga bagi tujuan pengubalan dasar dan perlaksanaan program program Kerajaan.

Keluarga tuan/puan adalah salah satu yang terpilih untuk Penyiasatan ini yang mana pegawai pegawai dari Lembaga telah ditugaskan untuk melawat dan menemubual tuan/puan. Segala maklumat yang tuan/puan beri akan disimpan rahsia dan digunakan hanya untuk analisis perangkaan sahaja.

Semua pegawai/kakitangan yang terlibat mempunyai kad pengenalan khas LPPKN yang mana tuan/puan boleh meminta tujukkan untuk tujuan pengesahan.

Kerjasama tuan/puan dalam menjayakan penyiasatan ini adalah amat dihargai. Sekiranya tuan/puan memerlukan maklumat lanjut mengenai penyiasatan ini, sila hubungi Puan Khalipah Mohd.Tom atau pegawai pegawai kanan lain di Pusat Kajian Kependudukan, Ibu Pejabat LPPKN alamat dan atau nombor telipon di atas.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Hormat dari saya,

(PROF. DR. ABDUL HAMID ARSHAT)
Ketua Pengarah,
Lembaga Penduduk dan Pembangunan Keluarga Negara,
Jabatan Perdana Menteri,
MALAYSIA.

(Sila sebutkan rujukan kami bila menjawab surat ini)

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