CONFERENCE PROCEEDINGS

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Edited by
Jeffrey Sine, Tey Nai Peng, Julie DaVanzo
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Jeffrey Sine, Tey Nai Peng, Julie DaVanzo

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PROCEEDINGS OF
THE SEMINAR ON THE SECOND MALAYSIAN
FAMILY LIFE SURVEY*

Held at the National Population and
Family Development Board (NPFD) of Malaysia
Kuala Lumpur, Malaysia
on
October 4, 1991

1993

Edited by
Jeffrey Sine, RAND
Tey Nai Peng, NPFD
Julie DaVanzo, RAND

*This report has also been issued with the title, "Report of the Malaysian Family Life Survey - II, 1988" by the National Population and Family Development Board, Malaysia.
PREFACE AND ACKNOWLEDGMENTS

This volume contains papers prepared by researchers at the Population Studies Center of the National Population and Family Development Board of Malaysia (Lembaga Penduduk dan Penbangunan Keluarga Negara, or LPPKN) and at RAND that use data from the Second Malaysian Family Life Survey (MFLS-2). All but one of these papers were presented at The Seminar on the Second Malaysian Family Life Survey, which was held at the LPPKN headquarters, in Kuala Lumpur, on October 4, 1991. That seminar was attended by members of the Board; staff of governmental ministries and agencies, non-governmental organizations, and other research organizations in Malaysia; and local universities.

The Second Malaysian Family Life Survey was carried out by RAND and LPPKN in 1988-89 with support from the (U.S.) National Institute for Child Health and Human Development (NICHD) and the National Institute on Aging (NIA). Julie DaVanzo and John Haaga were the RAND project directors; Tey Nai Peng and Tan Boon Ann were the LPPKN project directors. The MFLS-2 data are now in the public domain and are available from either RAND, LPPKN, or the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. For more information about the survey, see:


The analyses by LPPKN staff reported herein were begun when Christine Peterson and Ellen Starbird, of RAND, spent two months at LPPKN headquarters in August-September 1989, conducting a workshop on processing and analyzing data from the Second Malaysian Family Life Survey. This workshop was supported by a grant to RAND from the William and Flora Hewlett Foundation. These analyses continued over the next two years, during which time Jeffrey Sine, Julie DaVanzo, Christine Peterson, John Haaga, and Omar Rahman, of RAND, collaborated with LPPKN
staff on these analyses and on the preparation of the papers presented in this document. The effort of RAND staff on these collaborations was also supported by the Hewlett Foundation.

The editors of this volume would like to gratefully acknowledge the financial support of NICHD, NIA, and the Hewlett Foundation; the valuable assistance of Ng Tuck Seng, Nordin Abd. Samad, and Lim Pik Wah, of LPPKN, and of Christine Peterson, John Haaga, Ellen Starbird, and Omar Rahman, of RAND, with the analyses and the preparation of the papers presented herein; and the useful comments and suggestions made by participants at the Seminar. We would also like to thank LPPKN project co-director, Dr. Tan Boon Ann, and the former Director General of LPPKN, Dr. Hamid Arshat, for their assistance and support throughout the MFLS-2 project, and the Malaysian Government Department of Statistics for their help in selecting the MFLS-2 sample; and to the express our sincere appreciation to all of the interviewers, supervisors, editors, and key punch operators for their dedication and untiring efforts in completing the survey. Nearly all of the LPPKN authors of papers in this volume participated in the MFLS-2 field work as supervisors or research officers. Last, but not least, we would like to thank all of the MFLS-2 respondents for their participation in the survey.
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1. OVERVIEW

by Julie DaVanzo and Tey Nai Peng

1.1 INTRODUCTION

The Malaysian Family Life Surveys are two surveys that RAND has conducted in Peninsular Malaysia. (RAND is a non-profit organization, located in Santa Monica, California, U.S.A., that does research in the public interest.) The first Malaysian Family Life Survey was done in 1976-1977 and the Second Malaysian Family Life survey was fielded in 1988 and early 1989. These surveys provide a very rich data base for studying demographic and economic issues, and the interrelations among them. They, therefore, can be very useful for assessing the effects of programmes and for informing the planning of programmes that affect family planning, health, women, education, and national development in general. The data cover a long period of time because we have complete retrospective life histories for respondents; together the two data bases cover a period from the end of World War II to the end of the 1980s. In addition, there is very detailed data for the times of both of the surveys, 1976 and 1988.

The first survey was a joint effort between RAND and Survey Research Malaysia, Sdn. Bhd, although initially we began the work with the Department of Statistics and also consulted with what was then known as the National Family Planning Board. That survey was fielded in 1976-1977 and there were interviews with 1262 ever-married women under
the age of 50 and with their spouses. The sample was in 52 primary sampling units selected to be representative of Peninsular Malaysia. The first survey, MFLS-I, has been widely used since its release. It has been used by researchers at RAND, by a number of Malaysian researchers, and by many other researchers around the world. The MFLS-I data have been the basis for almost 200 articles, papers, and dissertations. It shows the wide variety of topics that have been covered in the analyses of the data—from marriage and family formation and child health, to issues having to do with education, migration, labour force participation, income, and so on.

The Second Malaysian Family Life Survey (MFLS-II) will support analyses of the same broad range of topics. The second survey, which has been a joint effort between RAND and LPPKN, was fielded in 1988. Whereas the first survey had one sample, which was households that contained an ever-married woman under the age of 50, the second survey had four samples.

1.2 MFLS-II SAMPLES
The sample for MFLS-II was selected with the assistance of the Department of Statistics based on the updated frame. Overall 398 enumeration blocks were selected throughout Peninsular Malaysia to yield a representative sample.
As the Indians make up only about 10 percent of the population, they were selected at twice the rate to ensure sufficient number of cases.

The four MFLS-II samples are as follows:

1. For the Panel sample, we tried to find and re-interview the same women that we had interviewed in 1976, in MFLS-1. In spite of the lack of detailed information we were able to reinterview 889 out of the 1262 original sample (72%), making available longitudinal information on a number of women. We also interviewed their husbands again in 1988.

2. In the Children Sample, we interviewed a sample of the grown children of women in the Panel sample. (We interviewed one child, selected at random, still living with his or her mother and two children, selected at random, living elsewhere.) Our definition was adult children aged 18 and over, and we have data on over 1000 children. Hence, we have information both in 1976 and 1988 about their parents and then we have detailed information about the children in 1988, so there are very rich opportunities for inter-generational analysis. If the respondent in the Children sample was married, we also interviewed his or her spouse.
3. The **New sample** consists of women of reproductive age (aged 18 to 49). Unlike MFLS-I, where we only interviewed **ever-married** women under age 50, in MFLS-II we interviewed women aged 18-49 irrespective of their marital status. In MFLS-II we also interviewed **ever-married** women under age 18, so that if we wanted to replicate the type of sample we had before, i.e. ever-married women under age 50, we could do that. It turned out there are only six ever-married women under the age of 18 in the MFLS-II New sample. We also interviewed the husbands of all married members of the New sample.

4. The **Senior sample** is a sample of households with a person aged 50 or older. If there was more than one person aged 50 or older, we selected one, at random, to be Senior respondent. It is unusual to do a study that is sampling the elderly and women of reproductive age in the same study. Furthermore, the MFLS-II Senior sample is the first **nationally representative** sample of the elderly in Peninsular Malaysia. We have over 1300 "seniors".

1.3 **UNIQUE FEATURES OF THE MFLSes**

Both Malaysian Family Life Surveys are rather unique compared with most population surveys in this country. One is the very rich set of information that is collected: very comprehensive demographic, socio-economic, and health
data all in the same study, plus retrospective data covering full life histories on such topics as marriage, pregnancy, contraception, infant feeding, child survival, education and training, migration, and work. In addition, we have detailed economic information on earnings, income, and wealth for the time around each survey. Furthermore, not only do we have data on women and their husbands and their children, but we also have information on the communities in which they live, both current information, e.g., what type of family planning clinic is nearby, how far it is, and some information about its characteristics, and also historical information, such as when that clinic began. One can use these historical community data, together with the retrospective life history data on women, to see, for example, if there are differences in women's contraceptive behavior before and after a family planning clinic was put into their community. This type of information is especially useful for assessing the effects of government programmes regarding family planning, health, education, and so forth.

1.4 UNIQUE FEATURES OF MFLS-II

There were several additional unique features that characterize MFLS-II. One was the longitudinal follow-up -- the effort to find the same women 12 years later. Another, was that we interviewed children of the original respondents, allowing for even richer analyses of intergenerational issues. Thirdly, the second survey
included never-married women of reproductive age too, whereas the first survey only included households with an ever-married woman under age 50. We thought it was important to be able to look at all women, especially since the age of marriage has risen in Malaysia. We would get a very misleading impression of the situation of, say, women between ages 18 and 25 if we only looked at the ones that were already married. Fourth, we added the sample of people aged 50 and over, because of the increased interest in this country and in the region in the status and well-being of older people. Fifth, in MFLS-II we collected even more detailed information about communities than we did in MFLS-I. The MFLS-II New and Senior samples are located in 398 sampling areas, called enumeration blocks, whereas in the first survey we only had 52 sample areas (PSUs, or primary sampling areas). Hence, in MFLS-II we have much larger number and greater variety of areas. Furthermore, we collected more detailed community-level information in MFLS-II than in MFLS-I. We realized in our analyses of the first survey how important the historical dimension was, because the interesting variation in the first survey was often the variation over time; to really understand it we wanted to have similar variation over time in the availability and access to schools and clinics and so forth.
2. MARRIAGE TRENDS AMONG PENINSULAR MALAYSIAN WOMEN

by Khalipah Mohd. Tom

2.1 INTRODUCTION

In most societies, marriage marks the beginning of a woman’s exposure to the risk of conception and the beginning of family formation. Marriage is an important factor affecting fertility and population growth. Generally, women who marry early tend to end up with larger family size than those who marry late. Postponement in marriage accounts for a large part of fertility decline among Malaysian women.

In this report, marriage is defined as civil and registered marriage, religious marriage, customary wedding and common law wedding. The date of marriage is taken as the time at which the couples began cohabiting even though the marriage may have been legally registered at an earlier or later date.

1988 MFLS-II elicited detailed information on the marital history of ever married women aged 15-49 years, such as starting and ending dates of union, marriage outcome and frequency of marriage. A total of 2184 respondents provided information for the following analysis.

This paper describes marriage trends in relation to proportion of women ever married and mean age at first marriage; and analyze the marriage pattern (age at
marriage, marital dissolutions and remarriage) in terms of ethnicity and demographic variables. The concluding section highlights some policy implications of the marriage trends and patterns.

2.2 MARRIAGE TRENDS

Proportion of Women Ever Married

Figure 2.1 shows changes in the percentage of women ever married by age group from 1970 to 1988. There has been a continual decline in young marriages. The decline has been sharpest among the youngest age group (18-19) falling from 36 percent in 1970 to 12 percent in 1988. However, there is hardly any change for women aged 30-34 years, indicating that most Malaysian women still do marry, but that younger women are marrying later.

**FIGURE 2.1**
PROPORTION OF WOMEN WHO HAVE EVER MARRIED HAS DECLINED

![Graph showing proportion of women ever married by age group from 1970 to 1988.](image)
Figure 2.2 shows that for all age groups, a greater proportion of Malay women had ever been married. While a greater proportion of Indians aged 18-24 years had ever been married compared to the Chinese in the same group, the reverse is true for those aged 25-34 years. The ethnic differentials in the proportion marrying narrow substantially by age 35, as marriage becomes nearly universal.

**FIGURE 2.2**
FOR ALL AGE GROUPS, A GREATER PROPORTION OF MALAY WOMEN HAD EVER BEEN MARRIED

2.3 **AGE AT FIRST MARRIAGE**

Although young marriages have become less common among Malaysian women, most do marry at a later age. We now examine trends and patterns of age at first marriage in terms of ethnicity, place of residence and education attainment.
For this analysis, age at first marriage was estimated for the subsample whose first marriage occurred by age 30 and who were 30 years or older at the time of survey (n=1124 women). This approach subjects the data to a "censoring effect", systematically biasing the sample towards women who married young, by excluding those who were not married at the time of the survey and those who might marry after age 30. As a result, the mean age at first marriage may be under-estimated, especially across the cohorts, thus concealing the actual trend.

To reduce the bias in "censoring effect", the estimates were based on a sub-sample which was relatively homogeneous in their exposure to the risk of marriage. Previously, age at first marriage was estimated for the sub-samples of women aged 25 to 49 and married before aged 25. According to the 1988 MFLS II survey, mean age at first marriage for women aged 25 to 49 and married before aged 25 was 18.3 years as compared to mean age at first marriage of 20.3 years for those women aged 30 to 49 and married before aged 30 years. This indicates the presence of the "censoring effect".

Figure 2.3 shows ethnic differences in age at first marriage by year of birth. The increase in age at first marriage has been greater among Malay and Indian women than for Chinese women. The graph also shows that the gaps in age
at first marriage between ethnic groups have narrowed, that is from 4.1 years among women born between 1939-43 to 1.9 years among women born between 1954-58.

**FIGURE 2.3**
MEAN AGE AT FIRST MARRIAGE IS HIGHER FOR YOUNGER WOMEN

Different socio-economic and cultural factors have varied effects on the timing of marriage for each ethnic group. Urban residence is strongly positively correlated with age at first marriage for Malays and Indians, but not for Chinese (Figure 2.4). Among Malays, urban women married 1.8 years later than their rural counterparts and urban Indians married 1.0 year later than rural Indians. Ethnic differences in age at first marriage tended to be more pronounced in the rural areas. Rural Chinese women married
2.5 years later than rural Indians, and more than 3 years later than the Malays. In contrast, ethnic differences in age at marriage is relatively less pronounced among urban women.

**FIGURE 2.4**
MEAN AGE AT FIRST MARRIAGE IS HIGHER AMONG URBAN WOMEN FOR ALL ETHNIC GROUP

![Bar chart showing mean age at first marriage by ethnicity and urban/rural status.]

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Age at first marriage is also strongly related to educational attainment (Figure 2.5). Women with higher education tend to marry later than the less educated women. This is true for all cohorts of women in this sample. Women with at least some secondary education married much later than those with no schooling or with only primary education. This suggests that the trend of increasing age at first marriage is explained by improvement in educational level.
FIGURE 2.5
MORE EDUCATED WOMEN MARRY LATER
 THAN LESS EDUCATED WOMEN

Over time, the proportion of Malaysian women with no
education has declined, while the percentage with at least
some secondary education has increased. This compositional
change in the sample seems to be the driving factor that
result in increase in the age at first marriage. For
example, the percentage of women who had never attended
school declined from 30 percent among women born between
1939-43 to 8 percent among women born between 1954-58. On
the other hand, the percentage of women with at least some
secondary education increased from 18 percent among women
born between 1939-43 to 40 percent among women born between
1954-58.
2.4 MARITAL DISSOLUTION

Of the ever married women aged 15-49 years in the MFLS-II, about 95.8 percent were currently married, 2.3 percent were widowed and 1.9 percent were either divorced or separated. As expected, marriage dissolution increases with age, due to the longer period of exposure.

Table 2.1 shows that about 91.2 percent of all first marriages still remained intact at the time of the survey. However, the proportion of marriages remaining intact decreases with increasing number of years since first marriage, that is from 98.1 percent among those who were married less than 10 years to 75.4 percent for those who were married for 20 years or more.

Marital break-ups were considerably more common among the Malays than the Chinese and the Indians, on account of higher divorce rates. Of marriages that occurred before 1968, 22.3 percent of Malay women had been divorced or separated, as compared to only 3.8 percent among Chinese and 5.7 percent among Indian divorces.
Table 2.1: Percentage distribution of all ever married women according to status of first marriage and remarriage by years since first marriage and ethnic group

<table>
<thead>
<tr>
<th>Years Since First Marriage</th>
<th>First Marriage intact</th>
<th>Percent whose first marriage had ended in Divorce/Separated</th>
<th>Percent whose first marriage terminated but remarried</th>
<th>No. who had ever married</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Women</td>
<td>91.2</td>
<td>5.8</td>
<td>3.0</td>
<td>57.2</td>
</tr>
<tr>
<td>10</td>
<td>98.1</td>
<td>1.4</td>
<td>0.5</td>
<td>46.7</td>
</tr>
<tr>
<td>10-19</td>
<td>90.8</td>
<td>6.8</td>
<td>2.4</td>
<td>59.7</td>
</tr>
<tr>
<td>20+</td>
<td>75.4</td>
<td>14.4</td>
<td>10.2</td>
<td>57.3</td>
</tr>
<tr>
<td>Malay</td>
<td>89.3</td>
<td>8.4</td>
<td>2.3</td>
<td>77.9</td>
</tr>
<tr>
<td>10</td>
<td>97.7</td>
<td>1.8</td>
<td>0.5</td>
<td>50.0</td>
</tr>
<tr>
<td>10-19</td>
<td>87.8</td>
<td>9.9</td>
<td>2.3</td>
<td>74.4</td>
</tr>
<tr>
<td>20+</td>
<td>70.6</td>
<td>22.3</td>
<td>7.1</td>
<td>81.5</td>
</tr>
<tr>
<td>Chinese</td>
<td>95.4</td>
<td>2.2</td>
<td>2.4</td>
<td>14.3</td>
</tr>
<tr>
<td>10</td>
<td>99.4</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10-19</td>
<td>94.9</td>
<td>3.1</td>
<td>2.0</td>
<td>30.0</td>
</tr>
<tr>
<td>20+</td>
<td>87.3</td>
<td>3.8</td>
<td>8.9</td>
<td>-</td>
</tr>
<tr>
<td>Indians</td>
<td>91.3</td>
<td>2.9</td>
<td>5.8</td>
<td>20.0</td>
</tr>
<tr>
<td>10</td>
<td>97.6</td>
<td>1.2</td>
<td>1.2</td>
<td>50.0</td>
</tr>
<tr>
<td>10-19</td>
<td>93.2</td>
<td>3.4</td>
<td>3.4</td>
<td>12.5</td>
</tr>
<tr>
<td>20+</td>
<td>74.3</td>
<td>5.7</td>
<td>20.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Others</td>
<td>96.6</td>
<td>3.4</td>
<td>-</td>
<td>100.0</td>
</tr>
<tr>
<td>10</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10-19</td>
<td>90.9</td>
<td>9.1</td>
<td>-</td>
<td>100.0</td>
</tr>
<tr>
<td>20+</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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2.5 **MULTIPLE MARRIAGES**

Out of 1,046 ever married women in the MFLS sample, 5.3 percent had married more than once. Marital break-ups were considerably more common among the Malays than the Chinese and the Indians. Furthermore, Malay women were much more likely than Chinese and Indians to remarry after their first marriage ended in divorce or separation; 78.7 percent of the Malay had remarried compared to 42.8 percent among the Indians and 19.9 percent among the Chinese women (Figure 2.6). It appears that divorce and remarriage are more socially acceptable to the Malay community than to the Chinese or Indians.

**FIGURE 2.6**

PERCENTAGE OF WOMEN WHO MARRIED MORE THAN ONCE IS HIGHER FOR MALAYS

![Graph showing percentage of divorced/separated women who remarried by ethnicity](image-url)
Figure 2.7 shows that the percentage of women marrying more than once was highest among the rural Malays (8.1%). In contrast, multiple marriages tended to be more common among urban Chinese and Indians than their rural counterparts. Remarriage among Malay women may be partly due to their religious and cultural background which permit women to remarry and to have someone to take care of them and their children.

**Figure 2.7**
HIGH PROPORTION OF MALAY DIVORCEES REMARRY

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td>6.6%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Chinese</td>
<td>0.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Indian</td>
<td>2.5%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>
2.6 SUMMARY AND RECOMMENDATION

The 1988 MFLS II revealed a continuing trend towards late marriage. Early marriage has become less common among all ethnic groups. However, many are merely postponing their marriages rather than staying out of marriage.

Late marriages are more common among Chinese women as compared to Malay and Indian women, but the ethnic differentials in the proportion who have ever married diminish by age 35.

Improvement in education level is the most important factor in explaining towards late marriage. Women with higher education more likely to postpone marriage. The compositional change in educational attainment in the sample, especially among women with some secondary education, largely accounts for increase in the age at first marriage.

The survey shows that divorce and multiple marriages were highest among the Malays, and in rural areas. About 78.7 percent of the Malay women had remarried following the dissolution of their first marriage.

Marriage patterns revealed in this survey have many implications on family life, fertility, population growth, employment and health of mother and child. Policies that may influence the marriage pattern need to be reviewed from
time to time. Detailed studies on the social and cultural factors which determine the age at marriage, and marital stability, and their effects on fertility, family life, employment and other life decisions should be undertaken to provide the necessary information for monitoring purposes. Pre-marital courses and marriage counseling should be provided as part and parcel of family development activities.
3. FERTILITY TRENDS AND DIFFERENTIALS

by Philomena Ganga

3.1 INTRODUCTION

This chapter focuses on fertility trends and differentials among Peninsular Malaysian women. Fertility refers to the frequency of births in a population. The study of fertility is important because it is the main determinant of population growth. A better understanding of fertility trends and determinants is essential for the formulation and implementation of population and family development programmes.

Fertility has a direct impact on the health and welfare of the mother and child as well as the mother's participation in the labour force. It also has a direct impact on the age structure and demographic characteristics. With high fertility, the population will have a very young age structure while only a small fraction of population will be elderly. As fertility declines, the proportion of population in the younger age group declines while the proportion of elderly increases.

The main questions addressed in this paper are:

1. The current levels of fertility among Peninsular Malaysian women.

2. The ethnic, educational, or urban/rural differences in the level of fertility.

3. The trend towards increasing age at first marriage among Malaysian women and its effect on fertility.
3.2 DATA

In the Malaysian Family Life Survey II, (1988), women who were currently married, widowed, divorced or separated were asked in detail about their pregnancy histories. The fertility measure used in this chapter is: the cumulated number of live-born children as reported by these women in response to questions in the pregnancy history section of the Female Life History questionnaire. As in all retrospective surveys, birth history data are subjected to reporting errors such as incorrect or incomplete birth dates and mother's age at the time of their children's births. There is also a possibility that events in the distant past may be misreported or omitted. Special efforts were made to reduce the various sources of errors. This includes references to official documents (such as birth certificates) to confirm information reported by respondents. In addition, respondents were carefully probed for information when they could not give an exact birth date and no official document was available for reference.

In order to document the fertility trend, we estimated the fertility level at the time of survey (1988) as well as at several points prior to this (1984, 1980, 1974, and 1970). However, using retrospective data to estimate past fertility trends, the number of ever married women in the sample decreases as we go back in time. For example, women who first married in 1986 were unmarried in 1984 and in each preceding year. Table 3.1 shows the reduction in the MPLS-
II sample size as we move backward in time. This restricts the ability to estimate fertility of younger women at each prior point. All fertility estimates reported here are year and age-group specific. Comparisons over time were made for women in the corresponding age-groups. Although the sample size diminishes as one looks at older cohorts, there is sufficient number for each period to estimate trends.

Table 3.1: Ever Married Women and Total Number of Pregnancies in MFLS-II New Sample for 1988 and Selected Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Ever Married Women</th>
<th>Total Number of Live Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>1,846</td>
<td>6,190</td>
</tr>
<tr>
<td>1984</td>
<td>1,814</td>
<td>4,683</td>
</tr>
<tr>
<td>1980</td>
<td>1,082</td>
<td>3,323</td>
</tr>
<tr>
<td>1974</td>
<td>579</td>
<td>1,686</td>
</tr>
<tr>
<td>1970</td>
<td>343</td>
<td>941</td>
</tr>
</tbody>
</table>

A total of 1,846 ever married women were interviewed for the MFLS-II New Sample. These women reported a total of 7,088 pregnancies out of which 6,190 were live births.

Data from the 1970 and 1980 censuses, the 1974 Malaysian Family and Fertility Survey (MFFS), and the 1984 Malaysian Population and Fertility Survey (MPFS) were also used for comparative purposes. Fertility estimates from these surveys were compared to estimates derived from the MFLS-II data. They were also used to provide retrospective
fertility estimates for points which could not be derived from MFLS-II data because of the age censoring effect described above.

3.3 RESULTS

3.3.1 Trends in Fertility

The mean number of children ever born to the sample women is plotted for selected years in Figure 3.1. The curves for years prior to 1988 are not complete because of the age censoring effect of retrospective data. The oldest full age cohort in the sample was 45 to 49 in 1988, but only 25 to 29 in 1970.

FIGURE 3.1
FERTILITY HAS DECLINED IN EVERY AGE GROUP OVER TIME

Source: MFLS II Retrospective Data
The graph shows that fertility has declined in every age group over time. For example, the mean number of children born to women aged 25-29 in 1970 was 3.2 as compared to 2.3 for women in the same age group in 1988, a decline of nearly one child per woman. For the women in the age group 35-39, the decline in the mean number of children ever born between 1980 and 1988 was 0.7. Women who were 45-49 in 1988 and who had almost completed their family size had 5.2 children on the average, as against 6.1 children for women in the same age group in 1970, reported in the population census.

This retrospective time series data on mean number of children ever born compares reasonably with past surveys. Figure 3.2 shows the mean number of children ever born by age group for two censuses (1970 and 1980) and three national surveys (1974, 1984 and 1988). The childbearing patterns shown in Figure 3.2 are very similar to those in Figure 3.1. In terms of the number of children ever born, the two figures also compare very well at each point. This indicates that the quality of the MFLS-II pregnancy history data is quite good, and as such, fertility estimates derived from this survey are fairly reliable.
3.3.2 Socio-Economic Differentials

Ethnic Differences

Figure 3.3 shows that Malay fertility is higher than that of Chinese and Indians. Young Malay and Indian women start out with similar childbearing patterns. However, after age 29, their patterns diverge with Malay fertility rising faster. Among those aged 30-34, Malay women on average had 0.5 children more than Indians. Indian women did catch up by age 45-49 but Malay women still had 0.3 more children.
Chinese women have lower fertility at all age groups compared to Malay and Indian women. The mean completed family size for Chinese is 4.6, which is one child fewer than the completed family size for Malays. If these differences persist, the Malay proportion in the total population will be increasing in the future.

3.3.3 Education

Fertility patterns by women's educational attainment is shown in Figure 3.4. Three educational categories were compared: women who had no formal schooling, those with between one and ten years of schooling, and those who had
eleven or more years. The second category (1 to 10 years) includes levels from Standard 1 to Form 3. This category is cut off at Form III because it is marked by a major school examination; only those who pass the examination are permitted to continue to Form 4.

FIGURE 3.4
MEAN CHILDREN EVER BORN BY AGE AND EDUCATION

<table>
<thead>
<tr>
<th>MEAN CEB</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45-49</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO SCHOOLING</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1-10 YEARS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11+ YEARS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

There is a clear tendency for the most highly educated women to have fewer children than those with 10 years of schooling or less. For example, the most educated women in the age group 30-34 years had a mean of 2.4 children while those in the same age group who had no schooling had a mean of 4.7 children, almost twice as many.
Figure 3.4 shows that educational attainment clearly affects the fertility behavior of women. Past censuses show that Malaysians have made great progress in extending education to its population. The proportion of women who have had no schooling declined dramatically between 1970 and 1988 and there has been a commensurate increase in the proportion of women in each of the other educational groups. It appears, therefore, that much of the decrease seen in fertility (Figures 3.1 and 3.2) has been driven by these changes in the educational status of Malaysian women.

3.3.4 Urban/Rural Residence
The fertility of urban women, irrespective of ethnicity, is lower than that of rural women (Figure 3.5). However the differential in fertility between urban and rural residents is greatest among Indian women. Figures 3.6 and 3.7 adds the dimension of the mother's age group to show urban/rural differences in fertility.
FIGURE 3.5
FERTILITY IS LOWER AMONG URBAN WOMEN

It is interesting to note that in rural areas, all three ethnic groups had nearly the same mean number of children by age 25 to 29 (Figure 3.6). However, as age increases, the patterns diverge. The differential in fertility is most obvious in the age group 35-39 where the mean number of children born to Chinese was 3.2 while for Malays, the mean was 4.9. In the oldest age groups, Indian and Chinese women had higher fertility (6.5 and 6.1 respectively) than Malay women (5.7). This is attributable to the historical fact that in the late 1950's, Indian and Chinese women had higher fertility rates than Malay women.
For the youngest age group, urban and rural fertility levels are similar (Figure 3.7). As age increases, fertility rates among urban Malay women generally remains highest, Chinese lowest, with Indians occupying the intermediate position. This pattern is similar to that seen among rural women. However, the completed family size among the oldest urban women in the MFLS-II sample ranges from 5.1 for Malays to 4.0 for Indians and Chinese. Not only are these rates lower compared to rural fertility among 45 to 49 year old women, the pattern is also reversed. In urban areas, older Chinese and Indian women have lower fertility rates than Malay women.
3.4 FERTILITY IN THE FIRST FIVE YEARS OF MARRIAGE

As shown in the chapter on marriage, the average age at first marriage among Malaysian women has been increasing. It is reasonable to expect that this trend would contribute to a decline in fertility rates in the population. Women who marry late are generally better educated than those who marry early. Also, women who marry late have fewer childbearing years left after marriage and childbearing may compete with careers. In order to get a sense of the effect of later marriage on fertility, we look at the mean number of children born to women in the first five years after their first marriage. This is shown in Figure 3.8.
Fertility does in fact decline in the first five years of marriage as age at first marriage increases. This pattern of steadily decreasing fertility among women who delay marriage longer would be expected to continue past the first five years of marriage, given that the older a woman marries, the fewer childbearing years she has left. Urban women and Chinese women generally tend to marry later than rural and non-Chinese women and these facts may in part account for the correlations between fertility and ethnicity, and residence discussed above. However, it would be useful to determine to what extent these ethnic and residence group differences are caused by factors such as improved education and delayed marriage.
3.5 SUMMARY

The MFLS-II provides a reliable source of information on trends and differentials of fertility in Peninsular Malaysia. It is clear that fertility in general has been declining over time; the MFLS-II data confirms findings from other sources. If, as expected, fertility continues to decline, the proportion of young population to total population will also decrease.

While overall fertility levels have declined, there are substantial ethnic differences in the trends. Among the three main ethnic groups in Peninsular Malaysia, Chinese have the lowest fertility. Their lower fertility is evident at every maternal age group in 1988 (except in the oldest age group in rural areas). Malay and Indian women have very similar fertility at younger ages but Malays have higher fertility at older ages. The ethnic differentials in fertility will have far reaching implications on the age structure and child dependency burdens of the ethnic groups within the population. It is clear that Malays, as a result of their higher fertility, will have a younger age composition as compared to Chinese and Indians.

Urbanization, industrialization, improved education, and better employment opportunities (especially in the industrial and service sectors) have led to a rise in age at first marriage and to lower fertility levels among women in Peninsular Malaysia. Data from MFLS-II shows that for women
of all ages, the mean number of children ever born is lower among the more educated and also among urban residents. Urban-rural differences are also apparent among all ethnic groups but is greatest among Indian women. The trend towards increasing age at first marriage has also contributed to the decline in fertility; this was seen by the lower fertility rates among those who had married later.

With continuing socio-economic development, fertility levels among women in Peninsular Malaysia are likely to decrease. However, the various differentials in fertility should be further analyzed and the results taken into consideration by planners and policy makers.
4. PATTERNS OF CONTRACEPTIVE USE AND POLICY IMPLICATIONS

by Tey Nai Peng

4.1 INTRODUCTION

Following the launching of the national family planning programme in 1966, contraceptive services have been made widely available through an extensive network of clinics, both from the programme and non-programme sources. The proportion of currently married women who used a modern method increased from 5.3 percent in 1966 to 26.3 percent in 1974, 30 percent in 1984 and 33 percent in 1988. However, contraceptive prevalence rates still vary widely across the various population sub-groups.

The new population policy promulgated in 1984 calls for a gradual decline in fertility. Family planning services continue to be provided as part of the family development programmes to improve maternal and child health, as well as family well-being. A better understanding of the dynamics of contraceptive use and reproductive behavior is therefore necessary for improving population and family development programmes. This chapter will focus on the following issues:

the differential use of contraception in terms of ethnicity, place of residence, and educational level, as well as age and parity of the women, with particular emphasis on "high-risk" mothers;

the use of modern and traditional methods among different subgroups of the population;
- reasons for terminating contraceptive use;
- programme versus non-programme sources of contraceptive supply; and
- fertility intention and unmet need for contraception.

4.2 METHODOLOGY AND DATA

This analysis is based on data collected in the New Sample of MFLS-II. The survey covered a total of 2184 women, of whom 1840 had ever been married. Questions on current use of contraception were administered only to the 1767 currently married women. A further refinement was made to include only "exposed" women; that is, the 1515 currently married women who reported they were still able to bear children and who were not pregnant at the time of the survey. However, for the purpose of the present analysis, those who had undergone contraceptive sterilization were considered to have been using a method and are included in both numerator and denominator in the computation of contraceptive prevalence rates.

4.3 RESULTS

4.3.1 Current Use of Contraception

Out of the 1515 "exposed" women, 56.3 percent were using any method and 36.3 percent were using a modern method at the time the MFLS-II was fielded.
The decision on whether to practise contraception or not is affected by various factors, such as age, parity, ethnicity, education, desired family size, and availability of services. Variations in contraceptive use by socio-demographic variables are discussed below.

Figure 4.1 shows that ethnicity is a more powerful determinant of contraceptive use, as compared to place of residence. In both urban and rural areas, the contraceptive prevalence rate was highest among Chinese and lowest among Malays, with Indians in between. Ethnic differentials in contraceptive use were much more pronounced in rural areas than in urban areas. For instance, rural Chinese women were

![Figure 4.1: Percentage of 'Exposed' Women Currently Using Contraception by Ethnicity and Place of Residence](image-url)
twice as likely as rural Malay women to use a modern method (54.7 percent versus 27.4 percent), whereas the corresponding rate among urban Chinese (46.7 percent) was only 45 percent higher than urban Malays (32.1 percent).

The interaction between ethnicity and place of residence in contraceptive use can also be observed. Urban Malays had a higher level of contraceptive use than rural Malays. In contrast, rural Chinese women were more likely to practise contraception than urban Chinese women. For Indians, the relationship varied by the type of method studied. While the level of use of any method was higher among rural Indian women, the reverse was true for use of modern methods.

The level of contraceptive use also varies with age and parity. While younger women tend to use contraception for purpose of birthspacing, older women who have achieved their desired family size do so to cease childbearing. Figures 4.2 and 4.3 show that contraceptive prevalence rate was highest among women in the age group 35-44 years (ranging from 41 to 42 percent) and among those with 3-4 children (44.1 percent).
FIGURE 4.2
USE OF MODERN METHODS OF CONTRACEPTION INCREASES BY AGE (UP TO 40-44). BUT LARGE PROPORTION OF HIGH RISK MOTHERS, PARTICULARLY THOSE AGED 45 AND OVER THAT WERE STILL FECUND.

FIGURE 4.3
BEYOND PARITY 2, OF MODERN CONTRACEPTION AMONG 'EXPOSED' WOMEN DECREASES WITH FAMILY SIZE. FERTILITY DIFFERENTIALS CAN THEREFORE BE EXPECTED TO REMAIN WIDE.
The Ministry of Health has classified as "high-risk" births occurring to women aged 35 years and above, and those with 5 or more children. Therefore, it is important from the programme point of view to examine the level of contraceptive use for these groups of women. Figures 4.2 and 4.3 show that a large proportion of these "high-risk" mothers were not using a modern method of contraception to prevent pregnancy. The level of contraceptive use is particularly low among "exposed" women aged 45-49 and those with 7 or more children. These groups represent an important target group for the family planning programme and there is a need to formulate appropriate strategies, particularly educational and motivational campaigns to improve the level of contraceptive use among them.

4.4 CONTRACEPTIVE METHOD MIX

Contraceptive method mix varies widely for the different sub-groups of the population. Overall, some 64.8 percent of current users were using a modern method of contraception, and the remaining 35.2 percent were using a traditional method (Figure 4.4). The contraceptive pill was by far the most widely used method (30.3 percent), followed by sterilization (14 percent), condoms (11.5 percent), and IUD (7.2 percent). It is worth noting that tubal-ligation accounted for almost all of the contraceptive sterilizations (data not shown). As many as 14.4 percent of all current users were using rhythm and 8.8 percent were using withdrawal, while herbs (akar kayu, majun and jamu) were
used by 7.8 percent of contraceptors. It is important that policy makers learn more about the effectiveness of the traditional methods, and efforts should be made to encourage those who use them to switch to modern methods.

Among the three ethnic groups, Chinese women were most likely to practise contraception and to use modern methods (Figure 4.5). However, when looking at specific methods, the ethnic order was not always the same. For example, among "exposed" women, the proportion who had been sterilized ranges from a low of 2 percent among Malay women to 13 percent among Chinese women and 23 percent among
Indian women. For contraceptive pills, use among Malay women was considerably higher (23 percent) than Chinese (10 percent) and Indian women (7 percent). Cultural differences in contraceptive mix are also manifested in the use of condoms and traditional methods. Chinese were much more likely to use condom and rhythm methods compared with Malays and Indians. The use of herbs was more common among Malays than non-Malays.

**FIGURE 4.5**

AMONG 'EXPOSED' WOMEN, CHINESE ARE MOST LIKELY TO PRACTICE CONTRACEPTION AND TO USE MODERN METHODS

![Graph showing contraceptive use among Malays, Chinese, and Indians.](image-url)
The proportion of women who used any method increases from 44.0 percent among those with no schooling to 58.5 percent for those with at least some secondary schooling (Figure 4.6). While the better educated women were more likely to use contraception, they were less likely than those with no schooling to have undergone contraceptive sterilization. Part of these differences, however, may be attributable to the fact that a higher proportion of the younger women have attained higher education as compared to older women, who are more likely to want no additional children.

**FIGURE 4.6**

*While the better educated women are more likely to use contraception, they are less likely than those with no schooling to have sterilization done but are likely to use condom and rhythm*

<table>
<thead>
<tr>
<th></th>
<th>No Schooling</th>
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<th>Secondary*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterilization</td>
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<td>9.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Pill</td>
<td>12.8</td>
<td>16.6</td>
<td>18.3</td>
</tr>
<tr>
<td>IUD</td>
<td>3.4</td>
<td>3.8</td>
<td>4.6</td>
</tr>
<tr>
<td>Injection</td>
<td>1.4</td>
<td>1.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Condom</td>
<td>3.0</td>
<td>5.0</td>
<td>8.7</td>
</tr>
<tr>
<td>Rhythm</td>
<td>4.7</td>
<td>8.8</td>
<td>9.8</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>3.3</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>Herbs</td>
<td>3.3</td>
<td>4.5</td>
<td>4.6</td>
</tr>
<tr>
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<td>-</td>
<td>1.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>44.0</td>
<td>56.8</td>
<td>58.5</td>
</tr>
</tbody>
</table>
4.5 REASONS FOR STOPPING CONTRACEPTIVE USE

Pregnancy intervals that fell within the period between 1984 and 1988 were used to study the reasons women give for stopping contraceptive use. The results are shown in Figure 4.7. Desire for additional children was the most common reason given for terminating contraceptive use, accounting for slightly more than half the reasons given. This is to be expected because many women use contraception for the purpose of birthspacing. Service statistics indicate four out of five contraceptive acceptors in the national programme indicate a desire to continue childbearing.

FIGURE 4.7
DESIRE FOR ADDITIONAL CHILDREN IS THE MOST IMPORTANT REASON FOR STOPPING CONTRACEPTIVE USE, METHOD-RELATED REASONS ARE ALSO IMPORTANT
It must be noted, however, that method-related reasons also contribute significantly to discontinuation of contraceptive use. These medical reasons may be further classified into health problems caused by the use of the methods and existing medical conditions that are aggravated by contraceptive use. As many as 17.9 percent of such method-related causes of discontinuation were due to perceived side effects related to the use of the methods. Another 6.9 percent discontinued use due to worsening of health conditions following usage of the methods, and 8.9 percent became pregnant while using a method. These pregnancies were probably due to non-compliance with the correct usage or the use of inefficient/traditional methods. Unplanned pregnancy and health problems associated with contraceptive use, even those not clinically certified, warrant special attention by all concerned parties.

In contrast, non-health related reasons were less often cited for discontinuing contraceptive use. Only about 5.7 percent stopped because of inconvenience or the fact that services were not easily available. Husband's objection constituted about one percent of reasons given for discontinuation.

4.6 SOURCES OF CONTRACEPTIVE SUPPLY
The national family planning programme provides family planning services through a wide network of service outlets, including those operated by the National Population and
Family Development Board, the Ministry of Health and the Family Planning Associations. According to the 1974 Malaysian Fertility and Family Survey, these programme outlets provided supplies to about 75 percent of the contraceptors, while the remaining 25 percent obtained their supplies from non-programme sources. By 1988, non-programme sources had increased in importance, catering to about 45 percent of MFLS-II contraceptors who used modern methods, with a corresponding decline of the programme sources to 55 percent.

Among the non-programme outlets, private clinics were by far the most important, supplying to some 31 percent of all contraceptors of modern methods, while pharmacies contributed another 4.8 percent (Figure 4.8). Modern contraceptives, particularly condoms, can also be obtained over the counter from Chinese medical stores, sundry shops, and other such places.

**FIGURE 4.8**
SOURCES OF SUPPLY OF MODERN CONTRACEPTIVES

![Diagram](https://example.com/diagram.png)
The source of contraceptive supply varies widely by ethnic groups. While the majority of Malay (69 percent) and Indian contraceptors (64.4 percent) obtained their supplies of modern contraceptives from programme sources, only 37.2 percent of Chinese did so (Figure 4.9). In terms of place of residence, rural contraceptors were much more likely than urban contraceptors to obtain their supplies from programme sources (Figure 4.10). These differences in patterns of contraceptive supply can be explained by the fact that the majority of Chinese live in urban areas where private clinics are more readily accessible. Moreover, as shown in Figure 4.5, Chinese were much more likely to use condoms, which can be obtained from medical stores and sundry shops. As for Indians, more than half of those who used a modern method chose sterilizations, most of which were done at Government hospitals.

**FIGURE 4.9**
PERCENTAGE OF CURRENT USERS OF MODERN CONTRACEPTIVES OBTAINING SUPPLIES FROM PROGRAM SOURCES (%)
FIGURE 4.10
PERCENTAGE OF CURRENT USERS OF MODERN CONTRACEPTION
OBTAINING SUPPLIES FROM PROGRAM SOURCES (%)

4.7 FERTILITY INTENTIONS AND UNMET NEED FOR CONTRACEPTION

In the study of human fertility behavior, demographers have often been interested in knowing attitudinal and motivational factors regarding desired family size as a means to predict future fertility and to measure the inherent demand for family planning. A study based on longitudinal data for Taiwan by Hermelin and co-authors (Hermelin et al, 1979) found a high degree of rationalization of the fertility process. A woman's contraceptive practice was found to correlate closely with whether or not she wanted more children. Malaysian
demographic surveys show that Malay women report a much larger desired family size than both Chinese and Indian women, and these differences are manifested in total fertility rates. In 1989, the total fertility rate was 4.1 for Malays, 2.0 for Chinese and 2.5 for Indians.

Figure 4.11 shows that the desire to have additional children declines monotonically with parity, as expected. However, it is worth noting that a sizeable proportion of women with 5 or more children intended to continue childbearing. This is particularly true among Malays. While it is not the intention here to place any value judgment on family size desires, clearly more effort is needed to provide guidance and counselling regarding childbearing within the framework of an individual's preferences.

**FIGURE 4.11**
A RATHER SIZEABLE PROPORTION OF WOMEN WITH LARGE FAMILY SIZE INTENDS TO CONTINUE CHILDBEARING, PARTICULARLY AMONG THE MALAYS

![Bar chart showing parity and childbearing intentions by ethnicity]
It may be hypothesized that women who intend to cease childbearing would practise contraception to prevent becoming pregnant. However, contraceptive behavior is not always consistent with stated fertility preferences. Many women who want no more children or wish to postpone childbearing are not using a modern contraceptive method, and may therefore be deemed to have an unmet need for contraception.

Figure 4.12 relates the number of "exposed" women wanting no more children or wanting to postpone childbearing but not using modern contraception to all currently married women. The data indicate that as many as 40.2 percent of all currently married women had unmet need for contraception: 17.4 percent for purposes of limiting births and 22.8 percent for birthspacing. This indicates that out of an estimated 2.6 million eligible women in Peninsular Malaysia, there may be slightly more than 1 million potential contraceptors who have latent demand for family planning services.
Among the three ethnic groups, the unmet need for limiting childbearing was slightly higher among Indians (19.7 percent) as compared to Malays and Chinese (about 17.3 percent each). However, unmet need for contraception for purposes of birthspacing was much higher among Malays than among Chinese and Indians. A better understanding of the gaps that seem to exist between fertility intention and behavior in the various sub-groups of the population is important for the effective implementation of the national population and family development programmes.
4.4 SUMMARY AND CONCLUSION

In 1988 about half of all currently married women in Peninsular Malaysia were using any contraception and one third were using a modern method. However, there were still wide differences in the contraceptive prevalence rates according to ethnicity, place of residence, education, age, parity and fertility preferences. The pill was the most widely used method, followed by sterilization. About 55 percent of contraceptors obtained their supplies from programme sources and the remaining 45 percent from non-programme sources. The majority of women practise family planning for the purpose of spacing. This is reflected by the fact that about half of them cited wanting to have a baby as the reason for discontinuing contraception. However, some 23.7 percent also cited medical and health related reasons for stopping contraceptive use while 8.6 percent became pregnant while using a method. A sizeable proportion of high risk women were not using a modern method, and unmet need for contraception remained considerable: 17 percent for stopping childbearing and 22 percent for birthspacing.

In keeping with the objectives of the family development programmes, there is a need to formulate appropriate strategies and step up informational and motivational activities among certain segments of the population to improve the level of contraceptive use
among them. Proper counselling should be given to specific target groups, including the newly-weds, high-risk mothers and those with unmet needs.

Couples must be provided with proper knowledge regarding responsible parenthood and contraceptive technology to allow them to make informed decision regarding the frequency and timing of childbirths. In view of the complaints regarding side effects of contraceptive pill, it appears that there is a need to diversify method choice, including the male methods. In terms of future research, there is a need to investigate further psycho-social and cultural aspects of contraceptive use dynamics and its impact on fertility and family well-being.
5. BREASTFEEDING

by Julie DaVanzo

5.1 INTRODUCTION, DATA AND METHODS

Breastfeeding has many health benefits for infants and for mothers, and it also has a contraceptive effect. Breastfeeding, especially if unsupplemented, increases the length of the infertile period following a birth (postpartum anovulation). In the 1970s and early 1980s there was a widespread perception that breastfeeding incidence and duration were decreasing in many developing countries. This caused considerable concern about the possible consequences for health and fertility. However, a documentation of trends in breastfeeding in Malaysia and other countries has been limited by the lack of comparable data (using comparable definitions of breastfeeding) referring to large representative samples for several points in time. A lot of the data that are available on breastfeeding are on women who delivered in a particular hospital, say the University Hospital, which might not at all be a representative sample for the country.

The First Malaysian Family Life Survey was one of the first data sets to include a complete retrospective life history of women's breastfeeding experience with all of their children. It therefore permitted documentation of trends in breastfeeding initiation and duration. This analysis uses data from both the First and the Second
Malaysian Family Life Surveys to look at long-term trends in breastfeeding. The first survey was a representative sample of ever-married women under age 50 in 1976.

The second survey considered a new sample of women of reproductive age in 1988. In this study we also look at the Panel sample, the follow-up in 1988 of the women who were interviewed in 1976. In the follow-up of these women, we readministered the complete pregnancy history and so we asked them again in 1988 about the same births that occurred in 1976 and earlier that we had asked about in 1976. This provides the unique opportunity to see whether women said the same thing in 1988 as they did earlier (in 1976), and to look at the quality of recall in retrospective data.

This chapter focusses on trends in the prevalence of breastfeeding using 3-year moving averages, and the median duration of breastfeeding of ethnic and educational differences. One problem in looking at very recent breastfeeding is that some of the women are still breastfeeding at the time of the survey; and special care has to be taken in the analysis. Excluding them from the analysis will exclude women who breastfeed. However, by including these women, there is a problem of truncating their duration of breastfeeding at how long they were breastfeeding at the time of the survey, because most will continue to breastfeed longer. For example, if a woman is still breastfeeding her 6-month old at the time of the
survey, she may continue on to breastfeed that child for 18 months. To make sure that these women are properly incorporated in the analysis, we use life table methods and look at medians rather than means.

The trend in breastfeeding in the first survey; in Figure 5.1, shows a general decline in breastfeeding through the early 1970s, but in the last couple of years covered by the survey (the mid 1970s), there is a slight increase in the percentage of women who breastfed. The percentage of women who breastfed declined from 92% in the early 1950s to 78% in the early 1970s. However, there was a reversal in the 1970's; the breastfeeding rates in 1975 and 1976 were significantly higher than the rates in the early 1970s.

FIGURE 5.1
TREND IN PREVALENCE OF BREASTFEEDING IN FIRST MALAYSIAN FAMILY LIFE SURVEY

5.2 RESULTS

5.2.1 Trends in Breastfeeding in MFLS-I and MFLS-II

The purpose of this paper is to see, whether this resurgence continued or whether it is a temporary change and in fact the breastfeeding rate continued decreasing. Figure 5.2, shows data from the first survey collected in 1976 and also data from the 1988 MFLS-II New sample. The patterns are similar in the two data sets. In particular, we see the same indication of an increase of breastfeeding in the mid 1970s. Furthermore, when we then look at the next 12 years, we see that increase continued, with the breastfeeding rate reaching 85% by the late 1980s.

However, it is clear that the MFLS-I and MFLS-II curves in Figure 5.2 do not coincide for the years that they have in common. There are several possible reasons for why the two curves don’t coincide: First, as one uses the data to refer to earlier years, they do not represent the full age range of Malaysian women of reproductive age; for example, the oldest woman in the MFLS-II New sample was 37 in 1976. Hence, the MFLS-II sample is a little younger in 1976 and earlier years than the MFLS-I sample is in those same years. We have looked at this by considering only the subset of the MFLS-I sample that were aged 37 and under, but that does not explain the difference between the two curves in Figure 5.2. Secondly, because these are independent samples, some of the differences could be just sampling error. Perhaps we just happened in MFLS-II to pick a sample of women more likely to
breastfeed or in MFLS-1 we just happened to pick a sample of women less likely to breastfeed. However, we have looked at sampling errors and that also doesn't seem to explain the extent of difference that we have between the MFLS-1 and MFLS-II curves in Figure 5.2. The third possible explanation is reporting error. The unique data that we have in the Panel sample, where we asked the same women again about the same births, enables us to look at this possibility: i.e., do women report the same thing in 1988 as they said in 1976?

**FIGURE 5.2**
PERCENTAGE MALAYSIAN INFANTS EVER BREASTFED
(MFLS-1 AND MFLS-2 NEW SAMPLE)
For 93% of the births to women in the Panel sample, they gave the same exact answers in 1988 as they gave in 1976 about whether or not they breastfed each child born in 1976 and before. But on average the breastfeeding rate was higher for those who did not report the same thing: The 7% that did not agree were more likely to say in 1988 that they did breastfeed a baby that in 1976 they said they hadn't breastfed than the reverse. So there does seem to be some tendency to be more likely to report in 1988 that a particular child was breastfed than to say that in 1976 about that same child.

It is well known in survey research that respondents tend to over-report socially acceptable behaviors and under-report socially unacceptable behaviors. One possibility here is, because there have been breastfeeding promotion efforts in Malaysia since the mid-1970s, breastfeeding was more socially acceptable in 1988 than in 1976, when it was probably still viewed as somewhat backward by some of the population.

5.2.2 Ethnic Differences in Breastfeeding Trends
The remainder of this chapter uses data on the MFLS-II New sample. In Figure 5.3 we show ethnic differentials in trends. We see that Malays are, by far, the most likely of the ethnic groups to breastfeed. Their rate is high and steady at more than 95% over this entire period, from the beginning of the 1960s to the end of the 1980s. The Chinese
rate was almost as high as the Malay rate in the beginning of the period considered, but it fell all the way down to about 40% in the mid 1970s. Since then, it has come back a bit. The Indian breastfeeding rate is between that for Malays and Chinese. Like the Chinese, we see a breastfeeding decline for Indians, and then a sort of a flattening out for them. For both the Chinese and Indians the decline has stopped; there was a marked decline in the early years and then much more of a flattening out. However, none of the three ethnic groups had experienced the same extent of resurgence for the total population. This may be explained by the changing ethnic composition of

FIGURE 5.3
PERCENTAGE MALAYSIAN INFANTS EVER BREASTFED, BY MOTHER'S ETHNIC GROUP (MFLS-2 NEW SAMPLE)

\[\text{Graph showing percentage breastfeeding by year of birth for Malays, Chinese, and Indians.}\]
births. Figure 5.4 shows that the percentage of all births that are to Malays has steadily increased since 1965, whereas the percentage of all births that are to Chinese has fallen. The Malay fertility rate has not decreased much over time — the total fertility rate has been at a level of

![Figure 5.4](image)

**FIGURE 5.4**
**ETHNIC COMPOSITION OF BIRTHS, BY YEAR**
**(MFLS-2 NEW SAMPLE)**

![Graph showing ethnic composition of births by year](image)

about 5 for Malays since the mid 1970s — whereas the Indian and Chinese rates have dropped dramatically (see Figure 5.5). In the earliest years, the Malay fertility rate was actually below that of the other two ethnic groups, but it has declined at a much slower rate and is now the highest of the three main ethnic groups. Hence, over time, relatively
more of the births are occurring to Malays, and thus, more weight is given to their much higher breastfeeding rate in calculating the overall total breastfeeding rate. This is one of the reasons for the breastfeeding resurgence in the population as a whole. Nonetheless it is certainly correct to conclude that the sharp declines in breastfeeding prevalence that occurred earlier for the Chinese and Indians have stopped.

FIGURE 5.5
TOTAL FERTILITY RATES FOR PENINSULAR MALAYSIA
BY MOTHER'S ETHNICITY

![Graph showing total fertility rates for Peninsular Malaysia by mother's ethnicity.](image-url)
5.2.3 Educational Differences in Breastfeeding Trends

Figure 5.6 shows the differentials by education groups. Among women with less than secondary education, there was a marked decrease in breastfeeding in the earlier years and not much of a recovery thereafter. However, there has been a dramatic increase in breastfeeding for women with secondary education and higher; their breastfeeding rate went from under 60% in the 1960s to 90% in the 1980s. An implication of this change is that the nature of the differentials has changed. Whereas in the early years the less educated women were the ones who were more likely to breastfeed (and indeed this is happening in many developing countries), by the 1980s the curves had crossed

FIGURE 5.6
PERCENTAGE MALAYSIAN INFANTS EVER BREASTFED,
BY MOTHER'S EDUCATION (MFLS-2 NEW SAMPLE)
and the more educated women were the ones who were more likely to breastfeed. Interestingly, the less educated women are probably the one who most need the health benefits of breastfeeding, whereas the more educated women are probably taking their children to doctors, getting immunizations, and so forth. Some of our analysis of the MFLS-I data showed that breastfeeding was actually keeping infant mortality differences between educational groups and ethnic groups from being larger than they otherwise would have been, because the groups that had the highest infant mortality rates (e.g., less educated women) were breastfeeding more. But this is no longer true. Now the women whose children are probably at the highest health risk (i.e., less educated women) are the ones who are less likely to breastfeed; hence, this is the group that programmes really need to focus on.

The educational differences in breastfeeding trends in Malaysia are remarkably similar to those in the United States, where more educated women led the resurgence in breastfeeding. Figure 5.7 is based on data from the National Health Interview Survey in the United States and shows that breastfeeding rates are much higher and increased more rapidly for more educated women.
5.2.4 Trends and Differentials in Duration of Breastfeeding

The above analysis deals with incidence of breastfeeding -- just whether or not a baby breastfeeds. However, breastfeeding one day does not necessarily do much good. We also want to talk about how long a baby breastfeeds and whether it is getting appropriate food. In the survey we asked about total duration of breastfeeding -- how long the child received any breast milk. We also asked about duration of full, or unsupplemented, breastfeeding -- how long the child received only breast milk. Specifically the question about full breastfeeding asked "At what age was the
child first given any supplementary food or drink other than breast milk on a regular daily basis?" The interviewers were to include anything, even non-nutritive foods such as water, because water can be contaminated and could introduce pathogens that would have adverse health effects.

In analyzing the data on full breastfeeding we found that most Malaysian infants receive supplementary foods or drinks soon after birth. In fact, the majority answered "one day" to the question about when they first received other supplementary food or drink on a regular basis. This is true for all ethnic groups, all educational groups, and all time periods. However, the current World Health Organization (WHO) recommendation is that a baby be given exclusively breast milk, and nothing else, for the first four months of life. Malaysia is not different from many other countries, but it shares with them this problem of supplementary foods being introduced much earlier than is currently recommended.

Unlike unsupplemented breastfeeding, which is too short for nearly everyone, we can look at trends and differentials in the total duration of breastfeeding; these are shown in Figure 5.8. Of women who initiated breastfeeding, the durations of total breastfeeding are much longer for Malays (between 9 and 12 months over the period considered) than for Chinese and Indians. The average for Chinese is around 1 month. Hence, they are stopping all breastfeeding at 1
In Figure 5.9 we look at how durations of total breastfeeding vary by the mother's education. In all years the less educated women breastfeed longer than the more educated women. This is good because they are the groups whose children would probably benefit most from breastfeeding.
5.3 SUMMARY AND CONCLUSIONS

The decline in the initiation of breastfeeding that began in Malaysia in the 1950s appears to have ended in the mid 1970s. There has been a nearly monotonic increase since 1975 in the percentage of babies who are breastfed. In Malaysia the greatest increase in the prevalence of breastfeeding occurred to women with some secondary education. By contrast, the rate of breastfeeding initiation may have actually decreased slightly for women with less than secondary education. As a result the nature of the educational differentials reversed: Whereas in the earlier period it was the less educated women who were more
likely to breastfeed, now it is the more educated women. We noted the concern that it is the women who probably most need the health benefits of breastfeeding for their children who are now less likely to breastfeed. However, on the positive side, if they do initiate breastfeeding, less educated women are breastfeeding longer.

In light of the above findings, there should be more concern with supplementary feeding in Malaysia: Children are given other foods or liquids much, much earlier than the current recommendation. Breastfeeding promotion efforts should now concentrate on that aspect of infant feeding, i.e., making sure that health practitioners and women understand the proper patterns of supplementary feeding.
6. WOMEN'S LABOUR FORCE PARTICIPATION IN PENINSULAR MALAYSIA

by Rohani Ab. Razak

6.1 INTRODUCTION

In Malaysia, despite an increase in female labour force participation as a result of modernisation and industrialisation, many women still remain as housewives. The 1980 Population Census and a series of Labour Force Surveys showed the labour force participation rate of women has increased modestly over recent years, from 42 per cent in 1980 to 45.0 per cent in 1986. This level is significantly below that of the men. However, the women's share of economic activity has grown as a result of the country's industrialisation programmes, especially in the manufacturing sector.

This chapter examines trends in women's labour force participation, women's work in relation to marriage, fertility and childcare. In explaining the relationship, the effect of other socio-economic and demographic factors such as age, ethnicity and residence are also considered. The questions here are:-

1. How many women are engaged in economic activities other than housework?

2. What is the relationship between marriage and work among women? and;

3. What are the reasons women stop working?
6.2 DATA
This chapter is based on 2178 women aged 18-49 from the New Sample of whom 1128 are Malays, 565 Chinese, 454 Indians and 47 of other ethnic groups. The survey contains considerable amount of information about the work history of women that could be related to the different stages of the life-cycle.

The MFLS-II defines "work" as any job done either for pay or as an unpaid family worker. Work for pay includes work for cash wages or payment in kind.

6.3 RESULT
6.3.1 Variations In Female Labour Force Participation Rates
In analysing the level and trends in female labour force participation, retrospective information such as the proportion of women working at different point in time are essential. This survey shows that the proportion of women working has increased over the last two decades (1968 to 1988). Figure 6.1 shows that the proportion of women in the work force has increased over time especially among younger women. Data for MFLS-II show that the participation rate generally increases with age. The low labour force participation rate at the younger age-groups which rises to peak at the 40-44 age-groups resembles the usual pattern of women's employment in most developing countries.
The higher work rate at later ages suggests a relative ease of entry and continuation of work, especially work in agricultural occupations.

**FIGURE 6.1**
PROPORTION OF WOMEN WORKING HAS INCREASED OVER THE LAST DECADE, ESPECIALLY AMONG YOUNGER WOMEN

Further investigation shows that in spite of the predominance of agricultural occupation, the proportion of women working in agriculture has declined over time. Figure 6.2 shows that the proportion of working women aged 25-29 engaged in this sector has dropped from more than half in 1968 to about 15 per cent in 1988, with a corresponding increase in the proportion of women in formal sector.
Table 6.1 : Occupation Distribution For 1978 and 1988

<table>
<thead>
<tr>
<th></th>
<th>1978</th>
<th>1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional/technical</td>
<td>6.5%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Clerical</td>
<td>12.3%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Sales</td>
<td>11.2%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Personal Services</td>
<td>10.0%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>36.9%</td>
<td>25.7%</td>
</tr>
<tr>
<td>Factory</td>
<td>12.9%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Craftsmen</td>
<td>3.8%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Construction/Transport</td>
<td>6.5%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

Table 6.1 shows that between 1978 and 1988, a bigger proportion of women in 1988 are in the formal sector and there has been a significant increase in professional, technical, clerical and sales workers. It is worth noting
that there has been a big decline in those who are in the agricultural sector i.e. from 36.9 per cent in 1978 as to 26 per cent in 1988.

There are also considerable differences in the pattern of labour force participation between different ethnic groups. Figure 6.3 shows that Malay and Chinese work rates increase with age while Indian work rate on the other hand, increases up to age 40, and declines thereafter. The low participation rate among younger Malay women may be related to higher fertility, relative to non-Malays. This may constrain their ability to work during the prime childbearing years, especially among rural Malay women.

**FIGURE 6.3**
MALAY AND CHINESE WORK RATES INCREASE WITH AGE, INDIAN RATES FALL AFTER AGE 40
The very high participation rate for older Malay women on the other hand, may be explained by relative ease to re-enter the labour market, more typical in rural sectors. The drop in the Indian participation rate among those aged 40 and above may be related to occupational and sectoral differences.

In spite of the slight variations in the overall rates between urban and rural women, data show that variations between ethnic groups do exist. Work rates are found to be higher for both urban Malay and Chinese women as compared to their rural counterparts (See Figure 6.4). However, the opposite is true for Indian. It is also worth noting that participation rates are highest among the Chinese. Rural Chinese work rates are higher than both rural and urban rates for Malays and Indians. Indians also exhibit the largest urban-rural differential in participation rates.

**FIGURE 6.4**
WORK RATES ARE HIGHER IN URBAN THAN RURAL AREAS
FOR MALAYS AND CHINESE, BUT NOT FOR INDIANS

![Bar chart showing work rates for Malay, Chinese, and Indians in urban and rural areas.](chart.png)
6.3.2 The Effects of Family Formation on Women's Work

Marriage and family formation tend to have negative impact on the work of women. In many instances, childbearing and home keeping are in compatible with work outside the house. Figure 6.5 shows differences in the proportion of women who worked in the year prior to their first marriage and in the year after marriage.

**FIGURE 6.5**

**WOMEN ARE LESS LIKELY TO WORK AFTER MARRIAGE THAN BEFORE BUT THE DIFFERENCES HAS INCREASED OVER TIME**

<table>
<thead>
<tr>
<th>Year</th>
<th>Before 1970</th>
<th>1 yr before marriage</th>
<th>70-79</th>
<th>1 yr after marriage</th>
<th>80-87</th>
<th>1 yr after marriage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36.7</td>
<td>34.6</td>
<td>57.3</td>
<td>41.3</td>
<td>64.7</td>
<td>45.0</td>
</tr>
</tbody>
</table>

As expected, marriage has a negative impact on work participation among women in Malaysia. This was true for each of the three marriage cohorts examined, that is women are less likely to work after marriage than before.
Further, the negative effect of marriage on work has increased over time; the proportion of women working before marriage has increased faster than the proportion working after marriage. The fall in the work rate during the first year after marriage could be related to the withdrawal from the labour market upon becoming pregnant for the first time. Investigation on the type of work done by women before and after marriage shows that in 1970, a greater proportion were doing unpaid family work, whereas fewer of them were doing this type of work by 1988.

In most studies on work participation of women, having children, especially young children has been established as a factor which constrains married women from working. Figure 6.6 shows the relationship between work and childbearing, in terms of work rates by the age of women's youngest child at three points in time (1968, 1978 and 1988).

**FIGURE 6.6**
WORK RATES INCREASE OVER TIME, EVEN AMONG WOMEN WITH YOUNG CHILDREN
Data indicate that work rates increased over time even among women with very young children (less than 6 months old). In 1968, only 35 percent of women with young children were working but by 1988, almost half of women with very young children were in the labour force. This indicates that Malaysian women, at least those in this sample found ways to combine work and childcare responsibilities.

6.3.3 Reasons For Stopping Work

Finally, we turn to the reasons for stopping work. Table 6.2 lists the four most important reasons why women who had ever worked (but were not working when they were interviewed) stopped working. Childcare responsibilities and childbearing were the reasons given most often (23 percent). Not wanting to work, husband's objections and housework were the next three most common reasons cited. Urban-rural differences in the pattern and frequency of response to this question are not very pronounced.

Table 6.2: Childcare Problem Appears The Most Important Reason Women Stop Working

<table>
<thead>
<tr>
<th>Important Reasons</th>
<th>Percent Urban</th>
<th>Percent Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>* To take care for children and having babies</td>
<td>23.8</td>
<td>23.0</td>
<td>23.0</td>
</tr>
<tr>
<td>* Did not want work</td>
<td>8.0</td>
<td>10.9</td>
<td>9.7</td>
</tr>
<tr>
<td>* Husband object</td>
<td>10.9</td>
<td>6.2</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Note: Sample - Ever-married women who ever-worked but not currently working (n = 616)
6.4 SUMMARY AND CONCLUSION

The major findings of this preliminary analysis of work histories among MFLS-II New Sample women are:

1. Proportion of women in the labour force has increased over time and the largest gain was for younger women. However, the proportion of women working in agriculture has declined substantially over the same period among the same group of women.

2. Work rates are higher in the urban than in rural areas for Malays and Chinese women but not for Indians.

3. Marriage tends to have negative impact on participation of women, at least in the first year after marriage.

4. High participation rates among women with children below 6 months of age indicates that Malaysian women are finding ways to combine the roles of both worker and mother.

5. Childcare is the most important reasons that accounted for withdrawal from the labour market among women.
7.1 INTRODUCTION

As in all societies, the responsibility for childcare in Malaysia is usually borne by women. Women's role as wives and mothers is central to the family, and they are tugged in all directions by the needs and demands of their homes, husbands and children.

However, with economic development and availability of job opportunities, especially in urban areas, the shift towards the sharing of domestic responsibilities has also become inevitable as more women take on work outside the home to supplement family income. In low income families, women often have to perform dual roles as home maker and income provider.

Although husbands may feature quite prominently in childcare, their roles are not usually as intensive as that of their wives. In fact, mothers are often left to cope with children single-handedly. If women find that work is not compatible with child care needs, alternative arrangements have to be made if they are to continue working.

As women become more educated and take on careers of their own, there is a tendency for them to spend less time with their children. The quality of time spent, the
intensity of the interaction and the responsiveness between a mother and her children affects their upbringing and development. The quality of childcare providers also affects child development.

Previous research has shown that there are many forms of childcare arrangements in Malaysia. For example, a survey conducted in 1979 (Childcare Needs of Low Income Women in Urban Malaysia) showed that the primary childcare caretaker varied from mothers themselves, to relatives, the child him/herself (depending on the age of the child), servants, neighbours, siblings and others. In this paper, we study sources of childcare among mothers in the Second Malaysian Family Life Survey (MFLS-II). This will shed some light on trends in childcare arrangements in Peninsular Malaysia and will be useful for policy makers who wish to assess the needs and preferences of women and their children.

7.2 DATA
There were 1,267 MFLS-II New sample women (68.6 percent of 1,846 ever married women) who had children aged six and below. Their responses to questions in the child care
section of the Female Life History questionnaire were used for this analysis. Key questions asked in the childcare histories were:

i) Do you have children aged 6 or under?

ii) Does anyone help you take care of your children when you are not at home?

iii) Who helps you to take care of the children when you are not with them?

iv) For how many hours per week does she (or he) usually take care of the children?

v) Do you pay anyone who helps you look after the children?

vi) How much do you usually pay (altogether) for childcare?

Response to question (iii) were categorized as follows:

a) Husbands

b) Own parents/parent-in-laws

c) Older siblings

d) Other relatives

e) Neighbours/friends

f) Servants

g) Other persons

h) Childcare centers.

The incidence of multiple sources of childcare (not shown here) was only 19 percent; that is, most mothers use only one source of childcare. Therefore, in the section on time and money spent on childcare, the analysis is restricted to the source most often used by a woman.
7.3 RESULTS

7.3.1 Prevalence of Having Young Children

Figure 7.1 shows ethnic differences, by urban/rural residence, in the percentage of women who had children under age 6. Within each ethnic group, rural-urban differences are not pronounced. More importantly, the graph indicates that childcare is an issue of high importance to all sectors of Malaysian society. More than half of all women in this sample, regardless of ethnic group or residence, had children aged 6 or below. It is even more striking to note that more than three-quarters of Malay women had children aged 6 or below.

![Figure 7.1](image)
7.3.2 Who Uses Childcare Help?

Figure 7.2 shows that more than half of all women who had children aged 6 and below received help with childcare. Rural Chinese mothers received the most help (66.4 percent). Among Malays and Indians, a higher proportion of urban mothers received help in childcare, compared to rural mothers. This is to be expected because urban women are more likely to work in the formal sector. However, among Chinese mothers the opposite was true; rural Chinese women received more help with childcare than their urban counterparts. This is an unexpected finding. It may be explained by the fact that extended family members (for example, parents or parents-in-law) of rural Chinese women are more likely to live with them or in close proximity compared to women in other ethnic groups. Hence, help with childcare may be more readily available to them.

**FIGURE 7.2**
FOR THOSE WITH YOUNG CHILDREN UNDER 6, WHO USES CHILDCARE?
7.3.3 Sources of Childcare

Those women who reported that they received help with childcare were next asked about sources used. Women were permitted to provide more than one response if they used more than one source. However, this occurred in only 19 percent of the cases. Figure 7.3 represents women's first source cited; that is, the source most often used. The graph shows that help with childcare is mostly provided by relatives, neighbours, or friends. There were some differences according to whether the woman was working or not working. Own parents or parents-in-law were the source most often reported for both groups (39.3 and 42.1 percent for working and non-working mothers, respectively). Given the high degree of importance of this source of childcare, trends in family composition and migration will have important implications on future availability of childcare and on women's choices.

**FIGURE 7.3**

TYPES OF CHILDCARE USED DIFFER FOR WORKING AND NON-WORKING MOTHERS
Older siblings are also an important source of childcare (14.3 and 17.4 percent for working and non-working women). Women were not asked about the characteristics of these childcare providers (such as age or education), so no assessment can be made about their appropriateness. However, quality of care provided by other children may be an important issue to investigate. It is interesting to note that a significant proportion of women also reported that they receive help from their husbands. This is especially the case among non-working women (20 percent, versus 7.3 percent for working women). This may be due to the fact that husbands of non-working mothers may be working in informal sectors and hence, have more time to devote to childcare. This observation deserves further investigation as well. Use of other relatives is much less common (about 10 percent for both groups).

About 15 percent of working women and 9 percent of non-working women used other non-related persons as sources of childcare. Servants were reported as source only by working women (7.3 percent). Neither group of women reported much reliance on childcare centers (5.0 and 2.1 percent for working and non-working women, respectively). There are a number of possible explanations for the low use of childcare centers, including cost and availability.
A higher proportion of working mothers reported use of each of these non-relative sources of childcare. This is not unexpected, given that non-relatives are likely to cost more than relatives; non-working mothers may be less able and less willing to pay for these services.

One further observation deserves noting; that is, it appears that part-time working mothers depend more on non-relatives for childcare while full time working mothers depend on relatives (data not shown). Reasons for this difference should be studied.

7.3.4 Amount of Childcare Use and Costs
The above analysis shows that there is diversity in the types of childcare arrangements used by Malaysian women. In order to shed some light on the qualitative differences in these types, time and cost characteristics associated with them are examined. Results are shown in Figures 7.4 and 7.5; averages there in were computed for the sub-sample of women reporting use of each type of childcare.

Figure 7.4 shows the average number of hours per week different types of childcare providers spent with MFLS-II respondents' children. In general, non-relative sources of childcare spent more time than relatives caring for children. Among relatives who provided childcare, parents and parent-in-laws were used most intensively (25 hours).
In contrast, when the principal provider was reported to be a non-relative, they spent at least 40 hours per week caring for the children.

**FIGURE 7.4**

**HOW MUCH TIME IS GIVEN BY TYPES OF CHILDCARE?**

<table>
<thead>
<tr>
<th>TYPES OF CHILDCARE</th>
<th>AVERAGE HRS PER WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>14</td>
</tr>
<tr>
<td>Own/Parent-in-law</td>
<td>25</td>
</tr>
<tr>
<td>Older sibling</td>
<td>18</td>
</tr>
<tr>
<td>Other relatives</td>
<td>21</td>
</tr>
<tr>
<td>Neighbour/friend</td>
<td>40</td>
</tr>
<tr>
<td>Servant</td>
<td>48</td>
</tr>
<tr>
<td>Other persons</td>
<td>42</td>
</tr>
<tr>
<td>Childcare centre</td>
<td>42</td>
</tr>
</tbody>
</table>

It is interesting to note that among women who report relatives as their principal source of childcare, they were used for approximately half of a standard work week. Among women who reported non-relatives as their source, they were used for about the number of hours a full-time employed person would work. This is further evidence that important differences exist in the patterns of childcare arrangements according to the work status of the mother. Further investigation of this relationship is warranted.
Figure 7.5 shows average amounts paid to different types of childcare providers (amount shown are Malaysian ringgits paid per month). Relatives who act as childcare providers are generally paid less than non-related providers. Parents, parent-in-laws, and "other" relatives are generally paid, whereas husbands and siblings are generally not paid. Among the non-relative providers, servants are paid the most. However, caution should be used in interpreting this last figure. Childcare costs attributed to servants here may be overstated, since payment to servants probably represents total payment for all household responsibilities, including childcare.

**FIGURE 7.5**
AMOUNT SPENT ON CHILDCARE BY TYPES OF CHILDCARE

<table>
<thead>
<tr>
<th>TYPE OF CHILDCARE</th>
<th>Amount paid monthly (M$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>5</td>
</tr>
<tr>
<td>Own/parent-in-law</td>
<td>36</td>
</tr>
<tr>
<td>Older sibling</td>
<td>2</td>
</tr>
<tr>
<td>Other relatives</td>
<td>39</td>
</tr>
<tr>
<td>Neighbour/friend</td>
<td>77</td>
</tr>
<tr>
<td>Servant</td>
<td>178</td>
</tr>
<tr>
<td>Other person</td>
<td>88</td>
</tr>
<tr>
<td>Childcare centre</td>
<td>56</td>
</tr>
</tbody>
</table>
Differences in amount paid by provider type closely corresponded differences seen in time spent by provider (Figure 7.4). That is, relatives who provide childcare are used for about half as many hours as non-relatives, and they are paid considerably less as well. The lower pay may simply reflect the lesser time spent providing care. It may also be that women choose relatives more often (see Figure 7.4) because they do not have to pay as much for their services.

7.3.5 Impact on Work Status
Availability of childcare affects a woman's ability to work. In order to assess the extent to which childcare needs affected sample respondents who had young children, responses to questions from the Work History questionnaire were examined. In the Work History, each woman who said she was not currently working was asked why she was not working. We stratify responses according to whether the woman had ever worked or had never worked. The four most common responses for each group is shown in Table 7.1. Three out of four reasons given by women who had ever worked also were given by women who had never worked. What is more interesting, however, is that the need to care for children was the most commonly given reason (24 percent) among women who had ever worked. Among women who had never worked, few cited this as a reason for not currently working (it appeared sixth on the list).
Table 7.1: Top Four Reasons For Currently Not Working By Work Status

<table>
<thead>
<tr>
<th>EVER WORKED</th>
<th>NEVER WORKED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CARE CHILD/BABY</td>
<td>1. DOES NOT WANT WORK</td>
</tr>
<tr>
<td>24%</td>
<td>27%</td>
</tr>
<tr>
<td>2. DOES NOT WANT WORK</td>
<td>2. HOUSEWORK</td>
</tr>
<tr>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>3. HOUSEWORK</td>
<td>3. NO WORK AVAILABLE</td>
</tr>
<tr>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>4. HUSBAND OBJECTS</td>
<td>4. HUSBAND OBJECTS</td>
</tr>
<tr>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td><strong>49%</strong></td>
<td><strong>56%</strong></td>
</tr>
</tbody>
</table>

Figure 7.6 shows differences in the percentage of women who said they were not currently working because of childcare needs, by the age of her youngest child and by whether or not they had ever worked. This was done to test the hypothesis that women with very young children would face greater difficulties arranging childcare. The difference between those who had ever worked and those who had never worked is apparent. As shown in Table 7.1, those who had ever worked were much more likely to report that childcare was a reason for not currently working, regardless of the age of the youngest child. Among those who had ever worked, those with younger children (age less than 3 years) were somewhat more likely than those with older children (youngest child greater than 3 years of age) to give childercare as a reason for not working (about 25 percent for those with young children, versus 19 percent for those with older children).
Among women who had never worked, the opposite relationship appears to be true; women with older children were more likely to report childcare as a reason for not working.

7.4 SUMMARY

The findings reported here show that ethnic differences in the percentage of mothers with children under age 6 are much more important than urban-rural differences. A much higher proportion of Malay women have children aged six or less, compared to Chinese and Indian women.
More than half of these women, regardless of ethnic group or residence, received help with childcare. Chinese women, especially those living in rural areas, were somewhat more likely to receive help.

A high percent of mothers depended more on informal types of childcare arrangement than formal ones. Factors such as reliability, trustworthiness, and low cost of relatives and friends may be factors which contributed to the high prevalence of these choices. Insufficient availability of formal childcare sources could also have contributed to the pattern of preferences reported.

When non-relatives are the source of childcare, they tend to be used for a greater number of hours per week and are paid more, as compared to relatives. Servants are the most highly paid of all providers, although this may reflect payment received to carry out multiple responsibilities in the household, and not just to care for children.

7.5 CONCLUSIONS
Reasons why mothers seem to prefer informal childcare sources should be explored. Several possible explanations were hypothesized here. Perhaps informal childcare is still sufficiently available to meet the needs of a large proportion of women needing help. Reliability, trust, and low cost are also advantages that might be reflected in women's choices. However, there is also evidence of an
unmet need for childcare. This was presented in the analysis drawn from women's work histories. Nearly one quarter of women who had ever worked but who were not working at the time of survey reported childcare needs as the reason they were not currently working.

Childcare centers were rarely used by mothers in the sample studied here, regardless of the mother's working status. Reasons for this low utilization need to be explored. Is it because of the inavailability of such centers, mothers' concerns about the quality of care provided, or the cost?

Quite a high percent of mothers depended on their older children for childcare. The appropriateness of using older sibling should be assessed. Quality of care provided and reliability may depend on the age and maturity of these older children, and on the network of support to assist them should they need it. Such data was not collected in the MFLS-II.

Further research should investigate reasons as to why husbands are not helping much with childcare especially among those with working wives. Information about differences in childcare patterns by husbands' and wives' occupation may shed some light on this issue.
Employers should play a role in helping women meet their childcare needs. None of the respondents in this MFLS-II sample mentioned employer-based childcare as a source. Such assistance could be in the form of providing considerably lengthy maternity leaves, job security during such leave, and setting up childcare centers at the workplace. The evidence presented here suggests that employers should consider issues of reliability and cost in establishing such centers.
8. DATA QUALITY IN RETROSPECTIVE SURVEYS

by Jeffrey Sine

8.1 INTRODUCTION

Researchers and policy makers are often interested in knowing about social trends. Such information is crucial to setting priorities for public funding and for designing effective policies and programs. Information about trends is often derived from retrospective population surveys. However, retrospective survey data is vulnerable to several kinds of recall bias. There have been many concerns about its quality, and there are other options if one wants to study time trends.

In this chapter, we will try to answer the question, "Can we address some of these data quality issues?" It is a very complex field, so the goal here is just to lay out some of the issues, and to show how some parts of the MFLS-II data measure up in terms of quality.

First, we will review retrospective surveys as an alternative to panel surveys to study trends, comparing the costs and benefits of the two choices. Methods of assessing data quality will be summarized next. It turns out that there is ample justification for collecting retrospective data, and, that there are both criteria and methods by
which to judge its adequacy. In general, carefully designed and fielded retrospective surveys can yield data which is both of high quality and value.

Data quality assessment techniques have been applied to a number of areas in the MFLS-II data set. Some results of these investigations will be presented in the third section of this paper. The paper concludes with a short statement of the quality of some MFLS-II data, and implications for research and policy making uses.

8.2 OPTIONS: RETROSPECTIVE vs. PANEL SURVEYS

Researchers have two basic options to collect data on trends: retrospective surveys or panel studies. In the former, a group of people are interviewed and asked questions about the present and the past. In the latter, a group of individuals are interviewed or observed at a moment in time, and then reinterviewed or observed at one or several points in the future to add a time dimension to the data.

Pro's and Cons

While both of these research approaches will yield information about trends, each has a unique set of strengths and weaknesses. Table 1 summarizes some of the differences between the two. Selection of one method over the other depends upon the intended use and the urgency of need for the data, the resources available, and an assessment of difficulties expected in collecting data with the chosen
approach. In sum, selection of a data collection method can be based on an assessment of costs and benefits, and the decision may vary in different situations.

Table 8.1: Comparison of Panel and Retrospective Survey Methods

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>PANEL SURVEYS</th>
<th>RETROSPECTIVE SURVEYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Very expensive</td>
<td>Less expensive</td>
</tr>
<tr>
<td>Time</td>
<td>Future only</td>
<td>Looks at past</td>
</tr>
<tr>
<td>Attrition</td>
<td>Potential problems</td>
<td>Different problems</td>
</tr>
<tr>
<td>Data</td>
<td>Long wait</td>
<td>Available sooner</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Quality</td>
<td>Usually high</td>
<td>Has been questioned</td>
</tr>
</tbody>
</table>

Cost:
All other factors being equal, panel surveys are more expensive than retrospective surveys. Interviewing costs are higher for panel surveys because multiple interviews are required over a longer period of time. There may also be additional costs associated with administering a long term project. Attrition among interviewers must also be expected, meaning that more resources must be committed to recruiting and training replacement staff.

Time:
Panel surveys trace trends from the present into the future, whereas retrospective surveys produce a time series about past events. If one is interested in past trends, then panel surveys must be ruled out.
Attrition:
This can be a problem for both kinds of surveys. In panel surveys, attrition results from respondents who do not want to continue for the duration of the study, those who move and are untraceable, and those who die. In retrospective surveys, attrition problems are more appropriately termed sample selection problems. Those who died cannot be included in the sample frame, and neither can people who migrated out of the study area. Both types of surveys are subject to refusal to participate by potential respondents.

Data Availability:
A major disadvantage of panel surveys is that policy makers and other potential data users must often wait a long time before data becomes available. A good example is the panel data on breastfeeding in the two Malaysian Family Life Surveys (MFLS-I and MFLS-II). The first series was collected in 1976 as part of MFLS-I. A study of trends could only be done when the second data series was collected twelve years later as part of MFLS-II. Retrospective data are generally available much sooner and therefore often of greater policy use.

Data Quality:
Panel surveys are generally assumed to be of higher quality compared with retrospective surveys. This is the major criticism of retrospective surveys. However, it is not necessarily true that data from well designed retrospective
surveys, fielded properly, is of such poorer quality that its usefulness is seriously compromised. In fact, the advantages of retrospective surveys (lower cost, faster availability of data, and information about the past) often far outweigh potential data quality issues.

Assessing Data Quality:

There are two principal ways to assess the quality of retrospective data. First, one can look at the internal consistency of the data. Internal consistency can be judged according to two criteria; consistency with expectations, and consistency across different measures of the same construct within the data set. In the first case, for example, one expects that any retrospective data collected in Malaysia should show that the infant mortality rate has declined over time. If the data does indeed show a decline, then the data is behaving as expected.

Second, the survey data can be compared to data from other sources, such as population censuses or vital statistics reports, which generally sample the population more completely. Previous surveys may also be used. Discrepancies between the data being assessed and previous surveys, however, can be difficult to interpret. Differences may indicate data quality problems in either or both surveys. Where differences are within some pre-specified acceptable range, it is an indication that the quality of the data is good.
A wide range of data from the Female Life History of the MFLS-II was subjected to these kinds of quality tests. The remainder of this paper describes these tests and our conclusions for three of those areas: marriage trends, birth and birth date reporting, and infant mortality.

8.3 QUALITY OF DATA FROM THE MFLS-II

8.3.1 Marriage

Marriage marks the beginning of exposure to risk of pregnancy in many societies. Consequently, marriage trends have important effects on fertility, labor markets and social needs, among other things. Quality of marriage information, therefore, is of great importance for a data set like the MFLS-II. Some researchers have asserted that older women tend to report marriage dates as having occurred later than it actually did (closer in time to the interview). This type of reporting bias would cause estimates of the mean age at first marriage to be biased upwards. If, as one expects, there is an actual increasing trend in the age at first marriage for Malaysian women, then this upward bias would make that trend appear to be flatter than it actually is.

This has implications for fertility estimates. Where there is an upward bias in reporting age at first marriage, it is likely that birth year reporting for the earlier children of these women is also biased upwards. Fertility estimates, therefore, would show displacement towards the
present, decreasing estimates for the earlier period when the child was actually born and increasing estimates for the periods into which those births were displaced.

Using the methods listed earlier to assess data quality, we first looked at MFLS-II marriage data to see if expected trends appear. The MFLS-II data shows that the mean age at first marriage is rising in Malaysia. This is consistent with expectations. Next, we compared MFLS-II data with data from the 1984/85 Malaysian Population and Family Survey (MPFS; Figure 8.1). The MPFS also showed an increasing trend. If women were over estimating their age at first marriage, then our estimated average age at first marriage among older women should be higher than the comparison source. Here, however, it is lower. This suggests that reporting of age at first marriage among older women was not a problem in the MFLS-II.

**FIGURE 8.1**
AGE AT FIRST MARRIAGE, BY BIRTH COHORT, WOMEN AGED 25 AND OLDER IN 1985 WHO MARRIED BY AGE 25

![Mean age at first marriage by birth cohort](image)

- **MFLS-II**
- **MPFS**

YEAR OF WOMEN'S BIRTH

1940-44 1945-49 1950-54 1955-59
In fact, even compared to census estimates, which should be the least biased, MFLS-II marriage age estimates are lower. It may be that there is a systematic bias in the MFLS-II data in the direction opposite that expected with retrospective data. This could be due to the fact that the MFLS-II sampled only private households; institutional settings, where women may be single longer, were not included in the sample frame. However, the sample frame for the MPFS was similar. The main point here though, is that the expected problem of older women over estimating their age at first marriage is not apparent in MFLS-II data.

8.3.2 Birth and Birth Date Reporting

Birth and birth date reporting are crucial to estimating fertility. Two issues have been raised in relation to data quality of this information. First, birth date reporting may be less complete for early births and for children who died, especially for those who died very soon after birth. Incomplete birthdate reporting may make it difficult to assign a birth to the proper period for fertility rate calculations; the bias could be in either direction. The second concern is that some births may not be reported at all. In some cultures, female births are more likely to be under reported. This would bias the sex ratio of births in the data set (the number of male births per 100 female births) upwards and would cause fertility rates to be under estimated.
To assess the quality of MFLS-II on these issues, we look at completeness of birth date reporting. For each birth, MFLS-II respondents were asked for the month and year of that child's birth, and their age at the time of the birth. The percent of births with no information missing, with month only missing, or with month and year missing serve as data quality indicators. The more information that is missing, the more difficult it is to impute birth dates. This in turn causes fertility estimates to be biased. To assess completeness of birth reporting, we compare the sex ratio of births with expectations.

<table>
<thead>
<tr>
<th>Decade of Child's Birth</th>
<th>Percent of Cases with Missing Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Month Only Missing</td>
</tr>
<tr>
<td>1960s</td>
<td>24%</td>
</tr>
<tr>
<td>1970s</td>
<td>6%</td>
</tr>
<tr>
<td>1980s</td>
<td>1%</td>
</tr>
<tr>
<td>All Births</td>
<td>6%</td>
</tr>
</tbody>
</table>

**Birth Dates**

Table 8.2 shows that there is a trend towards poorer birth date reporting in the MFLS-II data as we proceed backwards in time; women had more difficulty recalling dates of birth as the time since birth increased. Compared with data from other recent surveys done in Asia, the MFLS-II performed well on this test. In fact, it is amazingly consistent; 6 percent is about the average rate at which women do not
report month of birth for their children; 2 percent is about
the rate at which they fail to report the month and year of
birth.

However, the MFLS-II did better than most surveys on
another measure; in every case, the mother at least reported
her own age at the time of her children's births. Therefore,
even when birth date reporting information was poor, the
child's year of birth could be imputed. The degree to
which this is useful depends on the intended use of the
data. If it is to be used to calculate five-year average
fertility rates, then ability to impute the child's year of
birth is sufficient; failing to know the month of birth will
not seriously affect fertility rate estimates. If, on the
other hand, the data is to be used to look at issues related
to birth intervals (such as interval length and
contraception), failure to know the month of birth is a
more serious problem. Our assessment is that this is no
more of a problem in the MFLS-II data than it is in other
recent retrospective surveys done in this region of the
world.

Births

Calculating sex ratios at birth provides an indication about
completeness of birth reporting. If there is a systematic
tendency to fail to report certain births, this may cause
the sex ratio to be off. For example, in societies where
female births are less valued than male births, women may
under report female births. The male-to-female sex ratio, then, would be higher than expected. The sex ratio of births around the world and throughout time is remarkably stable at about 104 to 106 male births to every 100 female births. To judge quality of survey data, we are looking for statistically significant differences from this biological standard.

Table 8.3: Sex Ratio of Births To MFLS-II Respondents

<table>
<thead>
<tr>
<th>Decade of Child's Birth</th>
<th>Sex Ratio of Births (# male per 100 female births)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Malays</td>
<td>Chinese</td>
</tr>
<tr>
<td>1960s</td>
<td>122</td>
<td>107</td>
</tr>
<tr>
<td>1970s</td>
<td>99</td>
<td>88*</td>
</tr>
<tr>
<td>1980s</td>
<td>105</td>
<td>112</td>
</tr>
</tbody>
</table>

* Significantly different from Malaysian Vital Statistics data.

Malaysia's Vital Statistics reports are considered to be of very high quality; therefore it serves as an excellent comparison source for the MFLS-II data. Table 8.3 shows that even for the earliest period covered in the pregnancy histories, sex ratios of MFLS-II births are not statistically different from Vital Statistics ratios; girls are not under reported. The exception occurs among births to Chinese women in the 1970s. However, opposite to expectations, male births appear to have been under reported. At this time, we have not been able to explain this unusual deviation. It is encouraging though, that we found no evidence of the problem most indicative of a data quality problem; under reporting of female births.
8.3.3 Infant Mortality

Infant mortality is an important indicator of health status especially among children. Information about it, therefore, serves a crucially important role in many public policy decisions about maternal and child health, family planning, and community health programmes. The concern that investigators have with retrospective data on infant mortality is that there may be disproportionate under reporting of children who died, especially among girls and for child deaths which occurred further back in time. We also need to be concerned about whether or not women accurately reported the child's age at death.

Table 8.4: Sex Ratio of Child Deaths
To MFLS-II Respondents

<table>
<thead>
<tr>
<th>Decade of Child's Birth</th>
<th>Sex Ratio of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>152</td>
</tr>
<tr>
<td>1970s</td>
<td>153</td>
</tr>
<tr>
<td>1980s</td>
<td>147</td>
</tr>
<tr>
<td>All Births</td>
<td>152</td>
</tr>
</tbody>
</table>

Sex Ratio of Deaths

We can use another sex ratio test in order to assess whether or not there was under reporting of deaths (of any gender). Here, we compare the sex ratio of child deaths (rather than births, as was done to assess completeness of birth reporting) computed from MFLS-II and Vital Statistics data...
(Table 8.4). Vital Statistics ratios are very consistent across time; there are about 138 to 140 male child deaths for every 100 female child deaths. (A child death is defined as a death which occurs at age five or less.) MFLS-II rates are also consistent over time, though they are somewhat higher compared to Vital Statistics ratios. The total number of child deaths in the MFLS-II sample was only 262 and the differences between these ratios are not statistically significant. The MFLS-II data on child deaths, again, appears to be of high quality.

Age at Death

Another way to assess the quality of infant death data is to look at the distribution of ages at death reported by women. Generally, the distribution should be concentrated in the first several months and have a long tail to the right. That is indeed what we see in the MFLS-II data (Figure 8.2). One thing to be concerned about, however, is the heaping that occurs in the MFLS-II data at twelve months. If women are reporting deaths which actually occurred after the child's first birthday as having occurred at twelve months, then this is going to cause the infant mortality rate (IMR) to be over estimated. (Those deaths which actually occurred earlier than reported do not affect the estimated infant mortality rate). Heaping, however, is very common in retrospective data and the MFLS-II falls well within acceptable quality limits.
Figure 8.3 shows the comparison of MFLS-II infant mortality rates with rates from Vital Statistics. Overall, both curves show a declining trend, as expected. The closer in time to the present we come, the more the MFLS-II curve agrees with the Vital Statistics curve. However, the direction of deviation from the Vital Statistics curve in the earlier years is opposite that which would be predicted if earlier deaths were under reported (this should cause the estimated IMR to be biased downwards). Not only is this an indication that infant deaths were not under reported by MFLS-II respondents, it could also mean that the MFLS-II actually did better than Vital Statistics in picking up
infant deaths in these earlier years. It could be that registering infant deaths which occurred in rural areas was more difficult twenty years ago than it was for women to recall those deaths twenty years later.

**FIGURE 8.3**
INFANT MORTALITY IN MALAYSIA, ALL RATES, 1968-86

8.4 CONCLUSION

In addition to the three areas discussed above, other data from the MFLS-II Female Life History were subjected to quality assessments. It is not possible in this chapter to fully discuss each of these; however, in this section we present conclusions from those assessments.
Marriage data in the MFLS-II, as seen earlier, is very good. It does not fall victim to the common concerns that investigators have with retrospective data. Birth reporting was also very good and data on birth date reporting is more complete than many other retrospective surveys. Infant mortality, as we have seen, looked good.

Fetal mortality, not discussed in this chapter, is reporting of miscarriages and abortions. Its quality was not as good as infant mortality data, but it rarely is in retrospective surveys. Questions about abortions are especially sensitive; quality of panel data on foetal mortality is typically no better.

The quality of MFLS-II birthweight data is excellent. The distribution compares exceptionally well with that of birthweights reported in Vital Statistics; the two curves are nearly identical. In fact, the MFLS-II data may be even more representative of the true population than the Vital Statistics data. Ninety-five percent of MFLS-II New sample women reported exact birthweights of their children, whereas Vital Statistics generally registers birthweights for only about half of all births in Peninsular Malaysia. We do not know whether there is any systematic reporting bias in the Vital Statistics birthweight data, but the MFLS-II data is probably as good or better.
MFLS-II contraception data quality is also good. It compared well with external data sources on measures of prevalence of users and distribution of methods used. A more complete description of this data is found in the paper by Tey Nai Peng's chapter on contraceptive use. The quality of breastfeeding data was also very good, the only qualification being that there was substantial heaping in the data on duration of breastfeeding. However, this problem is not unique to MFLS-II; virtually all retrospective surveys encounter this heaping phenomenon. Even when the recall period is not very long, women tend to heap in multiples of three, six, and twelve months when responding to questions about the length of time they breastfed their babies.

Finally, we looked at the quality of education data. Education is often a key covariate explaining other social trends; all other chapter in this volume used education as explanatory variables. The MFLS-II education data compares very well with census data and other survey data.

The conclusion we draw is quite positive: MFLS-II data is of very high quality. It performs well on tests of internal consistency and it is at least as good, and sometimes better, than other data it was compared to.
9. PARENTS' EDUCATIONAL EXPENSES FOR THEIR CHILDREN
IN PENINSULAR MALAYSIA

by Abdul Manan Abd. Rahaman

9.1 INTRODUCTION

Parents have a number of options regarding educational expenditures for their children. The main options are:

(i) educate none of their children;
(ii) to support the most intelligent child to the limit and neglect the others;
(iii) to give priority to the older children, leaving it to them to finance their younger siblings education from future wages;
(iv) to attempt to educate all their male children;
(v) to attempt to educate all their children.

These decisions have important present and future consequences for the family and for the country. Through education one is exposed to new knowledge and information, which are essential for individual and national development.

The cost of education and training in Malaysia are largely borne by the Federal Government. State governments have no financial responsibility for education, although every state has provisions for scholarships and loans for their own state residents who wish to continue their education.
Between 1980 and 1986, annual expenditures on education had risen from 12.4 percent to 16.4 percent of the total Federal budget (see Figure 9.1). This is an increase of 32 percent over the period. In absolute terms, it increased from $2.6 billion ringgits in 1980 to $5.0 billion ringgits in 1986.

**FIGURE 9.1**
FEDERAL GOVERNMENT EXPENDITURE ON EDUCATION IS ON THE INCREASE

As % of Total Expenditure

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>12.4</td>
</tr>
<tr>
<td>1981</td>
<td>13.4</td>
</tr>
<tr>
<td>1982</td>
<td>12.9</td>
</tr>
<tr>
<td>1983</td>
<td>13.7</td>
</tr>
<tr>
<td>1984</td>
<td>14.2</td>
</tr>
<tr>
<td>1985</td>
<td>15.4</td>
</tr>
<tr>
<td>1986</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Despite the fact that education in Malaysia is heavily subsidized by the Federal government, there are educational expenses which must be met by households. This study focuses on those household educational expenses. Data collected in the Second Malaysian Family Life Survey (MFLS-II) allow us to examine two main issues of interest here.
First, how much are Malaysians spending on their children's education? Second, how does this vary according to household characteristics?

9.2 DATA

The data for this study come from the Child Care and Educational Expenses section of the Female Life History questionnaire (MF22) administered to New sample women who had children currently enrolled in school in 1988. Relevant questions asked in this section include:

(i) Do you have children, living here or elsewhere, who go to school, college, or university?

(ii) (FOR EACH CHILD LISTED:) How much has to be paid for (NAME'S) expenses for education, including books, uniforms, fees, bus fares, and any other expenses?

(iii) Are any of these children receiving scholarships or loans to help pay for their education this year?

(iv) Has anyone else helped pay educational expenses for your children in the last 12 months?

Household and demographic characteristics examined in this study are: ethnic group, place of residence, sex of the child, mother's level of education, and mother's marital status. All figures shown below refer to annual expenditures, in Malaysian ringgits, for the 12 month period preceding the time of survey (1988) and are generally broken down according to the child's level of education (primary, secondary, or post-secondary school).
9.3 RESULTS

9.3.1 Differences by Level of Education

The mean amount spent by parents on their children's education is shown in Figure 9.2 by the child's educational level. Overall, Malaysian parents spent on average $352 per year educating a child in primary school. As expected, the amount spent increases with educational level. The mean amount spent on educating a child in secondary school and the post-secondary level was $563 and $1,583 respectively. In other words, educational expenses for children in secondary school are on average 60 percent more than expenses for children in primary school. Expenses for children at the post-secondary level are nearly three times greater than expenses for children in secondary school.

FIGURE 9.2
MEAN AMOUNT NEEDED FOR CHILDREN'S EDUCATION INCREASES AS LEVEL OF EDUCATION INCREASES

<table>
<thead>
<tr>
<th>Children's Level of Education</th>
<th>Annual Mean Amount Spent (Ringgit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY</td>
<td>352</td>
</tr>
<tr>
<td>SECONDARY</td>
<td>563</td>
</tr>
<tr>
<td>POST-SECONDARY</td>
<td>1583</td>
</tr>
</tbody>
</table>
9.3.2 Ethnic Differences

At every level of education, Chinese parents spent about twice the amount spent by Malay parents on their children's education (Figure 9.3). Indian parents on average spent more than Malay parents but less than Chinese parents, although educational expenditure between Chinese and Indian tended to converge at higher level of schooling. This pattern warrants further study. It may be due to urban/rural differences in the Indian population. Primary education is now nearly universal in Malaysia. Thus, the population of Indian students at the primary level includes most children from poorer rural estate households as well as relatively wealthier urban Indian families. However, rural Indian students are less likely to go on to secondary school, compared to their urban counterparts. By the post-secondary level, most Indian students are from urban families who have a greater ability to spend for education.

**Figure 9.3**

**Chinese Parents Are Spending More Compared to Other Parents**

![Graph showing expenditure by ethnic group at different education levels](image)

- **Ethnic Group**
  - Malay
  - Chinese
  - Indian

- **Levels of Education**
  - Primary
  - Secondary
  - Post-Secondary

- **Annual Mean Amount Spent (Ringgit)**
  - Malay: 266, 747, 2083
  - Chinese: 526, 698, 2080
  - Indian: 322, 698, 958

117
9.3.3 Urban/Rural Differences

Figure 9.4 shows that urban parents tend to spend more on their children's education than rural parents. This is true for all three educational levels. The gap, however, is not uniform across these levels. At the primary school level, urban parents spend about 45 percent more than rural parents. The gap falls to 25 percent for children in secondary school, but rises again to 57 percent for children in post-secondary school.

![Figure 9.4: Urban Parents Spent Between 25-27 Per Cent More Than Rural Parents]

These differences may be due to differences in socio-economic status. It would be interesting to compare expenditures based on their proportion of household income,
rather than just their absolute amounts. Unfortunately, data on household income for MPLS-II New sample respondents was not available at the time this study was done. However, the 1987 Household Income Survey (HIS) conducted by the Department of Statistics shows that the mean monthly household income was $1,467 in urban areas compared with $853 in rural areas. Total educational expenses reported by MPLS-II respondents were divided by nine, the number of months per year that the child would be in school. This number was then divided by the average rural or urban monthly income as reported in the 1987 HIS. These figures were used to compare educational expenses reported in the MPLS-II sample on the basis of their proportion of probable household income. These results are shown in Table 9.1.

Table 9.1 : Household Education Expenses per Child as a Percent of Household Income, by Child's Level of Education and Residential Stratum

<table>
<thead>
<tr>
<th>STRATUM</th>
<th>PERCENT OF INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child's Level of Education</td>
</tr>
<tr>
<td>Urban</td>
<td>3.2</td>
</tr>
<tr>
<td>Rural</td>
<td>3.8</td>
</tr>
<tr>
<td>Difference*</td>
<td>19%</td>
</tr>
</tbody>
</table>

* Difference = (Rural-Urban)/Urban

A different picture emerges using this comparison. On the basis of proportion of household income spent on children's education, rural parents spend more than urban
parents at each of the three educational levels. The difference was greatest at the secondary school level, where rural parents spent 38 percent more than urban parents. This may be due to the fact that most secondary schools are located in the urban areas and rural parents have added expenses for either travel or boarding.

**Figure 9.5**

GENDER DIFFERENTIAL IN EDUCATION SPENDING INCREASES AS LEVEL OF CHILD'S EDUCATION INCREASES

Annual Mean Amount Spent (Ringgit)

<table>
<thead>
<tr>
<th></th>
<th>PRIMARY</th>
<th>SECONDARY</th>
<th>POST-SECONDARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>MALE</td>
<td>FEMALE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>348</td>
<td>356</td>
<td>1710</td>
</tr>
<tr>
<td></td>
<td>598</td>
<td>537</td>
<td>1441</td>
</tr>
</tbody>
</table>

9.3.4 Gender Differences

There was little difference in the mean amount spent on education for male and female children (Figure 9.5). At primary school level, there was essentially no difference. At secondary and post-secondary levels, the differences were somewhat greater, with spending for male children $60 and $270 higher than for female children, respectively.
These slight differences suggest that equal emphasis is given to sons and daughters in providing education at primary level, but that sons are somewhat favored after that. Indeed, data from the Ministry of Education show that in 1990, the sex ratio for post-secondary enrollment was 126 males for every 100 females.

9.3.5 Differences by Mother's Level of Education

As mentioned earlier, education exposes one to new knowledge and information. This influences many household decisions, including those pertaining to educating one's children. The better educated parents are, the more they are likely to realize the benefits of education (on income, for instance), and the more they are likely to be willing to invest in their children's education. In order to test this hypothesis, we look at how educational expenses for children varied by the educational status of MFLS-II New sample respondents.

Figure 9.6 shows that, generally, the more educated a mother is, the more the family is likely to spend on its children's education. Furthermore, this difference grows larger as the child's education level increases. For children in primary school differences are only modest, with mothers who had at least some secondary school
education spending on average 30 percent more than mothers with no education. For children in secondary school, the difference increases to 36 percent.

**FIGURE 2.6**

**EDUCATED PARENTS ARE SPENDING MORE ON CHILDREN'S EDUCATION COMPARED TO LESS EDUCATED PARENTS**

The differences at the secondary school level may be greater because fees are higher for children enrolled past form three, especially those costs associated with the public examinations which are taken after form 3 and form 5 (Sijil Rendah Pelajaran and Sijil Pelajaran Malaysia). Students continuing to these points are more likely to be children of better educated parents. It is, however, not possible to say whether children of more educated parents
continue their studies further because of a greater willingness of their parents to pay, or because of a greater ability to pay. Further analysis is needed.

It is interesting to note that nearly all of the difference in expenses paid for educating primary and secondary school age children occurs between women with no formal schooling and those with at least some secondary school education. There is little difference between mothers with no schooling and those with some primary school education.

At the post-secondary school level, families where the mother has no formal education spend the least, families where the mother has at least some secondary schooling spend the most, and where mothers have only a primary school education, spending falls between the two.

9.3.6 Differences by Mother’s Marital Status

Financing educational expenses may be more difficult in households with only one parent as compared to households with two parents. In order to examine this issue, we looked at spending for children's educations according to the mother's marital status. For the purposes of this analysis, a mother was classified to be either currently married or not currently married. The latter category includes women who reported themselves to be widowed, divorced, or separated.
Figure 9.7 shows that the mean amount spent for educating children was slightly higher in households with both parents (that is, where the mother was currently married). The difference in amount spent becomes greater as their children's level of education increases, indicating that single mothers have progressively more difficulty in contributing to their children's education as the level of education increases. At primary and secondary levels, the differences was only $8 and $50 respectively. At the post-secondary school level, the gap was much wider. Families with currently married mothers spent 164 percent more than families with single mothers in childrens' education.
Overall, parents' expenses on education increases with the educational level of the children. The annual mean amount spent per child increased by 60 percent between primary and secondary school levels, and by another 300 percent between secondary and post-secondary school levels. This increasing trend in spending indicates a high degree of awareness among Malaysian parents about the importance of education for their children's futures. Parents seem to be aspiring towards a better future for their children, educationally and economically, and see education as a means of achieving those aspirations.

The mean amount spent annually by parents was highest among Chinese; this was true at all levels of children's education. These differences may reflect differences in socio-economic status, with Chinese being better able to afford private schools and tutor services than Malays and Indians. This is consistent with the finding that urban parents spend more on their children's educations than rural parents, since Chinese tend to be more concentrated in urban areas whereas Malays tend to reside in rural areas. Other factors, however, are also likely to play a role.

When educational expenses are compared on the basis of their proportion of household income consumed, the results are different. Rural families, which are more likely to be Malays, spend a greater proportion of their income on their
children's education than urban families, which are more likely to be Chinese. Some of the differences may be due to differences in types of expenses. Transportation expenses are likely to be higher for rural parents and they may have a higher burden of boarding costs when their children must live away from home to continue schooling beyond the primary level. Urban residents, on the other hand, generally have access to a greater number of choices for their children's education. They also generally have higher income, further expanding their access to these choices. For students who attend schools where the medium of instruction is not primarily Malay, parents may have extra expenses for bridge classes and other transitional services to prepare their children for Malay language instruction later. The most striking finding is that families with single mothers may be facing substantial difficulties in meeting their children's educational expenses. The causes and implications of this finding should be more closely examined.

In short, determining the causes of differences in educational expenses is complicated, more complicated perhaps than would be apparent when one considers the fact that the Federal Government shoulders the major share of national educational costs. This study provides an initial look at some important differences in patterns of educational spending by parents. Given the importance of this area to the future of the country, further study is warranted. Despite some of the differences noted above, it
is encouraging that even among rural parents and less educated parents, there is awareness of the importance of education and willingness to invest in it. Along with the government's supporting programmes, this should speed the process of nation building.
10. HEALTH STATUS AND HEALTH CARE
OF THE ELDERLY IN PENINSULAR MALAYSIA

by Nazileh Ramli

10.1 INTRODUCTION

In Malaysia the elderly population has been growing rapidly. The proportion of population aged 65 years and over increased from 3.1 percent in 1970 to 3.6 percent in 1980 and to 4.0 percent in 1990. Although Malaysia's population is still young, the ageing process is taking place. Declines in fertility and mortality and increase in life expectancy have contributed to the increase in the proportion of elderly. This process calls for greater attention to be paid to the needs of the elderly. Although health care is one of the major needs, there is very little research on the health of the elderly in Malaysia.

The MFLS-II is one of the few research projects which have attempted to collect information from elderly Malaysians. A Senior sample was selected as part of a much larger household survey because of growing policy interest in this group. Results of preliminary analysis of this Senior sample data is presented in this paper. The objectives of this study are to examine:

1. the self-perceptions of elderly in Peninsular Malaysia about their health status and health care (variations in health status are analyzed by age group, sex, ethnicity, and marital status);
2. the correlation between perceived health status and reported number of limitations in physical functioning;

3. variations in choice of health care providers during illness and the utilization of health care services.

10.2 DATA

Data for this study was drawn from responses by 1,357 respondents to the MFLS-II who were aged 50 or older in 1988. Forty-nine percent of this sample were males; 51 percent were females. Indians were oversampled to ensure a sufficient sample size to perform analysis. The total Senior sample was composed of 44.3 percent Malays, 31.8 percent Chinese and 23.2 percent Indians. All tabulations in this paper are weighted to account for oversampling of Indians.

The analysis is based on the information obtained from the Health Section of the Senior Questionnaire. Some of the key questions contained in this section were:

(a) In general, would you say your health is good, fair or poor?

(b) Does your health limit you in:

- the kinds or amounts of vigorous activities you can do, like lifting heavy objects, doing hard work;

- the kinds or amount of moderate activities you can do, like moving a table or doing home repairs;

- walking uphill or climbing stairs;

- bending or stooping;

- walking to a nearby house (100 m);

- eating, bathing, dressing and using the toilet?
(c) When you are sick or need physical help or care, who usually helps you?

(d) During the past three months have you been to a hospital, clinic, bomoh, sinseh, nattuvaithiyer, or other traditional practitioner for your own health care?

(e) How much was or will be paid for the health care services you yourself received during this past month, including medicines?

(f) Who did or will pay for the care services, including medicines, you received during the past month?

10.3 RESULTS

10.3.1 Age-Sex Structure

The age and sex structure of the Senior sample is shaped like a broad-based pyramid (Figure 10.1). The structure is the same for all three ethnic groups. This structure has two implications. First, there are old and very old persons in Malaysia. This is important because the needs of the very old are generally quite different; this group needs special attention. Second, the broadness of the pyramid suggests that there will be a rapid expansion of the very old segment of this population.

**FIGURE 10.1**

**AGE SEX STRUCTURE OF THE SENIOR SAMPLE**

![Age Sex Structure Chart](image-url)
10.3.2 Self-Perceived Health Status

The measurement of health status in this study is based on (a) respondents' own rating of their general health status and (b) their reports of limitations in physical functioning. Responses to the general health status question showed a decline in perceived health with increase in age (Figure 10.2). The proportion of elderly reporting themselves to be in good health declined from 43.2 percent in the 50-59 age group to 36.7 percent in the 60-69 year old age group and declined further to 25.1 percent among those aged 70 and above. On the other hand, the proportion reporting themselves to be in poor health increased from 5.5 percent in among those in the 50-59 age group to 23.5 percent among those aged 70 and above. These trends are as expected; that is, advancing age is generally accompanied by increasing health problems.

FIGURE 10.2
DECLINE IN PERCEIVED HEALTH STATUS BY AGE
Among Malay and Chinese elderly who perceived themselves to be in poor health, women less than 70 years old were generally worse off than males, while the opposite was true among those aged 70 years and over (Figure 10.3). Indians were worse off than Malays and Chinese in all age groups. However, among Indians in poor health, males were worse off than females in all age groups (Figure 10.4). One should be cautioned that gender and ethnic differences observed here could be the result of reporting bias. That is, although women and Indians perceived themselves to be in poorer health, clinical evidence may or may not substantiate these self-reports.

**FIGURE 10.3**
PERCENT OF ELDERLY MALAYS AND CHINESE IN POOR HEALTH BY AGE GROUP AND SEX
FIGURE 10.4
PERCENT OF ELDERLY INDIANS IN POOR
HEALTH BY AGE GROUP AND SEX

Marital status affects self-reported health status of
the elderly in this sample. A greater proportion of
unmarried respondents reported themselves to be in poor
health, compared to married respondents. This is true both
for males and females. However, the disparity between
married and unmarried respondents was much greater among
females (Figure 10.5).
10.3.3 Limitations in Physical Functioning

Questions about limitations in physical functioning were asked to provide more specific information about the well-being of elderly Malaysians. Respondents were asked questions about limitations in six types of activities of daily living, representing a scale from less difficult tasks to those requiring more strenuous exertion:

1. eating, bathing and using the toilet.
2. walking to a nearby house,
3. bending or stooping,
4. walking uphill,
5. moderate activities,
6. vigorous activities,
It would be expected that those who considered themselves to be in good health would report fewer limitations. Conversely, those in poor health would report more limitations. When perceived health status was cross-tabulated with the number of limitations, there was indeed a strong correlation between the two (Figure 10.6). The vast majority (81 percent) of elderly who perceived themselves to be in good health reported having none of the limitations listed. Of the remaining 19 percent who were in good health, the greatest proportion reported only one limitation and there were successively fewer in each category as the

**FIGURE 10.6**
CORRELATION BETWEEN PERCEIVED HEALTH STATUS AND NUMBER OF LIMITATIONS

![Bar chart showing correlation between perceived health status and number of limitations.](image)
number of limitations increased. The pattern was reversed among elderly who perceived themselves to be in poor health. Few elderly in poor health reported no limitations and the greatest proportion fell into the group who reported being limited in all six activities.

Another way to examine the data on limitations is according to the level of difficulty in performing the activity. One would expect a greater proportion to report being limited as the level of difficulty increases. This is indeed what was observed in the MFLS-II Senior sample. The more difficult the activity, the higher the percentage of respondents who reported being limited in that activity. The pattern is the same across all age and ethnic groups (Figure 10.7).

FIGURE 10.7
PERCENT OF RESPONDENTS HAVING LIMITATIONS IN ACTIVITIES OF DAILY LIVING
10.3.4 Sources of Support During Illness

Respondents were also asked who helped them during times of illness and when they need physical care. Figure 10.8 shows that the majority of the elderly reported that they helped themselves or that their spouses helped them. This is true for all the age groups. However, the proportion who reported receiving support from their children was found to be positively correlated with the age of the respondent. This pattern might be expected given that co-residence with children increases as age advances. The proportion of elderly who got help from children was highest in the oldest age group. This might be explained by the higher incidence of widowhood in this age group, and by cultural factors which encourage children to care for their aged parents.

![Figure 10.8: Sources of Support During Illness](image-url)
10.3.5 Use of Health Providers

Senior respondents were asked whether or not they had used the services of any health provider (either modern and traditional sources) in the month preceding the interview. Figure 10.9 shows the percentage who had used a health provider's services, by health status and ethnic group. The pattern was essentially the same for all ethnic groups. As expected, a greater proportion of elderly who said they were in poor health used health services than those who said they were in fair or good health.

**Figure 10.9**
**Pattern of Use of Health Services**

( % using Health Provider )

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Good-Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td>40</td>
<td>76.2</td>
</tr>
<tr>
<td>Chinese</td>
<td>39.3</td>
<td>68.2</td>
</tr>
<tr>
<td>Indian</td>
<td>36.2</td>
<td>67.5</td>
</tr>
</tbody>
</table>

138
More than 50 percent of the elderly said they had not used any health provider in the past 30 days (Figure 10.10). Among those who used some kind of health provider, Chinese were the highest users of private health providers. This may be due to the fact that Chinese are more likely to live in urban areas where private health providers are more readily available. Malays and Indians tended to use Government health providers more than any other. The majority of Malays live in rural areas where Government providers are more likely to be accessible than other providers.

**FIGURE 10.10**

USE OF HEALTH PROVIDER BY ETHNIC GROUP

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>None</th>
<th>Govt</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay</td>
<td>16.8</td>
<td>25.6</td>
<td>57.6</td>
</tr>
<tr>
<td>Chinese</td>
<td>14.5</td>
<td>28.3</td>
<td>57.2</td>
</tr>
<tr>
<td>Indian</td>
<td>19.1</td>
<td>26.3</td>
<td>54.6</td>
</tr>
</tbody>
</table>
10.3.6 Expenditures on Health Care

The respondents were also asked on their expenditure on health care in the month preceding the survey. Figure 10.11 shows that on average Chinese spent the most ($74), followed by Indians ($28), and Malays spent the least ($19). The higher amount spent by Chinese is consistent with their higher use of private health provider described above. Figure 10.11 also shows that mean health care expenditures are very much affected by the type of provider used.

FIGURE 10.11
MEAN EXPENDITURE FOR HEALTH CARE
10.4 SUMMARY AND CONCLUSIONS

Data from the MFLS-II show that we can expect the elderly population (those aged 65 and above) in Malaysia to continue to increase rapidly. This is evident from both historical census data as well from the age structure of the current population of people age 55 and above. Presently, four percent of Malaysia's population is 65 years old or greater. According to the United Nation's definition, this is a 'matured' population. Therefore, Malaysia should now be preparing for the next stage in demographic development; that is, a gradual transition to an 'aged' stage in which the proportion aged 65 and over is 7 percent or more. Although Malaysia has a long way to go to reach this stage, policy makers should be aware of the socio-economic consequences of population ageing and future needs of the elderly.

Health is one of the major concerns of the elderly that needs attention. It is generally agreed that health declines with age. Data from the MFLS-II Senior sample support this assertion. The health status of older seniors in this sample was, on average, lower than that of younger seniors. Therefore, policy makers should expect that, with the rapid increase of the elderly population, the demand for elderly health services is also likely to grow. While health policies and programs must be designed to serve all, the special needs of this growing segment of the population should receive increased attention.
Analysis of self-perceived health status by ethnic group showed that Indians tend to be worse off than Malays and Chinese. This finding needs further exploration. There may be important factors differentially affecting their health status, such as accessibility of services and type of residence.

The data also reveals that females report themselves to be in worse health than males, especially among Malays and Chinese below age 70. This should be investigated further, preferably using objective clinical measures, to determine whether this finding represents a real difference or a reporting bias by gender. If females are indeed clinically worse off than males, studies should be initiated to identify causal factors.

Elderly who are not currently married also appear to be in worse health, even after controlling for age, compared to married elderly. Those who are not married are more likely to be women and are likely to be in higher age groups. Therefore, there may be a need to target services to this group. Further in-depth studies should be carried out to investigate factors affecting health status of non-married elderly, especially females. This is important because females live longer than males and, if they are less healthy (as MFLS-II data shows), they are likely to suffer more during the last years of their lives.
There appears to be a very strong correlation between perceived health status and reported number of limitations. This is expected; the more the limitations a person experiences, the less healthy that person would probably feel. However, one should note that the definition of 'good' and 'poor' is very subjective. As noted above, in the case of self-perceived health status, clinical research should be conducted to confirm the findings reported here concerning limitations in activities of daily living.

The findings on the use of health care providers during illness show that children become more important sources of help as the elderly grow older. This is a very encouraging finding; it indicates that Malaysians do participate and involve themselves in care of elderly parents. However, given the changes occurring in Malaysian society, there are grounds for concern that this source of support may begin to break down. This is an issue which needs to be monitored.

In terms of sources of health care services, there are clear differences by ethnic group. Chinese are more likely to use private health providers than Malays or Indians. Malays and Indians, on the other hand are more likely than Chinese to use Government health care providers. These differences may be due to differences in access based on residence patterns. There may be an economic component to the differences also; that is, Chinese are generally better
off and therefore may better be able to pay for more expensive private care. There may also be cultural components to the differences noted.

In light of the findings reported here, it may be useful to review carefully any proposal changes in service delivery and changes that would differentially affect the elderly. Some groups appear to be especially vulnerable; they already appear to be having problems accessing health services. Thus, implications of changes should be explored further before action is taken.

As mentioned earlier, health is one of the major concerns of the elderly which policy makers should address. Although it may seem that ageing is not yet a critical issue in Malaysia, more information about the status and needs of the elderly is needed. Basically, we know little about the elderly in this country. More research should be conducted now so that early planning can be done. Well informed planning will help ensure that the needs of the elderly are appropriately addressed and that they are assisted to remain in as good physical and mental health as possible.
11. LIVING ARRANGEMENTS OF THE ELDERLY

by Julie DaVanzo

11.1 INTRODUCTION

The majority of the older population in Malaysia live with their adult children, but not all of them do. The question that we investigate here is which older people live with their adult children and which do not. At the end, we speculate about the future: Are we likely to see more parents living with their adult children or fewer?

In the conceptual framework guiding our analysis, we hypothesize that there are four broad categories of factors that affect whether older parents co-reside with their adult children:

(i) The benefits to the parents of co-residence include the companionship of a child, the ability to economize on living costs by living together, and the possibility that the children can help the parents, for example, when they're ill;

(ii) The costs of coresidence include loss of privacy;

(iii) The likelihood of living with the child, we hypothesize, should depend also on the opportunities for doing. If you have a number of children, there are more possible children to live with than if you only have one child; the sexes
and the ages of children may also affect the parent's opportunities for coresidence with a child;

(iv) Preferences may play a role in decisions regarding whether parents and children will coreside. Different ethnic groups, for example, may have different attitudes about their responsibilities to the older generation.

11.2 DATA AND METHODS
We have used data from the MFLS-II Senior Sample for this study. We have information on a number of factors that may affect co-residence. We have information on both the Senior respondent and on his or her spouse if the respondent is married, including the spouse's education and health status. We also have some information about the Senior's children: their gender, ages and education. Furthermore, we have data on the housing costs in the area where the seniors live, i.e., whether it is an expensive or inexpensive area.

The particular sample for this study is the sub-sample of Seniors who had at least one adult child. In this analysis, an adult child is one aged 20 or older. We have conducted both descriptive analysis and multivariate (logistic regression) analysis. We look separately at married Seniors and unmarried Seniors, because the factors that affect coresidence may be quite different for the two
sub-groups; in this sample, about 65% of the people are married. Here we present predicted probabilities that hold other factors constant to illustrate the implications of the multivariate analysis. We also present some bivariate results that do not hold other factors constant.

11.3 RESULTS

11.3.1 Marital Status

Looking first at marital status, we see in Figure 11.1 that widowed seniors are the most likely to coreside with their adult children. Divorced men are fairly unlikely to coreside; it would be interesting to investigate that further.

**FIGURE 11.1**

WIDOWED SENIORS ARE MOST LIKELY TO CORESIDE

PROPORTION CORESIDING

![Bar chart showing the proportion of coresiding for married, widowed, and divorced/separated individuals by gender.](chart.png)

MALE  FEMALE
11.3.2 Ethnicity
In Figure 11.2, we see very strong ethnic differences. Chinese and Indians are much more likely to coreside with their children, while Malays are the least likely of the ethnic groups to coreside. Eighty percent of married Indians and 85% of unmarried Indians are living with an adult child, whereas the comparable numbers for Malays are less than 60% for married and less than 70% for unmarried. Keep in mind that our definition of co-residence is that the parents and children live together in the same living quarters. It is possible that Malay parents and children live next door to one another in the same kampung; we would not define that as co-residence in this analysis.

FIGURE 11.2
INDIAN SENIORS ARE THE MOST LIKELY TO CORESIDE, MALAYS THE LEAST LIKELY
11.3.3 Health

When no other variables are controlled, Seniors who are in poor health are more likely to coreside with adult children (see Figure 11.3). However, when we do the multivariate analysis and we control for other things that might be related to health and to co-residence, these differences become much smaller (see Figure 11.4). One possible explanation is that Indians tend to be in poor health and, as we just saw in Figure 11.2, Indians are the most likely of the ethnic groups to live with their adult children. Hence, the apparent relationship between health and living arrangements when no other variables are controlled may simply be an Indian effect rather than health effect; when we control for ethnicity, we no longer see much of a health affect.

**FIGURE 11.3**
MARRIED SENIORS IN POOR HEALTH THE LIKELY TO CORESIDE

PROPORTION CORESIDING

MARRIED MALES  MARRIED FEMALE

SEX/MARITAL STATUS

GOOD  FAIR  POOR
Among unmarried males, those in fair health are the most likely to coreside (Figure 11.5). But, in general, we don't see much of a relationship with health in these data. One possibility is that there may be some reverse causation. Children who live with their parents may provide support and assistance that leads to improvements in the parents' health or keeps it from deteriorating as much as it would have otherwise.
11.3.4 Income

Next we look at the relationship between the Senior's income and whether or not he or she coresides with an adult child (Figure 11.6). The hypothesis is that people are likely to prefer privacy. They might like companionship, too, but they would probably like to have some time to themselves. Hence, if they can afford it, they probably would like to live separately and choose when they see their children, rather than be with them all of the time. Indeed we find this for unmarried males: As income increases, unmarried male Seniors are much less likely to coreside with their adult children. However, we see very little, almost no,
relationship for unmarried females and a modest relationship for married people. Hence, it appears that when children have widowed fathers, they will take them in if the father's income is very low, but not if the father is able to support himself. But if they have widowed mothers, they are likely to take them in regardless of the mother's income.

**FIGURE 11.6**
CORESIDE DECREASE AS INCOME INCREASE, ESPECIALLY FOR UNMARRIED MALES

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11.3.5 Housing Costs

Next we look at housing costs (Figure 11.7). We consider the housing costs in the area and not what the people actually are paying, so there isn't the possibility of our analysis being confounded by people who live together paying more for housing because they live in a larger living quarter. Among married Seniors, the higher the cost of
housing in the area, the more likely it is that parents and children double up and live together, presumably to economize on living costs. We see a strong relationship for the married, but relatively little relationship for the unmarried.

**FIGURE 11.7**
**CORESIDENCE INCREASE WITH HOUSING COSTS, ESPECIALLY FOR MARRIED SENIORS**

![Bar chart showing proportion coresiding for married and unmarried seniors across different income levels.]

11.3.6 Urban/Rural Differences

Next, in Figure 11.8, we look at differences among different types of areas -- metropolitan, large urban, small urban, and rural -- and we see that, for both the married and unmarried, coresidence is higher in metropolitan areas than in smaller urban areas and is higher in the rural areas than in non-metropolitan urban areas. One possible reason for
why coresidence is higher in metropolitan areas is that housing costs are higher and, hence, there is more need to economize and double up. However, we find greater rates of coresidence in metropolitan areas than in other urban areas even in the multivariate analysis, where housing costs are controlled. The relationships are weaker in the multivariate analysis, but we still find the same general pattern.

![Figure 11.8](image)

**FIGURE 11.8**
CORESIDENCE IS HIGHEST IN METROPOLITAN AREAS AND IN RURAL AREAS

Housing costs should be lowest in the rural areas, but we don't find lower rates of coresidence there. The higher coresidence we see in rural areas is probably because those areas are more traditional.
11.3.7 Number of Children

Turning now to the role of opportunities, we see in Figure 11.9 that coresidence does increase as the number of adult children increases. If people have only one adult child, about 60% of them live with an adult child, whereas, if they have five adult children, they have about an 80% likelihood of living with an adult child. The relationships are very similar for the married and the unmarried. These results are consistent with the notion that one of the reasons for high fertility, at least in the past, was the need for old-age support. People had a lot of children so they would be sure that they would have a child to help take care of them; and they seem to be cashing in on that now that they have grown older.

**FIGURE 11.9**
CORESIDENCE INCREASES AS NUMBER OF CHILDREN INCREASES

![Bar chart showing proportion coresiding by marital status and number of adult children.](chart.png)
11.3.8 Gender of Children

We also have looked at the role of the gender composition of the children that the senior could live with. In Figure 11.10 we compare Seniors with only sons, those with only daughters, and those with children of both sexes. Of those who have children of only one sex, those who have only sons are more likely to live with an adult child than those who have only daughters. Those who have children of both sexes tend to be the most likely to live with an adult child, perhaps because they have a choice of whether to live with a son or a daughter.
To look at this further, we took the sample of seniors who have both sons and daughters, i.e. those who had a choice whether they could live with a son or daughter; these results are shown in Figure 11.11. There are some interesting ethnic differences here. For Malays, there is relatively little difference between whether seniors choose to live with a son or a daughter; in fact, given the choice, they are somewhat more likely to live with their daughters than with their sons. However, amongst the Chinese, if they have both sons and daughters, they are more than twice as likely to live with a son than with a daughter. We see a similar preference for living with sons for Indians, but to a much smaller degree.

**FIGURE 11.11**
**OF THOSE WITH BOTH sons AND daughters, CHINESE AND INDIAN SENIORS ARE MORE LIKELY TO CORESIDE WITH SONS**

![Bar chart showing proportion coresiding by ethnicity and gender preference.](image)

- **MALAY**
  - LIVE WITH A SON
  - LIVE WITH A DAUGHTER

- **CHINESE**
  - LIVE WITH A SON
  - LIVE WITH A DAUGHTER

- **INDIAN**
  - LIVE WITH A SON
  - LIVE WITH A DAUGHTER
11.4 SUMMARY AND CONCLUSIONS

Unmarried seniors are more likely to co-reside than married seniors. We hypothesize that this is due to the fact that they have a greater need for the companionship and help that married seniors can get from a spouse.

Poor health is associated with greater co-residence in the married sample, but only husband's health, not wife's health. We had hypothesized that Seniors might benefit more from co-residence when they were unhealthy and needed more help.

In terms of housing costs, greater housing costs lead to more co-residence, as hypothesized. This relationship is stronger for married people than for unmarried people.

Coresidence is higher both in metropolitan and in rural areas. This is true both for the unmarried and the married. The higher coresidence in metropolitan areas is in part due to the higher housing costs there. The higher coresidence in rural areas appears to be due to more traditional attitudes.

Lower income led to greater coresidence amongst the married and had a very strong relationship with coresidence for unmarried males. Income may not only measure the ability to afford private living but may also measure a more modern orientation; so may education. Indeed, we also find
(in results not shown here) that people who are less educated are also more likely to coreside. The husband's education matters more than the wife's.

Looking at the ethnic differences, in both the unmarried and the married samples, we saw much greater coresidence for Indians and the lowest rates for Malays.

Number of children is very strongly positively related to coresidence in both the unmarried and the married samples, suggesting that a greater number of opportunities for coresidence increases the likelihood it will occur.

For a given number of adult children, Seniors who have both sons and daughters are more likely to live with an adult child than those whose children are all of the same sex. However of those who have only sons or only daughters, people are more likely to live with their sons than with their daughters.

Looking at these results together, there are several interesting patterns. One is that the results are generally very similar in the unmarried and the married samples. Remember that the married sample is about twice as big, so that may explain why we see more statistically significant relationships for it. Another thing that's interesting is
where we are able to look separately at male and female characteristics, or husband's and wife's characteristics, usually it's the male's/husband's characteristics that seem to matter more than the female's/wife's.

What is the likelihood of changes in the pattern of coresidence in the future? On the one hand, with economic development, there are a number of pressures that would lead to decreases in coresidence:

i) Higher incomes are likely to lead to less coresidence because people are better able to afford separate living arrangements.

ii) Higher education is associated with less coresidence, perhaps reflecting a more modern orientation, as well as higher incomes. Thus, increases in education should also reduce coresidence.

iii) Lower fertility also should lead to less coresidence. With lower fertility, seniors have fewer children with whom to coreside. We have seen that seniors are less likely to live with a child the fewer children they have.
However, there's one countervailing factor: housing costs are likely to increase in the future with development and modernization. We have seen that higher housing costs are associated with greater coresidence. It is difficult to predict the extent to which this will offset the negative influences noted above.
12. BASIC AMENITIES IN HOUSEHOLD IN PENINSULAR MALAYSIA

by Foo Sya Tong

12.1 INTRODUCTION

Housing is a basic social need and is part of social development programmes in Malaysia. Housing standards affect the health and well-being of its occupants and the aim of the housing programme is to contribute towards a better quality of life. A central objective of the Federal Government's housing programme is to ensure that Malaysians of all income levels, particularly the low-income groups, have access to adequate housing. Good housing has an important bearing on health, comfort and happiness in households. The government has taken responsibility to develop low-cost housing schemes in urban areas and in rural resettlement schemes on agricultural plantations. The private sector has continually supplemented government efforts to develop housing.

This paper uses data from the Second Malaysian Family Life Survey (MFLS-II) to examine the status of housing conditions in Peninsular Malaysia in 1988. The MFLS-II data is also compared to data from past Malaysian housing censuses (1970 and 1980) in order to describe trends over time.
12.2 DATA

The sample used for this study of housing conditions comprised all New and Senior sample respondents in the MFLS-II. A total of 3046 living quarters (LQs) were selected for the survey out of which interviews were successfully completed in 2456 LQs (80.6 percent). Since the New sample was drawn from households with at least one woman between 18 and 49 years old (or a married woman between 15 and 17), and the Senior sample was drawn from households with a person aged 50 or greater, this sample of LQs represents all adults households in Peninsular Malaysia. Therefore, it is comparable to the 1970 and 1980 housing censuses.

The Senior sample was selected in two stages. In the first stage, LQs were visited to determine whether or not there was a resident who was eligible for either the New or the Senior sample. This stage yielded a sufficient number of respondents for the New sample, but not for the Senior sample. Therefore, a second sample of LQs was drawn to increase the size of the Senior sample. In both stages, Indian LQs were over sampled. Weights designed specifically for the New sample could not be used for the combined New and Senior sample used here. Therefore, a new weight variable was constructed to account for the over sampling of Indians. This weight variable was used to adjust all data appearing in this paper.
The questions relevant for this study appeared in the Migration and Current House Characteristics sections of the Female Life History (MF22, for New sample respondents) and the Senior Questionnaires (MF24, for Senior sample respondents). Questions asked about the current residence in 1988 were:

(i) Does the house have piped water? 
   If Yes: 
   Is the water piped into the house or outside the house? 
   If No: 
   What is your main source of water for drinking? 
   What is your main source of water for washing?

(ii) Does this house have toilet facilities? 
   If Yes: 
   Is that a flush toilet, pour flush, or some other kind? 
   If No: 
   What do people in this house use?" 

(iii) Does this house have electricity from the power lines?

12.3 RESULTS

12.3.1 Water Supply

The availability of safe water supply has an important bearing on the general health of the population. Unsafe water contributes to disease transmission and, among infants, is an important correlate of mortality. Figure 12.1 shows that the proportion of homes in Peninsular Malaysia supplied with piped water has steadily increased over the years. In 1970, 48 percent of housing units had access to piped water. By 1980, this had increased to 68 percent. Data from the MFLS-II shows that in 1988, 86 percent of housing units had access to piped water supply. Over the
same period the percentage of housing units which relied on wells, pumped water, or some other source fell from 52 percent to 14 percent. These trends were nearly the same for both drinking water and washing water supplies.

FIGURE 12.1
CHANGES IN SOURCES OF WATER SUPPLY
IN PENINSULAR MALAYSIAN
HOMES BETWEEN 1970 & 1988

Figure 12.2 shows that urban-rural differences in availability of piped water supplies has narrowed considerably between 1970 and 1988. This is probably attributable to rural development programmes. In the Fourth Malaysia Plan (1981-1985), the amount allocated to water supply programmes was $2,138 million of which $346 million (only 16 percent of the total allocation) was for rural areas. In the Fifth Malaysia Plan (1986-1990), the allocation to water supply programmes increased to $3,126 million of which $1,430 million, nearly half of the total, was allocated to rural programmes. These figures demonstrate the Federal Government's commitment to improve living conditions for the rural population.
12.3.2 Sanitation

Proper disposal of human waste is also important to efforts to safeguard the health and well-being of the population. As such, adequacy of toilet facilities is an important element in evaluating the health conditions of the population and the quality of housing. Figures 12.3a and 12.3b show the distribution of sanitation methods used, by ethnic group and rural-urban stratum, in 1988. Flush systems, the most hygienic method, were the most prevalent everywhere. About 91 percent of urban homes, regardless of ethnicity of its occupants, used a flush system. In rural homes, flush systems were nearly as prevalent. The largest urban-rural gap existed among Indian homes. This gap is
more noticeable in Figure 12.3b, which shows that the prevalence of non-flush sanitation systems in rural Indian homes is about 50 percent higher than in non-Indian rural homes.

**FIGURE 12.3a**
PERCENTAGE OF LQS BY FLUSH TOILET SYSTEM BY RACE AND STRATUM MFLS-II, 1988

Flush systems and non-flush latrines (bucket and pit latrines) are considered to be "adequate" sanitation methods from a hygienic standpoint. Methods considered to be "inadequate" include enclosed latrines built over rivers and use of non-enclosed areas, such as bushes. Table 12.1 summarizes changes in rural and urban sanitation methods from 1970 to 1988. There has been a marked improvement in the adequacy of toilet facilities in Peninsular Malaysia, both in urban and rural areas. Most of the improvement occurred after 1980. Improvements in rural areas were greatest. By 1988 most of the rural-urban gap in sanitation had been closed, though non-latrine methods are still more than twice as common in rural areas than in urban areas.
Table 12.1: Distribution of Toilet Facility Types in Peninsular Malaysian Homes, by Rural/Urban Stratum; 1970, 1980, and 1988

<table>
<thead>
<tr>
<th>TYPE OF TOILET</th>
<th>1970 (CENSUS)</th>
<th>1980 (CENSUS)</th>
<th>1988 (MFLS II)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>URBAN</td>
<td>RURAL</td>
<td>URBAN</td>
</tr>
<tr>
<td>FLUSH SYSTEM</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>11</td>
<td>72</td>
</tr>
<tr>
<td>NON-FLUSH LATRINE (Bucket/Pit)</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>52</td>
<td>21</td>
</tr>
<tr>
<td>NON-LATRINE (Rivers etc)</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>37</td>
<td>7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

In 1980, about 70 percent of housing units had flush toilet facilities. But, this increased to nearly 90 percent in 1988. Non-flush latrine and non-latrine which predominated as a means of waste disposal in 1970 had become less common by 1988.

12.4 ELECTRIC SUPPLY

The availability of electricity is another important indicator of housing standards. Electricity is necessary to provide people with access to many amenities of modern living, such as electric appliances, television sets, radios, refrigerators, and many others.
Figures 12.4 and 12.5 summarize trends in the percentage of housing units with electric supply. Figure 12.4 shows that there has been steady improvement in the extension of electricity in Peninsular Malaysia. Whereas in 1970, only 44 percent of homes had an electric supply, by 1988 this had grown to 93 percent. Figure 12.5 shows that in 1988, urban-rural differences were quite small within each ethnic group. Furthermore, differences between the three major ethnic groups were small.

**FIGURE 12.4**  
PERCENTAGE OF LIVING QUARTERS (LQS) WITH ELECTRICITY IN 1970, 1980 & 1988 IN PENINSULAR MALAYSIA

**FIGURE 12.5**  
PERCENTAGE OF LIVING QUARTERS (LQS) WITH ELECTRICITY SUPPLY, BY RURAL/URBAN STRATUM AND ETHNIC GROUP, IN PENINSULAR MALAYSIA 1988

12.5 CONCLUSION

In this paper, trends in housing standards, as measured by water supply, toilet facilities, and electric supply, were examined. Data from the MFLS-II, when compared with data collected during the 1970 and 1980 national housing censuses, show that there have been steady improvements in housing standards in Peninsular Malaysia as summarized below:
- Only a little more than 10 percent of housing units remain unserved by piped water, and, that the rural-urban gap in water supply has narrowed considerably since 1970;

- There have been similarly dramatic improvements in sanitation methods used; also, rural-urban differences have nearly been eradicated.

- The extension of electric supply to housing units was nearly universal by 1988.

These improvements should have large beneficial effects on health and quality of life for Malaysians. Disease transmission and infant mortality, for instance should both show declines as a result of the improved standards.

However, there are still some pockets of the population that remain unserved by these amenities and attention needs to be paid to these under served groups.

It may be useful for policy makers to make use of the data to (i) identify groups that continue to need assistance to upgrade their housing conditions, (ii) evaluate their programmes, and (iii) determine what actions need to be taken to close the gaps which still exist.