

Fertility Differentials in West Malaysia

One of the important aspects of any study of fertility is that of fertility differences among population groups distinguished by socio-economic and other characteristics. Study of fertility levels and trends are also extremely important, but they are usually riddled with several problems of data, and so on, that it is quite difficult to put much reliance on the findings. The study of differential fertility is not so much encumbered and does not pose as many problems as to be intractable even in the so-called statistically developing countries. In any case, studies of differential fertility are expected to be useful in the assessment of factors and prospects for future changes in the level of fertility. In the context of a rapidly growing population, such information is invaluable in the planning of action programmes relating to fertility control.

The present study has more interest and importance than what is apparent. In this study, for example, three of the major ethnic groups of Asia - Chinese, Indian and Indonesian, constituting about half of the Asian population mass and a quarter of the world population, are covered. Such detailed data of a more or less acceptable standard on these three races in respect of fertility are difficult to come by and if available, may not be of sufficient accuracy or detail as to be useful for predictive purposes. The census of Malaya 1957² provides the requisite data by race and socio-economic diversification as to be of utmost value in testing hypotheses concerning fertility behaviour and performance and in drawing inferences regarding fertility differentials and prospects.

Even though it may be questioned that the races, Chinese, Indian and Indonesian, in Malaya may not be truly representative of the inhabitants of China, India and Indonesia, still it gives us a clue as to what could be expected from the behaviour of these races if the socio-economic variables operate as they do in the place of their settlement, Malaysia. The study also to a certain extent dispels any doubts one may have regarding the prospects for fertility declines in the tradition-bound societies of these three races. The behaviour of the races in the given socio-economic environments is in tune with the experience of advanced countries in their evolution from a

traditionally high fertility to the present low fertility society. No doubt, these three races have been migrants from their countries of origin and may thus be construed as different from the stock in so far as their attitudes and aspirations go. But, it is well known that in spite of several decades of separation from their motherland, they still stick to their religious and other beliefs and practices, excepting those that are modified by socio-economic variables like education, employment, urbanisation etc.

However, migration from the three main sources represented in Malaysia has not been uniformly spread from these sources and as a matter of fact most of the Chinese and Indian migrants have been from the southernmost parts of their respective countries. Even the Indonesians who migrated to Malaysia came mainly from specific areas of Indonesia. This is an important lacuna of this study which we have to keep in view while drawing conclusions.

All the same, one can legitimately infer that once a favourable socio-economic situation is assured, fertility differentials may be anticipated to appear because of several factors, like postponement of marriage^ changes in the frequency of remarriage and divorce, postponement of conception, separation through migration, employment etc.

In the 1957 census of Malaya (now known as West Malaysia), the question on the number of children ever born to women was asked. The data, so collected, were published separately by States only for the three races (Malay, Chinese and India) but no other important cross-tabulations were attempted.

Even though differences in the levels of fertility and population growth have been noted as between the races and for States, detailed analyses on the determinants of such differentials could not be carried out due to lack of necessary cross-tabulations. In addition to answering queries regarding the factors affecting fertility, these additional tabulations could be utilised to draw inferences as to the future course of fertility in the country when certain information on the expected course of industrialisation, urbanisation, spread of education and employment etc. are known or estimated.

With this in view, the Demographic Training and Research Centre, Bombay (now known as the International Institute for Population Studies) at the recommendation of the United Nations Seminar on Evaluation and Utilisation of Census Data in Asia and the Far East held in Bombay in 1960, obtained additional tabulations of fertility characteristics with socio-economic variables on a sample basis. Two ten per cent samples of census cards from five States (Johore, Kedah, Malacca, Selangor and Panang) were drawn, corresponding to those cards with serial numbers ending in digits 3 and 7 and the fertility information and other relevant and available socio-economic data were transferred to punch cards and these cards transported to Bombay.

The data on the number of children ever born were cross-tabulated by State, ethnic group, educational level, community size and labour force status of the women. Among the races, which from now on, we shall denote the ethnic groups as races as done in the Malayan census, tabulations are made among the various sub-races. Information on women's work status was limited to whether they were in the labour force or not. Educational level was noted down in six groups and community size in five groups as given below:

Educational Level

Never attended school
One, two or three years of schooling
Four, five or six years of schooling
Seven, eight or nine years of schooling
Ten or eleven years of schooling
More than eleven years of schooling

Community Size

Population 100,000 and above
Population below 100,000 but above 50,000
Population below 50,000 but above 15,000
Population below 15,000 but above 2,000
Population below 2,000

Several cross-tabulations are made of the fertility characteristic with the above socio-economic variables and a few techniques are applied to arrive at the evidence of fertility differentials and to quantify the magnitudes of such differentials, if any. The analyses are so selected that the standard errors in the estimates are not larger than what is permissible for valid estimates and inference. Only one of the methods which were tried has been reported here as the inferences based on most of the other methods are similar. Also, only certain broader classifications of the socio-economic variables have been utilised with a view not only to reduce computational work but even more to be able to impute logical interpretations and meanings to the finding.

From the sampling method described above it is obvious that all the selected States are in the west coast of West Malaysia and have special characteristics very different from those of the other States of the country. Excepting Kedah, all the States are, in what Caldwell calls as 'New Malayas'.¹ Again, the capital city and some of the largest cities are in the selected States. Kaula Lumpur is in Selangor, and Penang and Malacca have large urban and Chinese settlements. Selangor has a mixed population. Kedah is the traditional homeland of the rice producing Malaya having a predominantly Malay population.

Even though this imposes a serious constraint on the study in terms of generalisations and interpretations valid for the country as a whole, the predominant consideration in the selection of the States was to ensure adequate representation to the minority Indian group which constituted only a small percentage of the population of the country. Since around 100 women are needed in each cell of age and socio-economic classification in order to estimate the average parity within reasonable tolerance limits and make valid inferences thereon and since this could be ensured only if a sufficient number of each minority group is included in the sample, the sampling had to be on a systematic fashion whereby those states where a sizeable population of the group existed in the census period are included. Thus, even though the findings of this study could not be extended to apply to the entire country, they have predictive value in so far as the race and socio-economic characteristics are considered.

The sampling scheme actually produced sufficient number of observations in each of the cells of the cross-tabulations made, thus ensuring valid estimation and inferences. The method used in this paper is based on the standardised average parities, because it pools the several cells in the data in a linear fashion, assures not only that normality is attained but also that some of the heterogeneity is wiped off and sampling errors considerably reduced so that the confidence on the conclusions could be more than the 95 or 99 per cent usually aimed at.

II

Several methods and techniques of analysis have been applied³ to delineate the fertility differentials between various socio-economic and racial groups and to quantify the observed

differentials, but in this paper only one of the techniques of analysis based on the standardised average parity is utilised, as the findings based on the other methods are very similar. The concept of a standardised average parity is very simple and the standard population in each case is indicated in the table headings to make these tabulations self-explanatory.

State Differentials : The standardised average parities by race and State as given in Table 1 show that Malacca has more or less the highest fertility among all races and Penang the lowest. The Chinese show the lowest fertility, but the pattern among the Malays and Indians is not very clear. The Chinese have a 5 to 33 percent lower fertility than the Malays and a 10 to 30 per cent lower fertility than the Indians.

Table 1. Standardised average parity by race within State
(Standard population : Malay women in the age group 15-44 years)

State	Race				
	Malay	Chinese	Indian		
	x	X_S	x	X_S	x
Johore	3.16	2.75	2.31	3.07	3.26
Kedah	2.81	2.68	2.48	3.16	3.28
Selangor	2.99	2.27	2.19	2.96	3.02
Malacca	3.16	2.93	2.69	3.21	3.14
Penang	2.81	2.30	2.17	2.82	2.80

Race Differentials: The standardised average parities by race, irrespective of states, show that Chinese indeed do have a much lower fertility than the other two races, but one cannot conclude exactly whether the Indians have a higher or lower fertility than the Malays.

Actually, the detailed data show that Indian fertility is higher than Malay fertility at the younger ages but Malay fertility is higher than Indian fertility at older ages and this reversal brings in the uncertainty regarding conclusions about the overall differentials between Malays and Indians.

Some of the above State and race differentials in fertility could be due to socio-economic factors. The labour force status of woman, educational status and size class of the community where they are resident may be some of the real factors which may be impinging on fertility performance. Women who have to work outside their homes usually cannot marry early, they usually go in for higher education, their attitudes towards child bearing and rearing are different from those of their sisters who are illiterate, who are tied down by tradition and custom and whose world is their home. Urbanisation and industrialisation bring in the percolation of ideas and knowledge of modern methods of birth control and those who chance to live in large population agglomerations, towns and cities have opportunities for planning their families and may perhaps even sometimes be forced by housing and other socio-economic considerations

to limit their family size within marriage or postpone their marriage. Thus some of the socio-economic factors act as catalysts in the process of family limitation and fertility control either directly or indirectly.

III

Labour Force Status Defferentials: Unfortunately, the only information on the labour force Status of women available for this study is whether a woman is in the labour force or not. The actual activity; the type of activity, the intensity of the activity, the income and benefits from employment and so on are not available, so much so that there is no way of distinguishing between paid full time activity in a factory type of job and ad hoc part-time, spare time, family type activities on family farms or in home enterprises which may not require women to go out of her home environment, leaving children to perform the chores.

In addition to the above limitation, all sorts of persons may be reported as being in the labour force and quite a few who should legitimately be included may be excluded. It is also possible, especially in the case of women, that those who are not in the labour force may include a sizeable number of women in urban areas whose husbands may be in a better economic situation than their sisters who may be in the labour force. Again, the labour force may include marginal and similar other types of workers whose affiliation to the labour market is tenuous. Thus, the labour force status, as measured by the fact of the woman being in or out of work, may not be a direct measure of the level of living of the population or of the amount of time the woman is away from her children and family on account of work and hence may have only marginal influence on family and fertility in quite a large number of cases.

Tables 2 and 3 giving respectively the standardised average parities for the five States and three races by labour force status, show that in all States, women in the labour force have a consistently lower average than the others; the largest difference being 20% in Penang and the second largest 15% in Selangor, and it is negligible in Kedah. The highest average occurs in Malacca for women in the labour force and even for the other group and the lowest is in Panang. As noted earlier, the Chinese have the lowest average for women in the labour force and Indians have the lowest for women not in the labour force. But, whereas Indians have the highest figure for women in the labour force, the Malays take this position in the case of women not in the labour force. The Chinese have an average of about 50% less than that of the Malays and 30% less than that of the Indians among women in the labour force and only 15% lower than the Malays and actually 2% higher than the Indians among women in the other group.

Table 2 : Standardised average parity by labour force status within State
(Standard population : women not in the labour force in the age group 15-44 years)

State	Not in the labour force	In the labour force	
	X	X_s	X
Johore	2.88	2.57	2.79
Kedah	2.67	2.66	3.01
Selangor	2.86	2.41	2.35
Malacca	3.02	2.70	2.82
Penang	2.49	1.92	2.00

**Table 3 : Standardised average parity by race within labour force status groups
(Standard population : Malay women in the age group 15-44 years)**

Labour force status	Race				
	Malay	Chinese	Indian		
	X	X_S	X	X_S	X
In labour force	3.06	2.42	1.84	3.42	3.29
Not in labour force	2.96	2.82	2.51	2.75	2.82

The standardised averages for Malay, Chinese and Indian women in the labour force with respect to women of the corresponding race not in the labour force are respectively 2.69, 2.05 and 3.10.

The Chinese have the largest fall in fertility as between the two labour force statuses and the Indians show an opposite trend. This reversal of the trend among the Indians is intriguing. Possibly it is due to the comparatively low social and economic position of the Indian estate labour. Incidentally, most of the Indian women in the labour force are in the estates and their work does not take them away from their homes nor does it demand high academic or technical qualifications. Moreover, child bearing and rearing are not as expensive and affecting them economically as for the others due to several benefits they enjoy as estate labour. Again, for women not in the labour force who are mostly in urban areas, the husbands may be in a better economic position and they may be better educated as well. The available statistics indicate that this indeed is the case. Thus we see that at least for the Indians the differential fertility patterns are not according to the expected ones. Hence we have to look for other factors which may account for the differentials.

IV

Educational Differentials : Having noted that the labour force status of women explain only a part of the fertility differentials by race and that they are some contradictory findings as well, let us now analyse the data by the educational level of women. This may also unravel some more of the mechanisms underlying the phenomenon of fertility performance of women.

As already indicated, the educational level has been obtained through information on the number of schooling undergone by women. This information is not as specific as desired; firstly the number of years of schooling is not a direct measure of the level of education or knowledge attained, and secondly, especially in the case of women with a larger number of years of schooling, all types of persons with varying educational qualifications may be included together, and hence, the group may not be homogeneous but will actually be heterogeneous. Repeaters may be considered as equivalent to those who have had an unbroken progress in education with the same number of years of schooling. Again, in the eastern societies, there is the problem of women being tutored privately at home without any formal school attendance.

Even with all these drawbacks, we can draw some inferences from the data so obtained, because we can at least consider that a majority of women with no formal schooling are illiterate and belong to the lowest rung in the hierarchy and those with more than seven years of schooling belong to a group who may be expected to be more aware of the problems of child bearing and rearing.

Tables 4, 5, 6 and 7 clearly show that fertility declines as the educational level increases for all races and most States. The Indians have the highest fertility and the Chinese the lowest at all levels of schooling. All races show 80 to 85% fall in fertility as we move from the lowest to the highest schooling level. All States, however, show a fall of around 30% in fertility from the lowest to the highest schooling level. Interestingly., when we standardize the averages with women of corresponding race with no schooling, the differentials are reduced and in the case of Indians there is even a slight reversal.

Even though in both the labour force categories, there is a more or less consistent fall in fertility by educational level, the fall is more pronounced in the case of those in the labour force: 80% versus 5 to 30% for those not in the labour force. The women in the labour force have a consistently lower average than the other group and the gap between them widens as educational level increases: from 6% at the lowest to 50% at the highest educational level.

Within both the labour force status groups, there is a more or less consistent fall in fertility in all the three races, from the lowest to highest educational level. In the case of women in the labour force, the Indians seem to have the highest fertility and in the case of women not in the labour force, the Malays seem to have the highest fertility. In both cases, Chinese seem to have the lowest fertility. In the case of women in the labour force, the Malays show a 50%, the Chinese a 45% and the Indians a 55% fall ; whereas in the case of women not in the labour force, the declines are only 7% among the Malays, 30% among the Chinese and around 10% among the Indians. Malays and Chinese in the labour force have a lower fertility than those not in the labour force at all levels of education ; but among the Indians this is true only among the highest educational levels. Among all the other educational levels, including those with no schooling, the Indian women in the labour force have a higher fertility than those not in the labour force. This again confirms our observation that for the Indian women in the labour force who are mostly in the estates and also have very little education, training or qualification, the fertility is indeed high.

Table 4 : Standardised average parity by educational status for States

(Standard population : women with no schooling in the age group 15-44 years)

State	Number of years of schooling				
	None X	One to six X_S		Seven or more X	
Johore	3.53	3.30	1.87	2.56	1.11
Kedah	3.12	3.24	1.79	2.27	0.99
Selangor	3.41	3.21	2.03	2.23	1.18
Malacca	3.98	3.58	2.08	2.59	1.08
Penang	3.05	2.91	2.32	2.02	0.99

**Table 5 : Standardised average parity by race within educational status groups
(Standard population : Malay women in the age group 15-44 years)**

No. of years of schooling	Race				
	X	Chinese X_S	X	X_S	Indian X
None	3.47	3.07	3.09	3.45	3.54
One to six	2.12	1.55	1.65	2.33	2.56
Seven or more	0.82	0.46	1.03	0.85	1.79

(Standard population : Women with no schooling of corresponding race)

One to six 3.36

Table 7 : Standardised average parities by race, number of years of schooling and labour force status (Standard population—see foot notes)

Race	No schooling		One to six years schooling		Seven or more years schooling		
	X_S	X	X_S	X	X_S	X	
In labour force							
Malay	1	—	3.35	3.00	1.88	1.79	0.75
	3	3.19	—	1.75	—	0.40	—
Chinese	1	—	2.70	2.08	0.94	1.42	0.77
	2	2.97	—	2.31	—	1.51	—
	3	2.95	—	1.33	—	0.65	—
Indian	1	—	3.61	3.69	2.46	1.75	1.31
	2	3.66	—	3.73	—	1.74	—
	3	3.66	—	2.76	—	1.09	—
Not in labour force							
Malay	—	3.46	3.39	2.13	3.24	0.83	
Chinese	1	—	3.27	3.06	1.93	2.29	1.03
	2	3.10	—	2.89	—	2.14	—
Indian	1	—	3.40	3.40	2.51	3.11	1.92
	2	3.22	—	3.26	—	2.88	—

- Foot notes :
1. Standard population : women with no schooling of corresponding race
 2. Standard population : Malay women aged 15-44 years with no schooling
 3. Standard population : women not in labour force aged 15-44 years.

Community size differentials : As mentioned earlier, the size of the population cluster in which the people live, brings in several factors affecting their life and habits; so much so that the most important variable—fertility—gets modified in several subtle and some times not so subtle ways. This may be due to postponement of marriage, abstention within marriage or practice of contraception, separation due to migration, constant movements or just plain economic or social causes like lack of space or privacy, economic stringency and so on.

Tables 8 to 12 clearly indicate the fertility differentials in various population size clusters. For example, there is a consistent fall in fertility as we pass from the smallest population cluster to the largest. Penang with a 27% fall leads and all the other States have a 18 to 11% fall. Malacca has more or less the highest fertility in all strata and Penang, to a large extent, has the lowest. In all the strata, the Indians have generally a higher fertility and the Chinese the lowest. The difference in fertility between the Indians on the one hand and the Chinese on the other shows that it is highest in the most urbanised areas and negligible in the rural and even semi-urban areas. There is a consistent fall in fertility for all the races as we move from the rural to the urban areas ; the Chinese show the maximum fall of 31% and the Indian, the least of 16%.

Table 8 : Standardised average parity by community size within state (Standard population: women aged 15-44 years in community size of less than 2,000 population)

Community size State	Less than 2,000		2,000 to 50,000		Over 50,000	
	X	X_s	X	X_s	X	X_s
Johore	3.06	2.74	2.49	2.50	2.32	2.32
Kedah	3.11	2.60	2.53	2.51	2.49	2.49
Selangor	2.84	2.55	2.51	2.32	2.30	2.30
Malacca	3.16	2.74	2.45	2.56	2.46	2.46
Penang	2.86	2.53	2.44	2.08	2.06	2.06

Table 9 : Standardised average parity by race within community size groups (Standard population : Malay women aged 15-44 years)

Community size	Race					
	Malay		Chinese		Indian	
	X_s	X	X_s	X	X_s	X
Less than 2,000	—	3.03	2.88	2.64	3.17	3.28
Between 2,000 to 50,000	—	2.81	2.52	2.35	2.81	2.90
Over 50,000	—	2.58	2.00	2.06	2.67	2.67

(Standard population : women of corresponding race in community size group of less than 2,000)

Between 2,000 to 50,000	2.88	—	2.38	—	2.97	—
Over 50,000	2.64	—	1.91	—	2.82	—

Both the labour force status categories show a definite trend in fertility by population size cluster; but the decline is more among those in the labour force than among the others: 56% versus 23% for those not in the labour force. There does not seem to be much of a differential between the two labour force status groups in the rural areas, but it goes on increasing as the population size of the community increases and it reaches a maximum of 42% at the largest population cluster size.

Table 10 : Standardised average parity by community size cross-classified with labour force status (Standard population : Women aged 15-44 years in community size group of less than 2,000)

Labour force status	Community Size				
	Less than 2,000 X	Between X_S	2,000 to 50,000 X	Over 50,000 X_S	X
In labour force	3.06	2.40	2.04	1.37	1.07
Not in labour force	3.07	2.68	2.64	2.36	2.46

Table 11 : Standardised average parity by labour force status within community size groups (Standard population : women aged 15-44 years in labour force)

Community size	Labour force status		
	In labour force X	X_S	Not in labour force X
Less than 2,000	3.06	3.36	3.00
Between 2,000 to 50,000	2.06	3.25	2.64
Over 50,000	1.07	2.21	2.46

**Table 12 : Standardised average parities by race, labour force status and community size
(Standard population : see foot notes)**

		COMMUNITY SIZE					
Race		Less than 2,000		Between 20,000-50,000		Over 50,000	
		X_S	X	X_S	X	X_S	X
(For women in the labour force)							
Malay	a.	—	3.15	2.47	2.48	1.66	1.59
	c.	2.76	—	2.11	—	1.50	—
	b.	3.05	—	2.55	—	1.33	—
Chinese	a.	—	2.41	2.00	1.93	1.04	0.94
	b.	3.05	—	2.55	—	1.33	—
	c.	2.48	—	2.04	—	1.20	—
Indian	a.	—	3.23	2.75	3.05	2.10	2.17
	b.	3.39	—	2.90	—	2.24	—
	c.	3.13	—	2.57	—	1.92	—
(For women not in the labour force)							
Malay	a.	—	3.02	2.86	2.86	2.66	2.68
Chinese	a.	—	2.74	2.46	2.53	2.11	2.33
	b.	2.82	—	2.62	—	2.18	—
Indian	a.	—	3.03	2.93	2.87	2.81	2.41
	b.	2.89	—	2.82	—	2.71	—

- Foot notes : a. Standard population : women in population cluster size of less than 2,000 aged 15-44 years
b. Standard population : Malay women in population cluster size of less than 2,000 aged 15-44 years.
c. Standard population : women not in the labour force aged 15-44 years.

Even when different standard populations are used for standardisation, the differentials between the two labour force status groups with respect to population cluster sizes did not materially change but became more clear and accentuated.

In the case of both the labour force groups, the Chinese have more or less, the lowest fertility and in the case of all the three races, there is a consistent fall in fertility as we proceed from the smallest to the largest community size group. The highest fertility is shown by the Indians in both the labour force status groups; we have already noted that the Indians are in a peculiar situation whereby the fertility of their women in the labour force is higher than of women not in the labour force. When we standardised the averages in various population size clusters for different races in the case of women in the labour force with the distribution of women not in the labour force, we find that the averages in the labour force groups are less than those in the other in all community size groups and races, excepting that in the case of Indians the smallest population cluster did not show much difference between the two labour force categories.

This again clearly indicates that women in the labour force among the Indians are mostly in the rural areas and are perhaps working in agricultural operations or in estates. Whereas more than 90% of Indian women in the labour force are in rural areas, only less than a third of them are not in the labour force and are staying in rural areas. In the case of women in the labour force, the decline in fertility from the smallest to the largest population cluster was 50% among Malays, 60% among the Chinese and 33% among the Indians. In the other groups, the declines were much less ; 12% among the Malays, 20% among the Chinese and only 6% among the Indians. The Chinese versus Indian comparisons show the largest differential in most population clusters.