

CHAPTER 2 - DATA SOURCES AND METHODOLOGY

This chapter will begin with a brief description of the 1994 Malaysian Population and Family Survey, the main data source for the analysis of age at first marriage in the following chapters. This includes the survey coverage, sampling design, sample selection, methods of data collection and questionnaire design. Findings from past studies on fertility will be reviewed to guide the formulation of the analytical framework and the selection of study variables.

DATA SOURCES

The data used in this study come from the Malaysian Population and Family Survey (MPFS) conducted by the National Population and Family Development Board, Malaysia (NPFDB) in 1994. The main objectives of the survey were to collect detailed information pertaining to marriage, childbearing, family planning and some other aspects of family life to the relevant agencies in formulating and implementing an integrated population and family development programme to bring about improvement of quality of life of all Malaysians. The main report of this survey is being prepared by the National Population and Family Development Board.

A stratified random sample, with probability proportional to the size of population, was drawn for the survey. The sample was stratified according to urban-rural location, based on the updated sampling frame maintained at the Department of Statistics

3). A total of 6015 households in Peninsular Malaysia were selected for the survey. The main survey was fielded by the NPFDB from September 1994 to February 1995. A group of about 100 full-time and part-time interviewers were trained to conduct face-to-face interviews with selected respondents. All ever-married women aged 15-49 years in the selected households were eligible for the detailed interviews. Of the 6015 households selected, only 4444 ever married women aged 15-49 years were successfully interviewed. Of these, 4240 were currently married women, 102 were widows, 74 divorcees and 28 women who were separated from their husbands.

To ensure the quality of the data collected, a systematic and rigorous field control system was implemented by the survey team. The field supervisors and professional staff of NPFDB conducted random, periodic and regular field checks. The completed questionnaires were thoroughly checked for completeness and consistency of responses. The interviewers were required to revisit the respondents to rectify mistakes that were detected.

Basic socio-demographic data from each household member was recorded in a household schedule. A host of open-ended and close-ended questions were used to collect detailed information from the ever-married women aged 15-49 years. The information collected includes respondent's socio-demographic background, marriage history, pregnancy history, family planning and knowledge of contraception, respondent's work history, husband's background and details on the care of the elderly.

To assess the representativeness of the sample, a simple evaluation of the data was conducted first before further analysis. This is done by comparing the sample distribution of the 4444 respondents with that of the women aged 15-49 years from the Population Census on a number of key variables.

As can be seen from Table 2.1, the ethnic distribution of the sample is rather close to that of the total population. This shows that the sample is rather representative of the ethnic groups in Malaysia.

Table 2.1: Comparison of sample and population distribution in terms of ethnicity

ethnic Group	1994 MPFS (percent)	Women aged 15-49 from the 1991 Population Census (percent)
Malay	100.0 (4444)	100.0
Chinese	60.0	59.4
Indians	25.0	29.1
Others	11.0	8.5
	4.0	3.0

In comparing the 1994/95 MPFS data with the women aged 15-49 years of the 1991 population census, it appears that those with no formal education were slightly underrepresented and those with primary education appear to be over represented. However, such deviations are not unexpected given that the level of education has been improving over time. On the other hand, the MPFS data for the secondary and tertiary educated women match closely with the 1991 population census of women aged 15-49 years.

Table 2.2: Comparison of sample and population distribution in terms of educational attainment

Educational Attainment	1994 MPFS (percent)	Women aged 15-49 from the 1991 Population Census (percent)
Ages	100.0 (4444)	100
Normal education	8.0	12.1
Primary	38.0	28.7
Secondary	46.0	49.7
Tertiary	8.0	9.5

Overall, the distribution of respondents by rural-urban location appears to match well with that of population distribution reported in the 1991 Population Census. The marginal drop in the proportion of rural respondents and a corresponding slight increase in the urban dwellers for the MPFS data as compared to the Census may reflect an increasing rate of urbanization that had taken place.

Table 2.3: Comparison of sample and population distribution according to place of residence (urban-rural location)

Residential Background	1994 MPFS (percent)	Women aged 15-49 from the 1991 Population Census (percent)
Ages	100.0 (4444)	100.0
Rural	46.0	47.5
Urban	54.0	52.5

ANALYTICAL FRAMEWORK

This study is aimed at examining the differentials in age at first marriage among Malaysian women. The common measures of age at marriage are the mean age at first marriage, median age at first marriage and singulate mean age at marriage (SMAM). The SMAM is an indirect measure, which takes into account age at marriage of those who are already married, and those who may marry in the future. It combines measurement of marriage timing data for older and younger cohorts whose life experiences were different (Michael, cited in Wayachut 1993:294). This study will use mean age at first marriage to avoid the limitations of SMAM with regard to the reference period. However, mean age at first marriage is easier to compute and interpret as compared to SMAM. Given that age at first marriage is approximately normally distributed, the mean and median values would be rather close.

Special emphasis will be given to analyze cohort trends in age at first marriage, in addition to various social and economic predictor variables. Increasing education and employment opportunities have improved the status of Malaysian women, causing a change in attitudes towards marriage. Due to the profound social changes over time, it will be appropriate to perform cohort analysis. Cohort rates are those based on the experience of a group who were born in the same time period (Jones, 1994:62). Each cohort normally experience similar set of events and changes and this subsequently will affect their behavior in a similar or dissimilar manner. It is interesting also to find the interactions between cohorts and socio-economic predictor variables as to how these

the people in the respective cohort in terms of their behavior, attitudes and opinion towards marriage. Tan (1983:91) noted that the use of real marriage cohorts is superior to the use of real birth cohorts if the range of the distribution of ages at marriage is wide. In this study, both birth and marriage cohorts will be used in the study even though the range of ages at marriage is sufficiently large.

To overcome the intrinsic selectivity bias in studying the age at first marriage of married women whereby only women who were married by the time of interview were selected and leaving out those women who were still single, the present analysis on age at first married is confined to women aged 30 and over and who were married before 30 years. This approach reduces the sample size to 3025 women, with the Malays making up 59% of the sample, Chinese 27% and Indians 11%. The remaining 3% were from other ethnic groups. Among this group of women, 94 percent were currently married, 3 percent were widowed, 2 percent were divorced and 1 percent was separated.

To ascertain the differentials in age at first marriage, several factors including the educational levels and work status of both the spouses will be studied. It is interesting to see how the improvement in educational levels and job opportunities in modern labour market, as well as urbanization have affected the age at first marriage among Malaysian women. This study is aimed at providing a better understanding of how social and economic changes affect the various sub-groups of Malaysian women, as Malaysia is a multi-ethnic country with diverse cultural background. It is also interesting to examine

socio-economic factors interact with cultural factors in influencing age at marriage among the three main ethnic groups in Peninsular Malaysia.

Religion is also an important factor to be studied even though in Malaysia, it is more closely related to the respective ethnic group. All Malays are Muslims, most Chinese are Buddhists or Taoists, and most Indians are Hindus. There are a small number of Chinese and Indian Christians in this country.

Age at marriage has been found to vary with childhood and current place of residence. Inter-sectoral and regional diversities in terms of level of development, culture, and political beliefs would be important determinants in age at first marriage. Cultural practices are not quite the same across the northern, eastern, central and southern regions, even within the same ethnic group. Childhood place of residence is important in the life of a person, as it is the place where thinking is shaped through life experience. Growing up in a rural area might have different effects on the thinking of any woman in particular, as compared to growing up in the bright lights of the city. The slow pace of the rural life, which lacks many education and job opportunities for women, tends to preserve traditional values and practices. They tend to marry early and carrying on working in the farms or doing small family trading without having much education. The environmental factors in the urban areas, on the other hand, create a more competitive lifestyle for anybody who grows up in it. Striving to have better career and financial status as well as higher education tend to delay marriage for the urban women.

Characteristic of husband such as his education will be examined to provide information on its effect on the wife's age at first marriage. Other variables, which were to be important determinants in previous studies on age at first marriage such as man's and her father's wages, proxy to family background such as parents' occupations, schooling and family inheritances are omitted in this study due to availability of data.

ESTIMATION METHODS AND DATA ANALYSIS

Age at first marriage is measured from the date of the registered marriage. Currently, in Malaysia, marriages can be performed officially either under customary or statutory law. All Muslims are married under the Muslim statutory law and non-Muslims are married either under customary law or statutory law. The statutory laws are divided into three categories, namely, the Registration of marriages, the Civil Marriage Ordinance, and the Christian Marriage ordinance. However, for the non-Muslims the law on marriage (marriage and divorce) Act 1976 was only enforced on the 1st of March 1982. Prior to that customary marriages were recognized and considered valid. Couples who are living together are not considered legally married under any of these laws. Therefore, they are not counted as being married.

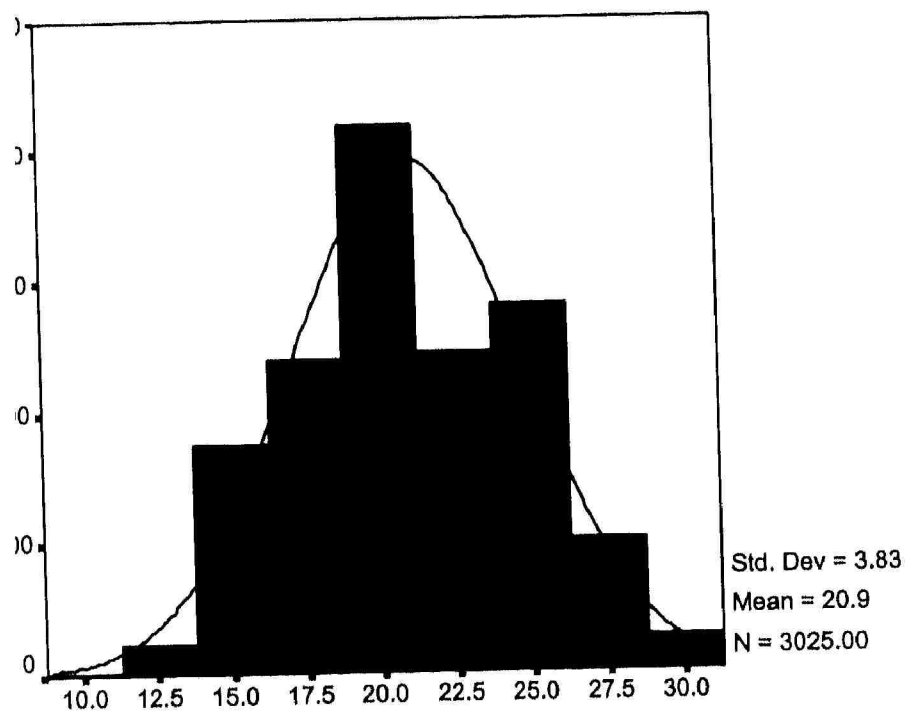
Univariate analysis is done on the age at first marriage, the dependent variable, to examine its distribution and to ascertain if it conforms to the normality assumptions. Table 2.4 and Figure 2.1 show that the distribution of age at first marriage is

nately normal with skewness of 0.08. Hence, there is no need for data
 nation, or the exclusion of cases with extreme values.

4: Statistics of the Age at First Marriage for Ever-Married Women

Size, n	Valid	3025
	Missing	0
		20.9
		21.0
ss		0.081
or of Skewness		0.045
s		-0.730
d Error of Kurtosis		0.089

2.1: Histogram and normal curve on the age at first marriage distribution



Tables 2.5 and 2.6 show the frequency distributions for the birth and marriage respectively. It can be observed that both are rather evenly distributed. Note that the earliest and latest intervals for marriage cohorts (i.e. before 1971 and 1986-1995) are wider to even out the distribution.

Table 2.5: Distribution of birth cohorts

	Frequency	Percent	Valid Percent	Cumulative Percent
Born before 1951	664	22.0	22.0	22.0
1951 – 1955	770	25.5	25.5	47.5
1956 – 1960	880	29.1	29.1	76.5
1961 – 1965	711	23.5	23.5	100.0
	3025	100.0	100.0	

Table 2.6: Distribution of marriage cohorts

	Frequency	Percent	Valid Percent	Cumulative Percent
Married before 1971	605	20.0	20.0	20.0
1971 – 1975	617	20.4	20.4	40.4
1976 – 1980	741	24.5	24.5	64.9
1981 – 1985	666	22.0	22.0	87.0
1986 – 1995	394	13.0	13.0	100.0
Total	3023	99.9	100.0	
Missing	2	0.1		
	3025	100.0		

ivariate analyses are performed to examine the relationship between age at marriage and selected background variables according to birth and marriage cohorts. ANOVA is performed to evaluate if there are significant differences in the mean age at marriage across groups. Post-hoc test will be run by using Scheffe's test to examine differences in the mean age at first marriage.

At the multivariate level, multiple regression analysis and multiple classification analysis are used to estimate models that relate age at first marriage to all the independent variables. The explanatory variables tested are respondent's ethnicity, education levels, childhood residential background, pre-marital and current job status, spouse's education levels and current job status and age difference between the spouses. Birth cohort and birth cohorts are also included in the multivariate analysis. Being aware of multicollinearity problems that might be faced if ethnicity and religion were put in the same model, a separate model was estimated with religion included and ethnicity excluded with other explanatory variables and ethnicity excluded.

The effect of each variable on age at first marriage is assessed net of the effects of other variables in the models. The regression models also allow for an analysis of the joint effects of several variables on age at marriage. For all the dichotomized variables used the variable assigned a value of zero will be used as the reference category.

marital status and current work status are dichotomized into two categories. Code “1” for those who were working on a paid job, which includes working as an employer, employee or own account worker, and “0” for those who were not working or family workers.

Current place of residence and current place of residence has been recoded into a dummy variable with “1” for urban areas and “0” for rural areas. The gazetted town with more than 10,000 populations are considered urban while all other areas are considered as rural areas.

The respondent's ethnicity namely Malay, Chinese and Indians are the primary variable. In this case the Malay is used as the reference category. Similarly, Islam is used as the reference category with respect to other main religions Christian, Buddha and Hindu.

Husband and wife's education levels are entered as dummy variables in the multinomial classification analysis. The educational level for respondent and spouse is defined as follows:

Primary formal schooling

Primary - referring to those with 1-6 years of education

Secondary - referring to those with 7-11 years of education

Tertiary - referring to those with 12 years or more of education

Primary formal schooling is used as the reference category.

sely, in the regression analysis, the education levels are entered into the model in ratio scale, which is by the number of years spent at school. The shows how the levels of education relate to the number of years.

Levels of education	Years
mal education/Kindergarten	0
rd 1	1
rd 2	2
rd 3	3
rd 4	4
rd 5	5
rd 6	6
ve (Intermediate)	7
1	8
2	9
3	10
4	11
5	12
6 (Lower)	13
6 (Upper)	14
ersity/Colleges	15

differences between spouses are measured by taking the differences between the age from the husband's age. If the wife is older than the husband, then the age difference will be negative. In the regression analysis, the age difference is entered in the ratio scale, which is in the number of years. In the multiple classification the age differences are divided into four categories namely, negative values (older than husband); 0 to 5 years, 6 to 10 years and more than 10 years. The age difference of less than zero is used as the reference category.

For the birth and marriage cohorts, the earliest cohort in each case is used as the reference category.

regression is conducted to analyze the relationship between the propensity to be age 21 and the independent variables listed earlier. Age 21 was chosen, as provide a rather good sample split. This age cut-off is used as it is the age at which a citizen is eligible for voting. The likelihood of marrying between ages 18 and 24 and the factors affecting them will also be examined.