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POVERTY IN PENINSULAR MALAYSIA: ITS DIMENSION AND DIFFERENTIAL PREVALENCE

The University of Michigan PH.D. 1983

POVERTY IN PENINSULAR MALAYSIA:

ITS DIMENSION AND DIFFERENTIAL PREVALENCE

by
Salleh bin Ismail

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Population Planning)
in The University of Michigan
1983

Doctoral Committee:

Professor Yuzuru J. Takeshita, Chairman
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Untok isteriku

Husna Hj. Sulaiman

dan cahaya mataku

Mohd. Hafidz, Sherizan, Sheriza dan Sherina

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Since independence in 1957 Malaysia has experienced substantial economic growth. Relative to most less developed countries, Malaysia is quite highly developed - at least, economically speaking. The rapid economic growth that Malaysia has enjoyed, however, is not without problems, the most important of which is the inequality in the distribution of wealth among its people. The income gap between the have and the have-not, which in Malaysia is reflected in the income differences particularly between the rural and the urban residents and the ethnic groups, has been wide and still remains so.

Resulting from the long term prevalence of unequal distribution of wealth is the persistence of poverty among a sizeable segment of Malaysia's population - primarily the Malays. This research grows out of a concern for this disparity and intends to enquire into why the poor in Peninsular Malaysia are concentrated in one ethnic group. This study aims to discover factors that are associated with being poor in Malaysia with the hope that the findings might be helpful in suggesting ways to remove the disparity as well as ultimately eradicating poverty altogether. At a

more operational level, this research aims at quantification of the causal connection between ethnicity and poverty, or even more specifically between being Malay and being poor.

This study will be guided by two alternative theories: the structural and traditional theories of poverty. Basically, the structural theory attributes being poor as the making of other people; it postulates the existence of barriers in the social system that keep some groups of people from climbing up the socioeconomic ladder, thus sustaining the vicious cycle of being poor from one generation to the next. The traditional theory of poverty, on the other hand, argues that people are poor because they adhere to a traditional way of life, which in itself is assumed to be poverty-inducing in a modernizing society. The relevance of these alternative theories is that they imply different strategies for eradicating poverty.

Three types of variables are central to this research: socioeconomic background characteristics, traditional values, and demographic status to predict or explain the variability found in poverty. The importance of these variables are based on the arguments that: (1) people are poor because of their low SES conditions - poor education, farm occupation and residence in rural areas - factors that are generally regarded as causing and sustaining poverty in a developing economy; (2) it is the traditional values that make people poor, values like fatalism, short-term gratification and reliance on children and other family

members for financial support in old age - factors that are regarded as perpetuating poverty and, (3) poor people tend to have many children or big family size that tend to increase the dependency ratio and consumption, and therefore are unable to escape the vicious cycle of a poverty trap.

This study will focus on the ethnic differences in poverty as ethnicity appears to be most strongly related to poverty status in Malaysia. Malay poverty in particular demands critical attention because this ethnic group constitutes by far the largest proportion of the poor in the country. Inevitably, of course, the Malay poor must be studied in relation to the Chinese and Indians who are poor to ferret out the factors that seem to lead to more of the Malays being poor than the other groups of people in Malaysia.

This research has important policy implications. The findings from this research should be useful to the government of Malaysia in implementing the "New Economic Policy"[1], which aims, among other things, to reduce and finally eradicate poverty.

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[1]For details, see Third Malaysia Plan, 1976-1980, p.1-10

Research Objectives

The main aim of this research is to understand the nature of the relationship of poverty to ethnicity. The central question is how much of being poor can be attributed to being Malay? Within this broad context, the specific objectives are:

(1) To define poverty. A composite definition will be derived based on three dimensions of living for which data happen to be available: household per capita income, household facilities, and household possessions.

(2) To formulate an index of poverty and affluence, or level of living, to serve as the dependent variable of this study.

(3) To look into the relationship between ethnicity, SES, traditional values, demographic status and poverty at the bivariate and trivariate levels in order to get a first look at the magnitude of ethnic effect on poverty when each of the other factors is taken into account one at a time.

(4) To undertake a multivariate analysis in order to: (a)determine the pure ethnic effect and the effect of structural barriers on poverty once all the other predictors are taken into account at the same time; (b) identify the interaction effects between

ethnicity and some of the other predictors on poverty; (c) quantify the amount of variance in poverty explained by ethnicity; and (d) draw a profile as to who are poor in Peninsular Malaysia by the categories of the various predictor variables.

(5) To develop and apply a recursive path model for each ethnic group and estimate the direct and indirect effects of the various predictors on the level of living in each group. The aim is to identify the set of predictors that best account for the variance in the level of living within and across each group.

The Plan of Analysis and Presentation

In Chapter II the reserach literature on poverty is reviewed, following a brief discussion of socio-cultural, political and demographic conditions of the country. An attempt is made to pinpoint the poor in relation to their geographical location, education, occupation and ethnicity on the basis of available sources before presenting a discussion of the various theories of poverty and how they are to provide a framework for this research.

Chapter III will be organized in two parts. The first part will briefly present the data to be used in this study and discuss the limitations they pose for the purpose of this study. The second part will introduce the conceptual

framework of this study, the methodology to be employed, and the appropriate statistical techniques to be applied.

In Chapter IV, we present the statistical outcomes of the bivariate and trivariate analysis. The aim of this analysis is to provide us an initial look at the status of poverty in Malaysia.

Chapter V presents the results of the Multiple Classification Analysis applied to our data. In this analysis we search for the pure Malay effect and the effect of structural barriers on being poor and rich.

In Chapter VI, we attempt a causal analysis with the application of path analysis. Our aim is to demonstrate the direct and the indirect effects of the predictor variables on the level of living.

Chapter VII summarizes the results of this investigation. Efforts will be made to link the findings of this research to the country's efforts to eradicate poverty and to identify the kinds of further reserach needed in this area.

CHAPTER II

REVIEW OF RESEARCH LITERATURE

This chapter will be organized in three parts. The first part will provide a brief description of the socio-cultural, political and demographic conditions in the country. The second part summarizes the state of the poor in Malaysia in terms of their geographical location (region and rural-urban), occupation, education, and ethnicity based on available sources. Lastly, the chapter will review some of the theories of poverty and synthesize them into a framework to be used for this study.

The Setting of the Study

Malaysia is situated in Southeast Asia. It is made up of two separate land masses: Peninsular Malaysia (occupying the Malay Peninsula, separated from Thailand by the Isthmus of Kra) and Sabah and Sarawak on the Island of Borneo. Peninsular Malaysia (sometimes referred to as West Malaysia) is comprised of the west coast states of Perlis, Kedah, Penang, Perak, Selangor, Negeri Sembilan, Melaka, and Johor and the east coast states of Kelantan, Trengganu, and Pahang. These 11 states occupy 40 per cent of the total land area of Malaysia but contain 83 per cent of the total

population. The states of Sabah and Sarawak in Borneo (sometimes referred to as East Malaysia) are separated from Peninsular Malaysia by the South China Sea and constitute 60 per cent of the total land area of the country but only 17 per cent of the total population.

The climatic conditions that prevail in Malaysia have much to do with the character of the Malaysian economy, especially in the agricultural sector. The northeast monsoon that begins in November and lasts through February brings rain and flood to the east coasts of Peninsular Malaysia, disrupting both the agricultural and the fishing activities that are the mainstay of the economy in the area - not unrelated to the fact that a large majority of the people in the area are poor. The southwest monsoon stretches from June to October similarly affecting the people and their economy in the northern part of the peninsula.

The three major ethnic groups in Malaysia are the Malays, the Chinese and the Indians. According to the estimates provided in The Fourth Malaysia Plan, 53.9 per cent of the total population of Peninsular Malaysia in 1980 (6,384,000) were Malays, 34.9 per cent (4,146,000) Chinese, and 10.5 per cent (1,239,000) Indians and 0.7 per cent classified as "Others".

The Malays are basically rural. Great majority of them are engaged in agricultural activities. The better educated are in governmental occupations and to a very small extent

in commerce. Majority of the local businessmen are Chinese. They mainly reside in urban areas. The small percentage of Chinese found in the rural areas are also engaged in business enterprises, although some are in farming. The Indians are mixed in terms of geographical location and occupation. Many Indians are found in the rural areas working on rubber and oil palm plantations as laborers. In the rural areas we can also find Indians engaged in retail businessess. Even though small in number as compared to the Chinese, the Indians are also actively involved in business activities in the urban areas.

Since the country gained independence from years of British colonialism the political power of the country has remained in the hands of the Malays while the economic power continues to be in the hands of the non-Malays, particularly the Chinese.

Much has been said about the present social stratification system in the country as being due to the colonial policies of the British (Mahathir Mohamad,1970; Fisk,1980; S. Husin Ali,1981), the most important of which was to keep the people segregrated along ethnic lines. The residual of this policy is reflected in the daily life of the Malaysians today. For example, residential areas are very much ethnically demarcated, schools ethnically based and political parties formed along communal lines. As a result, there has not been much opportunity for people from different ethnic groups to communicate with each other, much

less, understand each other. As time went on inter-ethnic conflicts and tensions began to be felt. And the worst came in 1969 when a racial riot rocked the very foundation of the young nation. One important underlying condition that is thought to have given rise to the riot was the economic imbalance that had existed between the ethnic groups. This interpretation served as an impetus for the government to formulate in 1970 the "New Economic Policy" which aims to promote national unity through the eradication of poverty among all the ethnic groups. This policy also aims at restructuring society such that by 1990 it would not be possible, as it is today, to identify one's ethnic background in terms of his economic activity.

Malaysia's population is young. About 42 per cent is under age 15 while only 4 percent, 65 and over (Nor Laily, et al.,1979), giving rise to a high dependency ratio (involving mostly of youths). Malaysia's annual population growth rate is also high. In 1975, the Department of Statistics estimated it to be 2.5 per cent, based on vital statistics data, while the preliminary population count from 1980 census suggests an annual rate of growth of 2.4[2] percent in the intercensal period, 1970-80.

The high dependency ratio and annual population growth rate are factors that can negate economic growth, at least in the short run. To address this possible adverse effect,

---

[2]Based on an assumption of exponential growth in the intercensal period, or $P_{1980} = P_{1970}e^{10r}$

Malaysia has initially targeted its population growth rate to decline to 2 per cent by 1985.

The State of Poverty

Many observers agree in their assessment that Malaysia since independence has experienced favorable economic growth (Lee,1977; World Bank,1979; Young, Bussink and Hasan, 1980; Fisk,1982). According to a Ministry of Finance report, there was a twofold increase (not accounting for inflation) in average per capita income, from $1,810 (US$754) in 1975 to $3,690 (US$1,680), in just a five-year time period (Economic Report,1980). The same observers note, however, that the overall economic growth that Malaysia has experienced is accompanied by an acute unequal distribution of income. For example, the distribution of income in the rural areas of Malaysia between 1957 and 1970 showed an increasing inequality (ILO,1979), as can be seen in Table 2.1.

Even though there was an increase of 7 percent in the overall monthly income, the real income of the poorest 60 per cent in fact declined and it was worse for the very poor. During this thirteen-year period the monthly real income of the poorest 20 per cent of rural Malaysia fell from 55.8 Malaysian dollars to 32.7. There was a 40 per cent fall in the living standards for the poorest group. The richest by contrast experienced a 20 per cent or more increase in their incomes during this period.

TABLE 2.1

INCOME OF THE RURAL POPULATION OF MALAYSIA BY GROUPS,
(Malaysian dollars per month)
1957-1970

Income groups(%)	1957	1970
0-20	$56	$33
21-40	97	82
41-60	132	130
61-80	189	202
81-100	389	472
Overall	173	185

Source: Adapted from Profile of Poverty, ILO, 1979, p. 35.

Snodgrass reports that in 1957, the top 5 per cent of the households in Malaysia shared 22.1 per cent of the total cash income, slightly more than the bottom 40 per cent shared. Ten years later in 1967-8, the gap was even bigger, with the top 5 per cent of the households getting 26.6 per cent of the total cash income and the bottom 40 percent getting only 4.5 per cent (Lim, 1975).

From the literature, we are able to identify the poor in terms of rural-urban residence, regions of the country, level of education, types of industry in which they are occupied and, most importantly, the ethnic groups to which they belong.

Table 2.2 suggests that Malaysia is still basically a

rural country. In 1980, of the total number of households in the country 66 per cent were found in the rural areas. In the same year, 29.2 per cent or 666,100 out of 2,284,000 households were poor. Of the total rural households, 38 percent or 124,800 were poor. In contrast, only 13 percent or 97,000 of the total urban households (774,400) were poor. Of the total poor households in the country, 85 per cent were from the rural areas, suggesting that being poor in Malaysia is very much a rural phenomenon.

By industry, 63.8 percent of the rural households were involved in agricultural activities in one way or other. Table 2.2 suggests that the probability of being poor is generally higher in the rural, agricultural sector. Except for "Oil palm" and "Other industries", the incidence of poverty in the rest of the households in the agricultural sectors are above the national average of 29 percent. In contrast, and except for households in mining, the incidence of poverty among households in urban areas is very much below the national average. Apart from being rural, poverty is also heavily concentrated in the agricultural sector.

Regionally, the concentration of the poor in Malaysia tends to be in the nothern states, as can be seen in Table 2.3. There are four states that have very high percentage of poverty among their households. Kelantan ranks highest with 59.2 percent of the total households in the state being poor, followed by Kedah, Trengganu and Perlis with the incidence of poverty of 55.1, 51.4 and 48.7 percent,

TABLE 2.2

INCIDENCE OF POVERTY BY INDUSTRY IN THE RURAL AND THE URBAN STRATA OF PENINSULAR MALAYSIA, 1970 AND 1980

Stratum	1970		1980		
	Total hhs. (000)	Total poor hhs. (000)	Total hhs. (00)	Total poor hhs. (000)	Percent poor in 1980
Rural:					
Agriculture	853	582	963	444	46
Rubber small holders	350	226	426	176	41
Oil palm small holders	7	2	25	2	8
Coconut small holders	32	17	34	13	39
Padi farmers	140	123	151	83	55
Other agriculture	138	126	172	111	64
Fishermen	38	28	43	19	45
Estate workers	148	59	113	40	35
Other industries	351	124	546	125	23
Sub-total	1,203	706	1,510	569	38
URBAN:					
Mining	5	2	5	2	33
Manufacturing	84	20	182	24	13
Construction	20	6	34	6	17
Transport & utilities	42	13	85	16	19
Trade & services	251	45	468	49	11
Sub-total	403	86	774	98	13
Total	1,606	792	2,284	666	29

hhs.=households

Source: Fourth Malaysia Plan, 1981-1985, 1981, p.34

TABLE 2.3

MALAYSIA: INCIDENCE OF POVERTY BY STATE, 1976

State	Total households (000)	Total poor households (000)	Incidence of poverty (%)
Johor	270	74	27
Kedah	219	121	55
Kelantan	170	100	59
Melaka	86	25	29
Negeri Sembilan	107	29	27
Pahang	119	38	32
Perak	344	133	39
Pulau Pinang	157	46	30
Selangor	215	46	21
Trengganu	102	52	51
Federal Territory	142	10	7
Peninsular Malaysia	1,961	688	35

Source: Adapted from Fourth Malaysia Plan, 1981-1985, 1981, p.44

respectively. In terms of absolute number, Perak ranks highest with 133,100 poor households, followed by Kedah, Kelantan and Johor with 120,600, 100,400 and 73,900 poor households, respectively.

Another dimension that describes poverty status in Malaysia is the low level of educational attainment.

Meerman, while working on a World Bank Project in Malaysia, learned that rural school enrollments in 1974 were below average and increasingly so with the rise in school level. Regionally, in the predominantly Malay north, enrollment is high at the primary level but extremely low at the post-secondary level. A comparison of educational enrollments among those who are poor and who are not shows a big gap. Enrollment among the nonpoor exceeds the poor by a third at the secondary level (Meerman,1979). Government assistance in the form of free tuition at the primary level (6 years) and lower secondary level (3 years) helps explain the relatively high enrollment of the Malays and the poor in the lower educational levels.

From the data and the discussion presented thus far, it is clear that poverty in Malaysia is concentrated among the Malays, the majority of whom are found in the rural areas mainly in the northern region, engaged in agricultural activities and for the most part poorly educated.

Our task is to attempt an explanation of this phenomenon, with the help of theories that have been advanced to date about the causes of poverty in society.

The Culture of Poverty

The prime proponent of "the culture of poverty" thesis, Oscar Lewis, argued that the behavior patterns of the poor are different and that these differences reflect distinct values. He believed poverty to be caused and sustained by a

life-style common to the poor, this life style being composed of "a set of behavioral norms deviant from those of the dominant better-off majority which is guided by a highly integrated set of attitudes reflective of apathy, defeatism, hopelessness, reliance on chance, and concern with short-term gratification" (Lewis,1956; Thomas,1972).

Culture represents a way of life and refers to the norm and aspirations shared by members of a group. These cultural attributes are not easily observed but could be inferred from behavior patterns. In describing a group as being characterized by a "culture of poverty", however, one has to establish that the values, norms, and the aspirations, not simply the behavior of the group under study, are indeed different and that these differences are the root cause of the group's poverty.

The issue of Malay poverty has been the focus of academic and political discussions over the past twenty years. Foreign commentators commonly attribute the cause of Malay poverty to what Gayl Ness refers to, and regards as representing the view typically of the British, as the "dysfunctional value system" of the Malays (Ness,1967, p.125). Parkinson (1967,pp.332-338) asserts the Malay attitudes towards economic development to be the major cause of their economic retardation. As examples of Malay resistance to economic change, Parkinson cites widespread refusals by padi farmers outside the rice bowl areas to double-crop or to establish wet-beds inspite of government

urging, or their slowness to form cooperatives. Parkinson's conclusion (which incidentally was not based on empirical data) made prior to 1967 was a clear case of drawing "inferences" with regard to underlying values based on observed behavior patterns. We would want to be cautious and remember that not all behavior differences reflect value differences. It is possible that the rejection of double-cropping may reflect other circumstances not readily apparent to the foreign or nonpoor observers. In the rice bowl areas of Malaysia, where infrastructural support systems as well as marketing outlets are well developed, the farmers were found to be actively involved in annual double-cropping. The slow acceptance of the cooperative movement could be due to several reasons, but perhaps the main one is the farmers' lack of confidence in the executive members' efficiency and honesty. Being poor, the farmers are cautious about parting with their personal wealth, especially when embezzelment occurs frequently. Resistance by the farmers may also be due to their not being convinced of the benefits to be derived from the various projects imposed by the higher authorities.

The Malay Value System

The stereotypical view of Malays as fatalistic in their approach to life could be seen as supporting Oscar Lewis' culture of poverty thesis. Scholars and commentators of Malay culture tend to attribute fatalism to Islamic beliefs.

Mahathir Mohamad, an intelect of Malay origin, notes, for example, that "it is not so much of religion, but the interpretation of the doctrine of Islam which has the most significant effect .....the belief that all things are emanations from God .....tends to make them fatalistic in their approach to life" (Mahathir,1970, p.155). He goes on to observe that the Malays "tend to accept everything, whether good or bad, with unprotesting tolerance and resignation.....In other words, fate decides all and to strive for the better is useless; fate will decide such betterment. The effect of this is to relegate the struggle of wordly goods to low priority"(underline added) (Mahathir, 1970,p.158) According to Mahathir, it is this kind of attitude that constitutes a significant drag on economic development. For, if the Malays subscribe to this fatalistic and defeatist view with respect to worldly activities, believing that the individual efforts to improve living standards are not likely to be succesful, then they are not likely to attempt mastery of nature, or to strive for economic advancement by initiating the changes necessary for it.

On the other hand, one might ask whether the feeling of hopelessness, powerlessness, defeatism and fatalism and so on is a "situational adaptation" to poverty. Poverty might be the cause of such attitude. An unfavorable or uncompromising, hostile socio-economic and political environment might cause the poor to experience repeated

failures and disappointments. Thus they could become more skeptical of any new policy initiative. What makes the Malays "immobile, irresponsive to economic opportunity, impecunious and therefore poor" - a characterization according to Snodgrass(1980, p.111)- might be a consequence of living in a hostile, unpromising enviroment, an enviroment that may favor the already rich, the educated Malays, and the Chinese. If hopelessness, dependency, and fatalism represent a situational adaptation to poverty, then changing the environment for the better should reduce these tendencies. Thus, feelings of helplessness with regard to economic security could be removed; and the poor would presumably grab whatever opportunities available to improve themselves.

The Malay value system has been the target of deliberate change after the explosive Malay-Chinese communal riot in 1969. A "mental revolution" was launched to change the Malay attitude; they were urged to replace their "dysfunctional" value system by becoming more self-critical, positive, self-confident, conscientious, punctual and so on. However, an increasing number of Malay academicians seem to reject the implication that Malay poverty results primarily from the values and the behavior of the Malays themselves and instead espouse the alternative view that the Malay economic problems are not their own making, that it is society, not Malay attitudes, which is in most need of reform.

Colonialism versus Traditional Man

The culture of poverty thesis, to recapitulate, proposes that the poor are so because their "culture" prevents them from taking advantage of opportunities to escape from poverty. It is their unresponsiveness to economic opportunities, if not resistance to take advantage of them, fatalism, a sense of hopelessness, and the like that are considered to be "dysfunctional" and cause the Malays to lag behind the Chinese in economic achievement. These attributes, however, may very well be described as being characteristics of persons living in a traditional, as against a modern, society.

The Malays had traditionally lived under a feudal system for a long time and the coming of the British in 1786 did not help them much in becoming less traditional. In fact, the various practices of colonial administration had resulted in the relative isolation of the Malays from the social and economic changes that were taking place. The British, according to Takei (1973), granted "dejure" recognition to the traditional Malay aristocracy's suzerainty over its kinds and subjects (the Malays), thus leaving the indigenous Malay social structure relatively intact and minimizing the intrusion of Western culture or "modernism" among the Malays. Furthermore, the various developmental infrastructures that the British built were for the most part based on imported labor (e.g., the southern Indians for the rubber plantation) and the

entrepreneurship primarily of the immigrant Chinese, thus further isolating the indigenous Malays from the modernization process that was set in motion under the British.

It is in the context of a modernization framework that Gayl Ness characterizes the Malay value system as "dysfunctional" and stresses attitudinal change among the Malays as a prerequisite to their economic achievement. Using this framework, a modern Malay can be distinguished from his traditional counterpart as having been exposed to education and mass communicatiuon, to be more inclined to take initiative in the economic sphere of his life, be politically oriented, to be more receptive to technological changes, and less constrained by tradition generally. What Inkeles and Smith described as the modern man generally could very well be applied to an increasing number of modern Malay men today:

> "..... he is quicker to adopt technological innovation, and more ready to implement birth control measures, he urges his son to go as far as he can go in school, and if it pays better, encourages him to accept industrial work rather than follow the more traditional penchant for office jobs; he informs himself about the goods produced in the more modern sector of the economy, and make an effort to acquire them; he permits his wife and daughter to leave the home for more active participation in economic life ....."
>
> (Inkeles and Smith,1974, p.313)

The Opportunity Thesis

Thomas (1972), subscribing to the opportunity thesis, sees poverty as the consequence of unjust restrictions on opportunities and access to available goods and services. Unjust restriction is usually the consequence of a "multitude" of social policies and practices exercised by the better-off majority to arbitrarily exclude groups of people bearing a common characteristic or status (Thomas, 1972, p.21). According to Schiller (1976), education appears to have a major impact in determining the distribution, if not necessarily the extent, of poverty. He further points out that, if access is not equally available to all, then we may not only predict who will be poor but also identify the barriers to access as causes of individual poverty.

Mention has already been made that the different policies pursued by the British colonial government towards the Malay and the Chinese communities favored the economic advancement of the latter. Some argue further that the British neglect of the Malays made them vulnerable to exploitation by the more favored Chinese and Indians. For example, Dato Onn bin Jaafar, an intellect and a prominent Malay politician in the struggle for independence, identified the main cause of Malay poverty (in the 1950's) as follows:

> "The deficiencies in organization resulted essentially in the exploitation of the rural Malays by the Chinese and Indian merchants and money-lenders. The dysfunctional value system was a reflection of the disintegration of village life, brought about largely by the paternalism of colonial rule. People had lost the old cooperative spirit of self-reliance of the traditional village and now looked to government to satisfy all their needs."
>
> (quoted from Ness,1976, p.126)

Ungku A.Aziz, a Malay scholar concerned with the problem of poverty among his people offered in 1964 a theory similar to Dato Onn's:

> "The roots of Malay poverty lie in three forces of neglect, low productivity and exploitation of peasant production (in both its export and subsistence orientation) by monopsonistic middlemen. Their poverty then manifests itself in extreme rural indebtedness, land fragmentation and chronic tenancy problems, which reinforce the the low nutrition, low education, low productivity and low incomes of rural households in a circular vicious cycle of poverty."
>
> (Salih,1977, p.25)

Fisk, writing in 1962, also observed that the low and stagnant income level in the rural areas leads to low savings and inability to pay the costs either of education or of migration, the two principal means of social mobility, thus perpetuating poverty. By contrast, the people in urban areas are in closer touch with and are well enough off to benefit from the opportunities around them, so their prosperity tends also to be self-perpetuating.

At the root of Aziz's and Fisk's argument is the concept of discrimination , which literally means unequal treatment, but used in the present context with a stronger

connotation implying "purposive action to limit the opportunities of others." In Malaysia, unequal opportunity had its root, as already noted, in the official discrimination practiced by the British colonial administration. The rural Malays were basically left out of the development process unlike the non-Malays - the Chinese in particular, who tended to reside in urban places and, with the few fortunate Malays, had the opportunity to enjoy the benefits of education, health services and economic progress, all more abundantly available in urban than in rural places. In fact, hospitals, secondary schools and banking facilities were found only in the cities. The medium of instruction in urban schools was English, while in the rural areas only elementary schools using Malay as the language of instruction were available. Thus, only those who enrolled in English elementary schools, mostly children of urban parents, were able to climb the socioeconomic ladder to success. The absence of banking and other related facilities in the rural areas made it difficult, if not impossible, for the rural people to obtain credits and secure marketing outlets. This situation led to the exploitation by the middlemen, according to Aziz, in the form of:

i. excessive margins charged by merchants for their services;

ii. high rates of interest charged by money-lenders and shopkeepers who supply the farmers with

credit in kind or loan in cash;

iii. high rents on land and security of tenure; and

iv. wage exploitation ... practised on farmers who are so poor that they have to offer their labor for hire.

(A. Aziz, Ungku,1957, cited by Snodgrass,1980, p.125)

Since independence, and especially after the communal outbreak in 1969, a policy of "reverse discrimination" has been implemented to offset the alleged discrimination of the past. The launching of several five-year socioeconomic development plans beginning in 1966 was aimed at eradicating poverty, mainly by providing infrastructural facilities to increase productivity, particularly in the agricultural sector. Several government agencies and institution have been created to achieve this aim. Almost 20 years since the launching of the first program, however, the reduction of poverty among Malay households has been minimal; in fact, there is often heard the accusation "that the government programs turn out to make the rich become richer and the poor become poorer."

Aziz maintains that the rural poor are now being exploited by the newly rich Malay mini-capitalists instead of the non-Malay capitalists of the past. The question of equitable access to opportunities arises in relation to this outcome. Salih (1977, p.37) has noted the "oft-bemoaned criticism of government agencies that the opportunities

offered by them often fall in the 'wrong' hands," and suggested that "those to whom public allocations should be addressed are in fact not benefiting from these allocation at all." It would appear that the resources offered are falling into the hands of the capitalists among them. According to Salih, Aziz's notion of "neglect" can be seen, in the post-colonial era, as a lack of equitable access to facilities provided by the government. Low productivity associated with poverty is caused by a lack of access to resources. In fact, access is critical to every aspect of poverty: access to jobs, education, public housing, credit, agricultural extension, licenses, etc.

The problem of access on the part of the poor may be due to the lack of information and understanding of the kinds of resources available to them, or due to the discriminatory attitudes of the officials responsible for making the allocation. As pointed out by Salih, the phenomenon of access is rightly stated by Shaffer as "the relations between the administrative allocation of goods and services and the people who need them, and for whom they are intended." (Salih,1977, p.37)

Maldistribution Thesis

Differential opportunity presumably leads to maldistribution. A focus on the latter gives us another theory of poverty based on "whether a maldistribution in skill in manpower, accumulated wealth and their implied

production of income , goods and services is demonstrable" and the extent to which a redressing of old imbalances would contribute to an increase in productivity and living standards of the poor (Thomas,1972). According to Thomas, resources must first be distributed equitably before equal opportunity takes meaning. The underlying assumption of the maldistribution thesis seems to be the removal of the structural barriers as equal opportunities alone cannot reduce the maldistribution that is seen as the root cause of poverty.

The inequality in Malaysia is not only of wealth but of opportunities and development because one race lives basically in the rural areas and the other basically in the urban areas. To be equal is to be accepted into every stratum of the society socially, economically and politically to a degree more or less reflecting the proportion of the population making up the various groups. Political leaders have concluded that the large disparities in wealth must be quickly eliminated, in part through public activity, if Malaysia is to evolve peacefully into an integrated community. As pointed out by Meerman(1979), the pursuit of this goal is politically feasible because of the anomalous situation of Malaysia in which political power (mainly held by the Malays) is largely dissociated from economic wealth (predominantly held by the Chinese). It is interesting to note here that the strong motivation of the ruling party, which through a coalition of the three major

races is predominantly Malay in orientation, to pursue the policy of redistribution of wealth through public interventions - "to strive for social justice for Malays or Bumiputras(sons of the soil)" - is coincidental with the vested interest of their own constituency, the poor and largely rural Malay majority. According to economists (Hollis Chenery and others, 1974), increasing the welfare of the poor basically involves increasing the returns to or raising the quality of their assets. Policies to affect pricing of outputs and inputs, according Meerman, will have an immediate effect on returns to factors as well as on long-range accumulation of assets. In addition, incomes of the poor can also be increased through transferring assets to them or creating new ones for them. Finally, the welfare of the poor can be increased by spending to their consumption directly - by transfer payments, for example (Meerman,1979, p.21).

In its redistribution policy the Government of Malaysia has chosen to create new assets for the poor including human capital investment. This is seen in the heavy public spending in agricultural subsidies and irrigation, health, land distribution and education. Redistribution intervention in business and employment, where no funding is required, takes place in the form of legal requirements. For instance, the Public Work and Utility Department is urged to give preference to "bumiputras" (the Malays and other indigeneous people) in all bids for contracts under

$25,000; new licenses for carriers in the highway transportation are to be restricted also to "bumiputras" ; and at least 30 percent of the employees of new firms or the expansion of existing firms are to be "bumiputras". The government created financial institutions and corporations in order to ensure the Malays' shares of the corporate stocks. This has been pointed out as a rationale for the establishment of state enterprises and publicly funded financial institutions. One recent development which pursues a socialist approach "of vesting assets in state corporations" (Far Eastern Economic Review, Jan. 23, 1981, p.52) is the scheme to transfer part ownerships of some of Malaysia's leading companies to Malay individuals and other indigenous people through a national unit trust run by the National Equity Corporation, Amanah Saham Mara (ASN). The Malays are encouraged to invest their own funds in existing companies through the ASN. They can acquire up to $50,000 units in ASN before 1990.

The Genetic Thesis

According to Thomas (1972), the genetic thesis postulates that poverty is the consequence of the transmission of genetically-influenced inferior traits (e.g., low intelligence and physical defects). This line of reasoning places the cause of poverty directly and wholly within the make-up of individuals who are poor. In other words, the theory implies that "those with superior

endowments will rise in the socio-economic ladder while those inferiorly endowed will fall regardless of socio-economic position at birth, to the bottom of the heap." (p.21)

Within the context of Malay poverty, two factors as observed by Mahathir (1970) could contribute to genetic deterioration: the absence of interracial mariages and the frequent practice of marrying within the family or kinship network. According to Mahathir, "first cousin marriages were and still are frequent, and the result is the propagation of the poorer characteristics, whether dominant or recessive, originally found in the brothers, or sisters who were parents of the married couples ....." Mahathir believes that "man's opportunity to learn (from social interactions) is almost unlimited, but an individual's capacity to learn has varying 'limitation'".

No one denies that genetic differences in abilities exist but this theory fails to consider any possibility of socio-environmental influences. The Malays are often labelled as inherently lazy, stupid and resistant to change. However, these inadequacies may be the consequence of other factors - the socio-political and economic environment of the Malays.

The absence of inter-racial marriages is the result of religious restriction. Islam, the religion practised by the Malays, forbids marriages outside Islam. Such practice could produce "pure-bred" Malays, certainly an undesirable

phenomenon if it could be proved that Malays as a group are genetically inferior. Mahathir, however, fails to point out that the absence of inter-racial marriages (which could produce intelligent off-springs) does not necessarily mean the absence of inter-religion as well as inter-state marriages among the Malays. As early as the year 1,000 A.D., Malays are known to have inter-married with Indian Muslims and Arabic traders, as well as Thai and Indonesian immigrants. With the increase in communication, especially within the last 20 years, no one village in Malaysia could be left isolated, with very low in/out migration, unless one is talking about the indigenous tribes living in the central range of Malaysia, who are very different from the "Malays" in the lowlands.

The fact that there are wealthy and intelligent Malays in the urban as well as in rural areas neither supports nor rejects the genetic thesis that abilities to rise up the socio-economic ladder are due to "superior genetic endowments of individuals". Even if it did support such a thesis, there is no proof, as Thomas pointed out, indicating that level of mental functioning is the central determinant of socio-economic succcess in present-day society (Thomas,1972, p.43).

Population and Poverty

Explanations that attempt to establish a causal connection between population and poverty have been

controversial. Malthus' writings (1776-1834), arguing against Antoine Nicolas de Condorcet (1743-1794) and William Godwin (1756-1836), explained poverty of the working class as being due to an overgrowth of its size (Flew,1970; Bondestam,1980). Godwin and Condorcet, from the opposite spectrum, interpreted poverty of the working class as a problem of distribution, a consequence of the structure of the society , not the rapid growth of population. These two theories are very much reflected in the current discussion about the relationship between world population and poverty or underdevelopment.

Discussions on the direction of the relationship between income and fertility have been rather mixed. The most difficult problem for such analysis is the establishment of a cause-and-effect order especially in cross-section data.

Pradervand has suggested that "development is the best pill" (1973), implying that a more equitable distribution of income will reduce fertility. The same line of argument was energetically advanced by the delegates from the LDCs at the 1974 Bucharest conference on population. Simons disagrees with this argument. He asserts that in the short-run there seems to be no evidence that income distribution affects fertility in the LDCs because of the relative income effects. But in the long run, as average income increases, fertility can be expected to decline (Simons,1974).

Repetto's earlier work (1974,1978), testing the

interrelationship between fertility, infant mortality and income distribution, did not support his principal hypothesis that a more equitable income distribution acts to lower fertility. Winegarden, working in the same area, explored the interrealtionship between fertility and life expectancy, schooling and income distribution. He found that income distribution does not act directly on fertility. Instead, life expectancy and schooling were found to be the major forces acting on fertility with income distribution having a lesser influence. But the feedback from fertility reduction to income equity considerably exceeds the net effect in the other direction. He also found that there is a powerful impact from family planning programs in reducing fertility and that programs can make a large, indirect contribution to attainment of greater socioeconomic equity (Winegarden,1979).

Repetto's latest findings on this topic are, perhaps, the most intriguing. In his book, Economic Equality and Fertility in Developing Countries,(1979), he confirms the hypothesis that income equality precedes fertility reduction. He claims that his extensive research provides theoretical and empirical evidence that greater economic equality leads to lower fertility. His findings show that a similar dynamic is replicable for both rich and poor nations and that greater inequality in distribution of income is associated with a higher fertility rate, taken at any level of average income. If Repetto's findings are in fact true,

then the causal link that he provides could be incorporated into policies to address the world poor, particularly so within the LDCs.

Income inequality is an important issue in Malaysia. Correcting economic imbalances between the rich and the poor, which often means between ethnic groups, is an important government policy. High population growth in the country had been recognized to be one of the more important obstacles to economic development until recently. This is particularly true because Malaysia's population is young, and its high dependency ratio must perforce demand high immediate consumption. A great deal of investment has been channeled to better the living conditions of the poor, especially those in the rural areas where poverty prevails and persists. In Malaysia fertility is found to be highest in the rural areas (Caldwell, 1967; Chao, 1969; Tan, 1980), where Malays predominante. In light of the New Economic Policy, the direction of the causal relation between poverty and fertility ought to be known for effective policy formulation.

Synthesis

The maldistribution and opportunity theses are structural arguments about poverty while the cultural thesis points to the values and norms of individuals to explain their poverty. The population theory of poverty at a societal level can encompass the structural and cultural

theories in its operationalization.

At this point we will evaluate the theories presented in the light of the aim of this research and the data base to be used in the analysis. Among the theories presented, the genetic theory of poverty is the most controversial as it is the most difficult to conceptualize and operationalize. For the purpose of this research this theory will not be considered. The culture of poverty thesis could offer some explanation to causes of Malay poverty. The weakness of this thesis, however, is the difficulty of establishing what the values and norms of the poor are and of establishing the direction of causal relation between the values and norms of the poor and their state of being poor.

The opportunity and maldistribution theses of poverty postulate that people are poor because of the social barriers that inhibit them from climbing the socioeconomic ladder, disputing the contention that poverty is due to the culture of the poor.

Unlike the preceding two theories, the population theory of poverty addresses the relationship between poverty or the inequality of income and fertility at the societal level. The utility of this theory for the purpose of this research is considered significant.

At this point I would like to deliberate more on the last four theses of poverty stated above and evaluate their utility in this research in the light of the data available.

The culture of poverty assumes that poverty is caused and sustained by the culture of the poor people. Methodologically this theory posits a problem. The problem is to disentagle the root cause between poverty and culture that characterizes the theory. This assumption makes it difficult for us to test the theory with the cross-sectional data that we have.

I am also uncomfortable with the term "culture of poverty". Firstly, stemming from its basic assumption that "children at the age of six or seven have usually absorbed the basic values and attitudes of their subculture and are not psychologically geared to take full advantage of changing conditions or increased opportunities which may occur later in their lives" (Lewis, 1959),the theory tends to dismiss the influence of other factors - for example, education, modernising experience, etc., at the later stages of life. This assumption inherently implies the "cloning" of the poor, and thus poverty is propagated intergenerationally. The theory therefore suggests that the poor are to be blamed for their poverty. They are poor because of their own making - parallel to Ryan's theory of "Blaming the Victim" (1972).

Secondly, factors such as resistance, unresponsiveness to exploit economic opportunities, fatalistic, etc., or the so called "dysfunctional" value system, could very well describe the characteristics of <u>traditional</u> man, not necesarrily the values and norms uniquely of the Malays.

Thus, within the context of this proposal I would like to postulate that it is the traditional Malays, along with their traditional behavior patterns, and their culture that inhibits their economic achievement.

Consequently, I see the utility of these traditional factors in trying to explain poverty among the Malays and would like to call this approach the "Traditional Value Theory of Poverty".

Malay poverty in Malaysia might also be explained by the application of both the opportunity and the maldistribution theses. In this study I would like to combine these two theories and call it the "Structural Theory of Poverty". Basically this theory posits the existence of "structural barriers" in a society that systematically handicaps certain groups in the population from rising up the socioeconomic ladder. The barriers refer to the discrimination especially in accessibility to resources and opportunities for human capital investment - that is, for education. Test for this theory unfortunately is also constrained by the problem of data inadequacy, but this theory can be used as a framework to organize our analysis.

The population theory of poverty is important in this study. For one thing, the data base is family planning in nature and the values and attitudes tapped in the interview were those related to family planning concepts and practices. For another, the underlying assumption guiding

the national family planning program inaugurated in 1966 has been the improvement of Malaysia's standard of living, or, in the present context, the reduction of poverty among her people. We include, therefore, several demographic measures in this study as a way to relate the poverty issue to the population factor at the micro-level at least. The demographic variables included are: (1) number of children ever born, (2) desired family size, (3) age of husband, and (4) household size.

The three theories presented above serve as our basic framework to assess poverty status in Peninsular Malaysia. Much has been said that Malays are poor because of their traditional way of life (Parkinson,1975,1980; Mahathir,1970). In this study we intend to test this theory within the constraints of the data to be used. Specifically we would like to find out if the relationship of poverty to being Malay becomes less pronounced, if not reduced altogether to insignificance, once we control for traditional values. If not, then the traditional theory of poverty would not be substantiated.

In this study we attribute inaccessibility to higher education, good status occupation and place of residence in urban or metropolitan areas as inhibiting factors to social mobility. Differential accessibility is assumed to be the consequence of structural barriers in the social system. Groups of people experiencing the barriers are likely to find it difficult to escape poverty or become rich. In the

review of the research literature it was revealed that the Malays as compared to the non-Malays tend to be poorly educated, to be employed as unskilled workers and to reside in the rural areas - factors that could very well explain why they are poor. It is the intention of this research to find out if the ethnic differences in scale of living are diminished, if not completely removed, once the structural factors are held constant.

In this study we expect large number of children ever born or large household size to be more common among the traditional, poorly educated, rural people, and therefore, among the poor. We assume that these demographic characteristics are poverty-inducing, though it is difficult to establish this causal relationship with cross-section data that we have. Number of children ever born and household sizes will, therefore, be used in the broader framework of the traditional values theory of poverty. The husband's age will be used both as a control in examining the relationship of the other predictors to poverty and as one of the predictors. In Malaysia, rapid socioeconomic development is a recent phenomenon. We would, therefore, expect the younger Malaysians to be better schooled, to have better jobs and to reside more in metropolitan areas relative to their older counterparts, especially among the Malays. Age, unless controlled, can have a confounding effect on poverty.

CHAPTER III

CONCEPTUAL FRAMEWORK AND METHODOLOGY

This chapter will briefly present the data that will be used, discuss the theories and their assumptions that will guide this research, the hypotheses that are implied by them, the analytical framework by which this study is organized, and the statistical tools to be applied.

The Data

The Malaysian Fertility and Family Survey (MFFS) serves as the data base of this research. The survey was conducted in 1974 as part of the World Fertility Survey (WFS)[3], the aim of which was to assess the current state of human fertility and reproductive behavior throughout the world.

The MFFS was conducted jointly by the National Family Planning Board and the Department of Statistics of Malaysia, assisted by the International Statistical Institute in the Hague and WFS project headquarters in London, and a few local governmental and voluntary organizations.

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[3]The WFS is an international research program, undertaken with the collaboration of the United Nations by the International Statistical Institute in cooperation with the International Union for the Scientific Study of Population. For detailed information on the WFS, see Annual Report: World Fertility Survey, 1979.

The survey covered only Peninsular Malaysia where 84 percent of the total population reside. The sample was based on that drawn originally for the Department of Statistics' Household Expenditure and Income Survey (HEIS) of 1973/1974.

The sampling procedure followed a two-stage stratified sample design with a basic probability of selection that was proportional to size of population. Peninsular Malaysia was first divided into 837 Primary Areas (PA) (see Figure 3.1), which were divided into three groups: (a) Nucleus Primary Areas comprising the large urban area; (b) Fringe Primary Areas immediately surrounding the Nucleus Primary Areas; and (c) Ordinary Primary Areas making up the rest. The Nucleus Primary Areas were selected with certainty while the Fringe and Ordinary Primary Areas were selected from each stratum with probability proportional to the population of the Primary Area divided by the population of the stratum.

Eighty-seven Primary Areas were selected in the first stage, and all living quarters in these areas were listed for the purpose of the second-stage selection. The probabilities of selection in the second-stage were adjusted so as to achieve a constant overall sampling fraction to yield a self-weighting sample.

The total sample size of this data base resulting from a 99 percent response rate among the eligible respondents identified is 6,316, of which 56.4 percent were Malays, 33.6 percent Chinese, 9.4 percent Indians, and 0.6 percent

classified as "Others". For the purpose of this study we will ignore the Others in our analysis because of its small size and mixed composition.

The data source by design is very much family planning in nature, and, while we have adequate measures of SES and some measures of traditional values, we have only limited

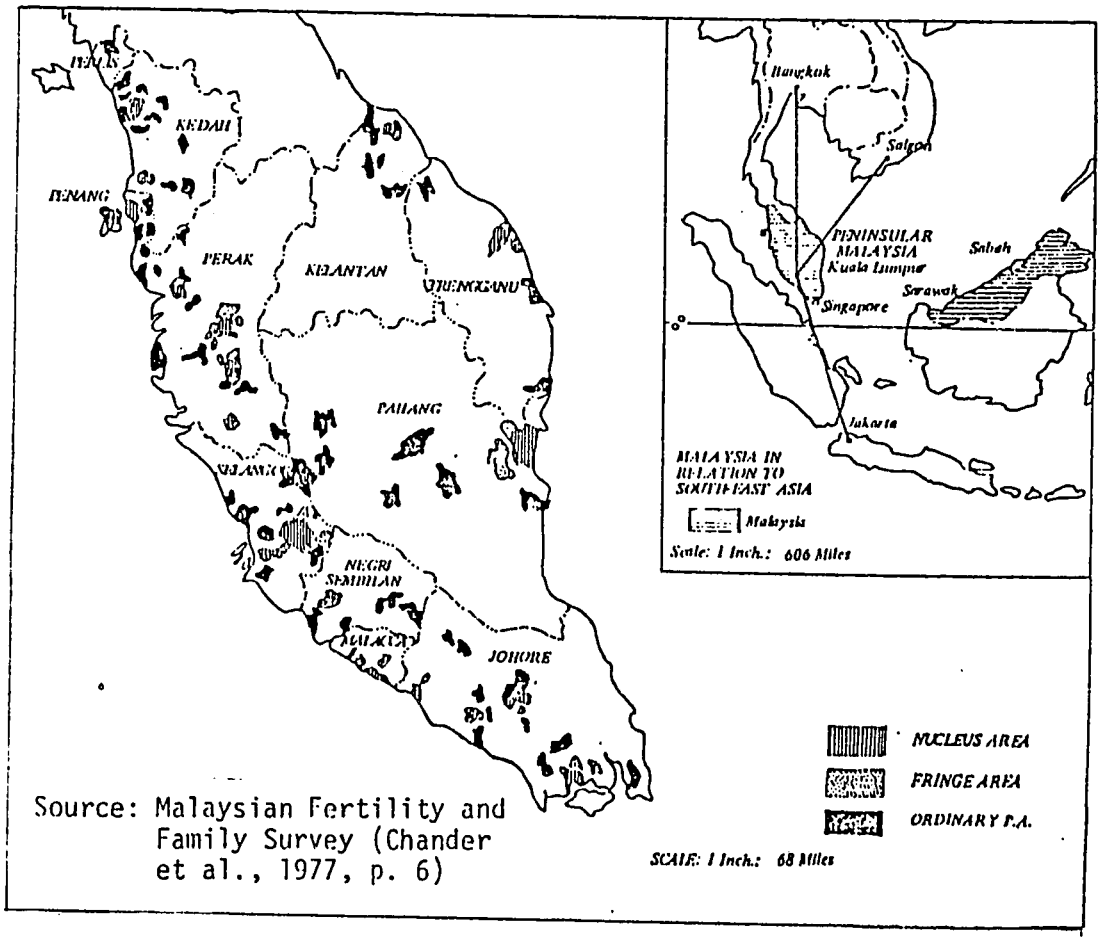


Figure 3.1. Malaysia in Relation to South-east Asia and Peninsular Malaysia: Distribution of Sample Primary Areas (PA's) for the 1974 Malaysian Fertility and Family Survey

information on the respondents' wealth, one of the key components for the definition of our dependent variable. The measures of SES that we use in this study are those pertaining to the husbands, obtained, however, from the wives who were the respondents for this survey, raising some questions about the validity and reliability of these measures.

Conceptual Framework

The aims of this research are to identify the poor in Peninsular Malaysia and search for the causes of being poor, show how their state of being poor is related to other SES characteristics, measures of traditional values, demographic characteristics and the ethnic groups they belong to. The focus will be on Malay poverty because of the greater prevalence of poverty among them but will inevitably be studied in relation to the Chinese and the Indians.

This study to explain differential poverty among the three major ethnic groups will be guided by two alternative theories: the traditional theory and the structural theory. The traditional theory, as stated earlier, posits that poor people are poor because of their adherence to traditional ways of life, characterized, for example, by rural residence, mainly being engaged in peasant farming on small pieces of land, poor education, propensity to seek financial

support from their children and other members of their families in old age, and tendencies to live in large households or have large numbers of children, and to place great deal of importance on religion. These tendencies are regarded as economically dysfunctional and poverty-inducing, in a modernizing, market-oriented society.

The structural theory, on the other hand, posits that there are structural barriers in the social system that systematically keep certain groups of people in the population from rising up the socioeconomic ladder. The barriers refer mainly to the lack of accessibility to educational opportunities and profitable economic activities.

The testing of these two theories of poverty depends on the availability of adequate measures of the key variables. The data base to be used, however, is inadequate in this respect. As a result, we cannot hope to prove any of these theories in this research. We can at best identify the dimensions of poverty among the three ethnic groups in Malaysia and suggest possible interpretations with regards to the differential prevalence of poverty within the broad framework provided by these theories. Even this modest aim, however, is deemed important in that there has been little research on this topic in spite of its political salience in present-day Malaysia.

To begin with, we present the analytical strategies to be pursued. The strategies will include: (1)

identification and definition of the poverty syndrome or dimensions of poverty and construction of an appropriate index for use in subsequent analyses; (2) bivariate analysis between each independent variable (SES and measures of traditional values) and poverty, as defined; (3) cross-tabulation analysis of how SES and measures of traditional values go with ethnic background; (4) MCA analysis that will help us to summarize the trivariate tables and assist in the profiling as to who in Peninsular Malaysia tend to be poor; and (5) path analyses that can help us in estimating the direct and indirect effects of the various predictor variables placed in a causal framework as best as the data would allow.

The Dependent Variable

The problem of measuring poverty centers around two basic issues: the establishment of a sound theoretical or conceptual framework and the employment of valid and reliable techniques for data collection and organization of the relevant data (Mencher,1971). Any definition of poverty is likely to be influenced by the social and economic contexts of the society for which it is defined. In a market-oriented, modernizing society such as Malaysia, income would certainly constitute a core component of the definition. The measurement of income in this study is, however, severely limited. Although an attempt was made to get income in cash or in kind (converted to cash equivalent)

for the husband and any other household member with a regular income, it is debatable if this mode of questioning succeeded in eliciting the respondents (i.e.,wives) to include, for example, noncash income, home produces, return from land rent, dividends from stocks and shares, etc. Our suspicion is that only cash income and from jobs at best was reported by most respondents. In this situation we have no recourse but to take the reported household income at face value to represent the aggregate purchasing power of the household. To take into account the varying household size, however, the total income is expressed as per capita household income. If the purchasing power measured in this way falls below a particular level deemed necessary for maintaining a minimum standard of living it can presumably serve as an index of poverty.

Given, however, the inadequacy of the income measure in terms of incompleteness and accuracy (due to wives reporting on husbands' and others' incomes), there is a need to expand the definition of poverty beyond the income criterion alone. We thus develop a composite definition of poverty based on three dimensions of living aimed at characterizing poverty as a set of interrelated attributes or an identifiable syndrome, so to speak. The dimensions of living included are household facilities, household possessions, and per capita household income.

In this expanded definition, the household facilities and possessions should reflect the apparent purchasing power

measured, however inadequately, by average household income, assuming that people are basically rational and they do not usually spend beyond their means. If there are in fact distortions in the reporting of income, we expect the addition of two other dimensions of living would compensate for them to a substantial extent.

The three components or dimensions to be incorporated in the definition of poverty for this study are specified here:

Household facilities (recoded in dummy variable form: 1=present; 0=absent)

a. Cooking and Drinking water

Variable 1. private pipe water
2. roadside pipe water
3. well water
4. river water

b. Bathing facilities:

Variable 5. long bath, shower, or both
6. bath tub
7. pipe only
8. well
9. river

c. Toilet facilities:

Variable 10. flush
11. pour
12. bucket type
13. pit laterine

d. Lighting facilities:

Variable 14. electricity from National Electricity Board
15. electricity from generator
16. gasoline lamp
17. kerosene lamp

e. Cooking facilities:

Variable 18. electricity or gas from cylinder
19. kerosene
20. wood

Household possessionss (recoded in dummy variable form: 1=present 0=absent)

Variable 21. television
22. rediffusion
23. telephone
24. electric fan
25. refrigerator
26. washing machine
27. motor car
28. motor cycle
29. bicycle
30. sewing machine
31. iron
32. radio
33. clock
34. camera

Household per capita monthly income

The household per capita monthly income is derived by dividing the total monthly household income by the total number of persons in the household. In categorizing the income level, the usual class boundaries (less than $100, $100-$199 and etc.) are not used as there is heaping at multiples of $100 (Tan, 1980). We use instead the following: less than $76, $76-$175, $176-$275, $276-$375, $376-$575, $576 and above. These income categories can be labelled in Malaysia as: extremely low, low, lower middle, middle middle, upper middle and upper income categories.

These variables are used in defining the dimensions of living in three progressive steps: (1) a cluster analysis, (2) a smallest space analysis or MINISSA, and (3) index construction or scale score assignment guided by the above two analyses.

We start with the assumption that poor people tend to use the more traditional modes of household facilities and to possess fewer modern household amenities. People who are not poor, on the other hand, will tend to use more modern household facilities and to possess a larger number of modern household amenities.

Cluster analysis is basically an exploratory technique inquiring into the structure of the data (Everitt, 1977; Nunnally, 1978; Spath, 1980; Johnson and Wichern, 1982). It is a method of classifying variables such that they correlate highly with one another and have comparatively

low correlation with variables in other clusters. To classify the variables into optimal homogeneous groups the analysis uses measures of similarity or dissimilarity (OSIRIS, IV, 1981) - which in this study are the product - moment correlation coefficients between the variables. The cluster analysis employed in this study assumes that if two variables have high correlation with one another they are similar and can be grouped together in one cluster. If, on the other hand, they have lower correlation they are dissimilar and cannot be grouped into the same cluster.

The cluster scheme employed in this study is hierarchical in nature - that is, each variable at the start is taken as a cluster by itself and successive clusterings are made by combining a single pair of clusters from the previous level to form a new cluster. This process is repeated until we come to one single cluster when all the variables are included.

There are two types of cluster analysis. One takes the individual respondent as the unit and is known as the Q-type; and the other, the R-type, takes the characteristic or variable as the unit. As we are looking for similarities among variables, the R-type cluster is used.

There are two purposes served by cluster analysis in this study. First, the analysis helps us to identify those variables that are alike or approximately homogeneous to form a cluster. Second, the analysis provides us with some idea as to how many clusters or "levels" we should be

working with.

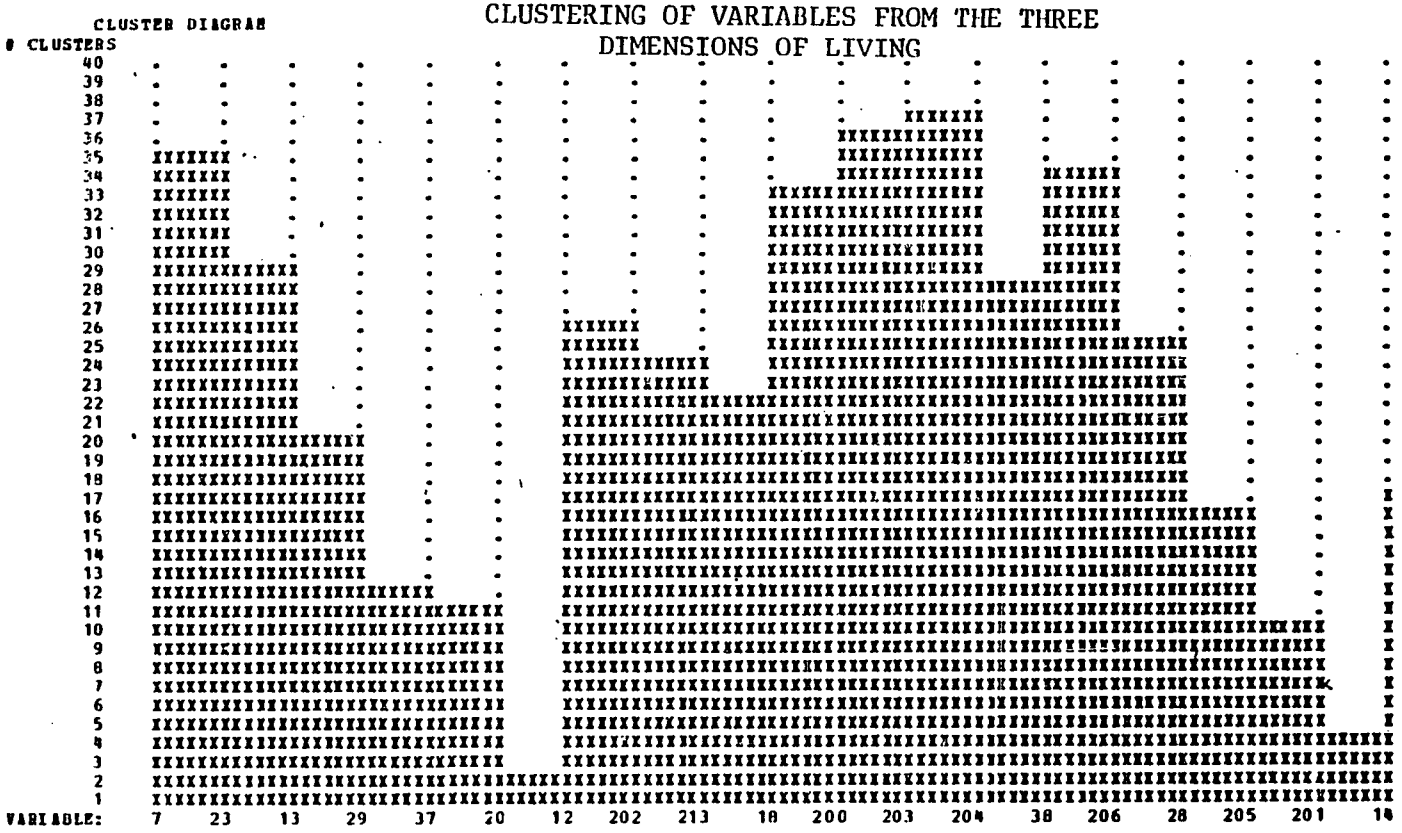
Forty variables from the three dimensions of living (34 items from the list of household facilities and possessions and 6 income categories) are subjected to cluster analysis. The variables link up (or cluster) in ways consistent with our expectation: indicators of poor living tend to link with each other and indicators of non-poor or affluent living tend to link among themselves.

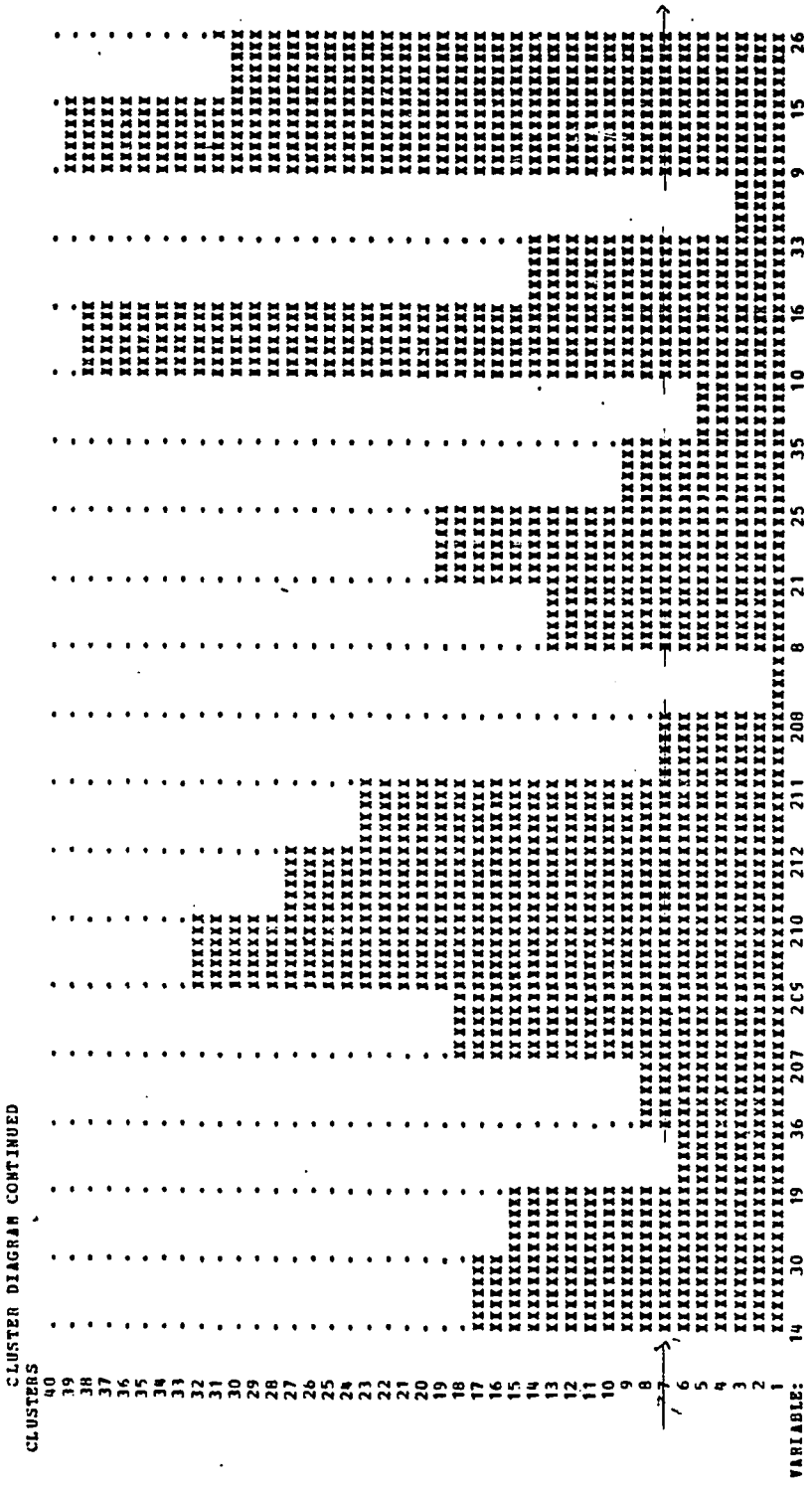
To better understand the results of the cluster analysis, we present the computer output of the 40 variables subjected to this analysis. Figure 3.2 represents the categorization of the 40 variables while Table 3.1 provides the equivalent of what these variables are. The vertical axis to the left represents the numbering of clusters while the horizontal axis represents the variables in the clusters. Note that variable 14 and 26 appear twice in the cluster diagram. This is to provide continuity in the cluster diagram as it exceeds more than one printed page.

Given Figure 3.2, we are now able to decide how many clusters we might want to work with. There is no clear cut rule. The number of clusters should not be too large as it will become difficult to manage and interpret, but should not be too small as it might not capture the levels of living that make sense for our study. The number of clusters that we initially decide on is by no means final. We can change this number later as needed to improve our

FIGURE 3.2

CLUSTERING OF VARIABLES FROM THE THREE DIMENSIONS OF LIVING




CLUSTER DIAGRAM CONTINUED
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2
1
VARIABLE: 14 30 19 36 207 265 210 212 211 208 8 21 25 35 10 16 33 9 15 26

CLUSTER DIAGRAM CONTINUED

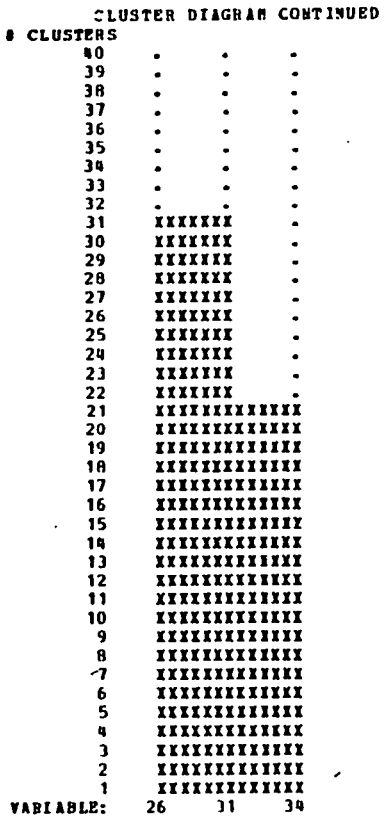

TABLE 3.1

IDENTIFICATION OF VARIABLES

Variable number	Description
V7	Private pipe water for cooking and drinking
V8	Road pipe for cooking and drinking
V9	Well water for cooking and drinking
V10	River water for cooking and drinking
V12	Bath, shower or both
V13	Bath tub
V14	Bathing with pipe water only
V15	Well water for bathing
V16	River water for bathing
V18	Flush toilet
V19	Pour toilet
V20	Bucket toilet
V21	Pit toilet
V23	Electricity from National Electricity Board
V25	Gas lamp
V26	Kerosene lamp
V28	Electricity for cooking
V29	Gas for cooking
V30	Kerosene for cooking
V31	Wood for cooking
V33	Extremely poor
V34	Poor
V35	Lower-middle income

TABLE 3.1 (continued)

Variable number	Description
V36	Middle-middle income
V37	Upper-middle income
V38	Upper income
V200	Telivision
V201	Rediffussion
V202	Telephone
V203	Electric fan
V204	Refrigerator
V205	Washing machine
V206	Motor car
V207	Motor cycle
V208	Bicycle
V209	Sewing machine
V210	Eletric iron
V211	Radio
V212	Clock
V213	Camera

understanding.

We first conceptualize 7 levels of living to be appropriate for this study. These levels are: 1. extremely poor, 2. poor, 3. lower-middle, 4. middle-middle, 5. upper-middle, 6. upper, and 7. the extremely rich groups. Based on this we decide to start with 7 clusters and

aggregate the variables as they appear in Figure 3.2. The clusters are as follows:

Cluster number 1	variable number
pipe water for cooking and drinking	7
National Electricity Board	23
bathtub for bathing	13
gas for cooking fuel	29
bucket toilet	20
upper middle income	37
Cluster number 2	
bath and shower	12
telephone	202
camera	213
flush toilet	18
television	200
electric fan	203
refrigerator	204
car	206
electricity for cooking	28
washing machine	205
rediffusion	201
upper income	38
Cluster number 3	
only pipe water for bathing	14
cooking with kerosene	30
pour toilet	19

Cluster number 4

motor cycle	207
sewing machine	209
iron	210
clock	212
radio	211
bicycle	208
middle-middle income	36

Cluster number 5

road pipe for cooking and drinking	8
pit toilet	21
gas lamp	25
lower middle income	35

Cluster number 6

river water for cooking and drinking	10
river water for bathing	16
extremely low income	33

Cluster number 7

well water for cooking and drinking	9
well water for bathing	15
kerosene lamp	26
wood for cooking	31
low income	34

Based on the theory that guides this analysis we identify clusters 6 and 7 as clusters describing

characteristics of the poor. Between the two, cluster 6 contains household amenities which are more traditional than those found in cluster 7. Thus, with the inclusion of the extreme low income category, cluster 6 serves to describe the extremely poor of Malaysia. By a similar argument, cluster 7 describes the poor. At the other extreme end is cluster 2. It contains, in addition to upper income category, all the modern household amenities and possessions. This cluster can, thus, be equated with the upper income group. The four clusters that remain (cluster 1, 3, 4 and 5) appropriately describe the middle-range income groups in Malaysia. In terms of the traditional versus modern modes of household possessions and amenities, cluster 5 would seem to correspond to the lower-middle group, ranked just above the poor, while cluster 1 would correspond to the upper-middle group and cluster 4, the middle-middle income group. This leaves us with cluster 3. Cluster 3 can be either in cluster 4 or 1. We can decide on the basis of our knowledge of the household situation in Malaysia, or we can reduce the number of clusters to 6 and see how the 3 variables in cluster 3 are forced to link up with the other variables. We chose the latter method and found the three variables to belong to cluster 4, or the middle-middle income group.

Like cluster analysis, the smallest space analysis, or MINISSA, is also exploratory in nature. The analysis provides spatial representation of variables, consisting of

geometric configuration of points, as on a map (Kruskal and Wish, 1978). From the smallest space analysis we expect variables that are more similar to each other to be closer together while variables that are dissimilar to be further apart.

The usefulness of MINISSA is the actual mapping of the data in a multidimensional space. Clusters of variables can be spotted and dimensions identified and labelled. For these reasons, the smallest space analysis is used prior to assignment of scale scores.

The concept of "multidimensional space" mentioned above needs some clarification. "Dimensionality" or the "number of dimensions" both refer to the number of coordinate axes - that is, the number of coordinate values used to locate points in space (Kruskal and Wish, 1978). Since we use MINISSA as a descriptive model for looking into and understanding the data, we also consider interpretability and ease of use to guide us in choosing the number of dimensions that we should be working with.

In this exercise the same 40 variables from the three dimensions of living are used. We run four MINISSA analyses, starting with one dimension and progressively going to four. From the four results we found the spatial configuration of the variables in the single dimension to be the easiest to interpret and most meaningful.

As in the case of cluster analysis, the orientation of variables in the MINISSA output substantiate our expectation

that indicators of poor living are close together as are the indicators of middle and upper or affluent living conditions. In other words, these variables tend to segregate in a meaningful manner (see Figure 3.3).

The dotted lines in Figure 3.3 are arbitrarily drawn to demarcate the various levels of living. Level I represents the poorest living condition, and Level VII, the most affluent level of living. Note the circle drawn around variables 36, 37, 38, and 39 which are, respectively, sewing machine, iron, clock or watch, and radio. Between 75 percent to 85 percent of the households have these items. These variables are dropped in the assignment of scale scores as they do not help in discriminating the various levels of living. For a better comprehension of Figure 3.3, the variables that go with each level of living are listed below:

			variable number
Level	I	Extremely poor	
		river water for cooking and drinking	4
		river water for bathing	9
		extremely low income	21
Level	II	Poor	
		well water for cooking and drinking	3
		pit toilet	13
		kerosene lamp	16
		wood for cooking	20
		low income	22

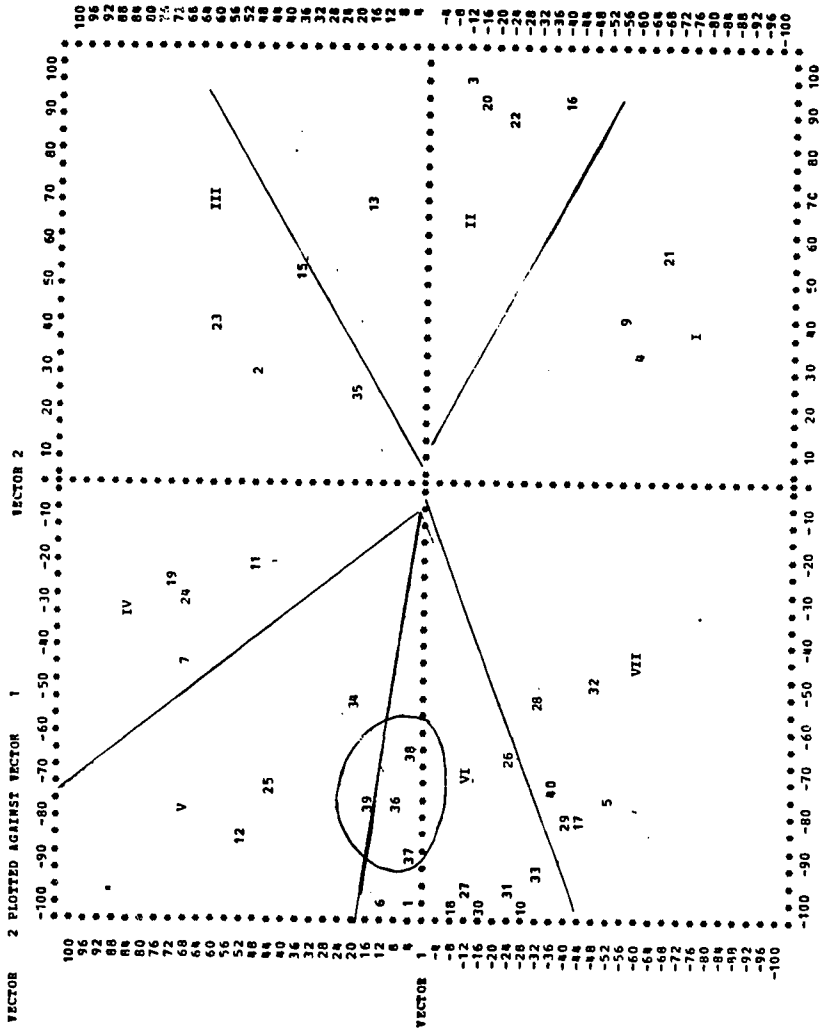

Figure 3.3. MINISSA Representation of Variables from the Three Dimensions of Living.

Level III	Lower middle	
	road pipe for cooking and drinking	2
	gas lamp	15
	lower middle income	23
	bicycle	35
Level IV	Middle middle	
	pipe water only for bathing	7
	pour toilet	11
	kerosene for cooking	19
	middle income	24
Level V	Upper middle	
	bucket toilet	12
	upper middle income	25
	motor cycle	34
Level VI	Upper	
	private pipe water for cooking and drinking	1
	bath tub	6
	flush toilet	10
	gas for cooking	18
	television	27
	electric fan	30
	refrigerator	31
	car	33
	upper income	26
Level VII	Extremely rich	
	bath, shower or both	5
	electricity for cooking	17

rediffusion	28
telephone	29
washing machine	32
camera	40

To recapitulate, the cluster analysis was used to provide us an initial look at the grouping of variables. The variables grouped in a pattern that we expected them to have. The MINISSA was then used to confirm the result of the cluster analysis, and provide a guide in the assignment of scale scores to measure level of living. In the MINISSA analysis, the groupings of variables are found to be similar to those found in the cluster analysis, and we used this pattern of grouping to guide our scale score assignment.

Having thus identified the variables or characteristics associated with each level of living, we now can proceed to formulate the scale scores as follows:

$$\text{Scale score} = \frac{\sum(\text{proportion} \times \text{weight})}{\sum \text{proportion}}$$

where: $$\text{proportion} = \frac{\text{No. of characteristics that define a particular level coded "yes"}}{\text{No. of characteristics that define a particular level}}$$

weight = level that is defined by the characteristics (I=1,II=2,III=3, IV=4,V=5,VI=6,VII=7)

Based on Figure 3.3, the following are the computer recode steps performed to formulate the scale score:

```
V100 = (V4 + V9 + V21) / 3
V101 = (V3 + V13 + V16 + V20 + V23) / 5
V102 = (V2 + V15 + V23 + V35) / 4
V103 = (V7 + V11 + V19 + V24) / 4
V104 = (V12 + V25 + V34) / 3
V105 = (V1 + V6 + V18 + V10 + V26 + V31 + V33 + V27)/8
V106 = (V5 + V17 + V28 + V29 + V32 + V40) / 6
Name V107 as 'scale score'
V107 = (V100x1 + V101x2 + V102x3 + V103x4 + V104x5 +
        V105x6 + V106x7) / (V100 + V101 + V102 +v103 +
        V104 + V105 + V106)
```

The scale scores range from 1 to 7. A question that needs clarification in reference to this scoring is where will cases be assigned if they have characteristics from more than 1 level. Let us assume the following:

Level	I	II	III	IV	V	VI	VII
Case a	0	0	0.75	0.25	0	0	0
Case b	1.00	0	0.25	0	0	0	0

The total scores for these 2 cases will be:

(a) (0.75x3 + 0.25x4) / 1.00 = 3.25

(b) (1.00x1 + 0.25x3) / 1.25 = 1.40

From the above computation, case a belongs to Level III while case b belongs to Level I.

The scale scores also referred to as the 'levels of living', represent positions along a continuum that go from the extremely poor to the very rich. With the scale scores assigned, we can now show in Table 3.2 the distribution of the cases by these scores and levels.

TABLE 3.2

PERCENT DISTRIBUTION OF THE LEVEL OF LIVING

level	Scale score	N	Percent
I	1.00-1.99	26	.40
II	2.00-2.99	1,348	21.27
III	3.00-3.99	1,631	25.70
IV	4.00-4.99	1,284	20.30
V	5.00-5.99	1,248	19.70
VI	6.00-6.99	799	12.60
VII	7.00-7.99	2	0.03
Total		6,368	100.00
Missing		30	

The results that we obtained, as can be seen in Table 3.2, show that .4 percent of the cases are extremely poor, as defined, and .03 percent (2 cases) are extremely rich. Of the total sample, 4,163 cases or 66 percent are found in the middle income levels. For the purpose of this research

we combine Level I and Level II that together make up 21.7 percent (1374) of the total cases and label this combined category as poor. We disregard Level VII altogether (n=2) and let Level VI be the higher income group with 799 cases or 12.6 percent of the total sample.

We now have five levels of living characterizing our dependent variable. This variable will be used differently depending on what we are trying to explain and what statistical techniques we are going to use. The varying usage will be discussed as we introduce the purpose of each analysis and the statistical technique to be applied.

Methodology

This section of the chapter identifies the independent or predictor variables to be used in the analytical exercises and discuss the statistical techniques that will be employed.

The independent variables to be used in the analysis are measures of SES, traditional values and demographic variables. These are:

Variable 1. Ethinicity
1. Malay
2. Chinese
3. Indian

2. Husband's education and literacy
1. religious school
2. less than one year

3. 1-6 years, but cannot read
3. 1-6 years, and can read
5. 7+ years of education

3. Husband's occupation
   1. professional
   2. clerical
   3. sales
   4. farmer
   5. general farm worker
   6. service
   7. production
   8. laborer

3. Husband's childhood place of residence
   1. town
   2. estate
   3. village

5. Husband's current place of residence
   1. metropolitan
   2. small town
   3. village

6. Wife's reliance on children for financial support
   1. not at all
   2. only a little
   3. good deal

7. Wife's financial support during old age other than own children

1. pension
2. saving
3. other family members

8. Wife's perception of how important is religion
   1. uncertain
   3. important
   4. very important
9. Number of children ever born
   1. 0-2
   2. 3-4
   3. 5 and above
10. Desired number of children
    1. 0-2
    2. 3-4
    3. 5 and above
11. Household size
    1. 2-4
    2. 5-6
    3. 7 and above

Ethnicity

Ethnicity is an important exogenous variable in this study. Knowing that poverty is most prevalent among the Malays, we want to find out if this is still true when measures of socioeconomic status and traditional values are held equal.

Age

Age is also an exogenous variable. Rapid socioeconomic development is something very recent in Malaysia. One's age cohort indicates the various socioeconomic opportunities that he has had access to. Age also reflects the stage of one's life cycle which can affect level of living.

Husband's Education

In this study, husband's education is assumed to be important in determining family's level of living. We hypothesize that husband's number of years of schooling is positively related to the level of living. Education is an important means of upward social mobility in Malaysia as well as in most other societies, developed or developing.

Husband's Occupation

Like education, better occupation is hypothesized to be negatively related to poverty. Persons who are professionals, for example, are less likely to be poor as compared to those who are laborers.

Husband's Childhood Place of Residence

Place of residence is an important predictor of poverty in this study. Being poor is hypothesized to be associated with being rural. If one is raised in the rural area one is more likely not only to be less exposed to better education but also to adhere to traditional values, and more likely to be poor.

Husband's Current Place of Residence

This predictor variable is hypothesized to be an even stronger predictor of the level of living than childhood place of residence. Current rural residence, for example, is likely to be more related to poverty than past rural residence, especially experience that goes back to childhood.

Traditional Values

Adherence to traditional values is reflected in the wife's reliance on children and other family members for financial support in old age and her perception of the importance of religion in her life. We assume that traditional people are more likely to depend on children and other family members for financial support in old age and to regard religion as very important in life. We hypothesize that the stronger one subscribes to these traditional values, the less likely one can escape from being poor. There is, of course, the strong possibility that the relationship may be reversed - that is, the poorer one is the more likely is he or she to look to one's children for financial support in old age. Given the cross-sectional nature of the data, it would be difficult to establish with any definiteness the direction of relationship between these variables. Interpretation of findings must perforce be made with caution.

Demographic Measures

The demographic variables that will be used in predicting level of living are number of children ever born, household size, and desired number of children. In this study we hypothesize a negative relationship between poverty and these demographic characteristics - i.e., the poor, or the less well-to-do, are more likely to live in larger households and have a desire for more children.

Statistical Techniques

We will apply several statistical techniques going from a simple crosss-tabulation (bivariate and trivariate) analysis to the more complex Multiple Classification Analysis and path models.

Cross-Tabulation Analysis: Bivariate and Trivariate

The bivariate analysis will provide us an initial look into how the several SES measures and adherence to traditional values are related to being poor or affluent, as defined for this study. We hypothesize that ethnicity, along with other SES characteristics, is highly correlated with poverty - that is, Malays are expected to be poorer than the Chinese or the Indians just as the less educated , the farmers, and the rural residents are as compared to the better educated, the nonfarm workers, and the urban residents.

Further bivariate analysis will examine the extent to which ethnicity is associated with the measures of SES and

traditional values. The expectation is that ethnicity is highly correlated with these other independent variables. Thus there will be a need for simultaneous consideration of all the independent variables in a multivariate context as they relate to poverty, the dependent variable. But before embarking upon a full-fledged multivariate analysis, we ought to look at a few three-way cross-tabulations between ethnicity and poverty controlled one at a time for measures of SES and traditional values. The basic aim of this trivariate analysis is to see whether the relationship between ethnicity and poverty holds even when each of these measures of SES and traditional values is taken into account one at the time.

The underlying premise for this strategy is that if the original relationship between ethnicity and poverty holds, we have a tentative basis for arguing that ethnicity has an effect on poverty above and beyond the SES characteristics and traditional values associated with it. But the inference is necessarily tentative pending further analysis involving simultaneous entry of several correlated independent variables in a multiple regression scheme. If the original relationship, however, does not hold or is substantially reduced, then the SES and measures of traditional values presumably overide the ethnic factor in explaining poverty. While these results do not help us in deciding which of the two alternative theories hold, they do point to the existence or absence, however tentatively, of

pure ethnic effect.

Multiple Classification Analysis

Multiple Classification Analysis (MCA) is a technique for examining the interrelationship between several predictor variables and a dependent variable within the context of an additive model[4]. It is a variant of a multiple regression technique using dummy variables. The MCA has an advantage over the conventional dummy variable regression technique in that it has its coefficient expressed as a deviation from the grand mean instead of from the mean of the excluded subclass. The MCA can handle nonlinear relationships as well as independent variables in the nominal scale. It generates summary statistics - such as, the beta for each predictor and the overall R^2. The beta coefficient give us the relative importance of a predictor after adjusting for the effects of other predictors while the R^2 tells us the proportion of the total variance in the dependent variable accounted for by all predictors in the model.

For the purpose of this study the MCA serves to summarize the three-way cross tabulation analyses. This analysis is expected to answer the following questions:

1. Is there a pure ethnic effect on poverty once the effects of all other SES characteristics and

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[4]For a detailed discussion of this statistical technique, see Multiple Classification Analysis (Andrews, et al, 1975)

measures of traditional values are taken into account? What are the pure ethnic patterns?

2. Is there any interaction effect between ethnicity and SES characteristics and measures of traditional values in the relationship to poverty? It is plausible to expect that education and current place of residence make a greater difference for the Malays than for the others - especially the Chinese. The assumption underlining this expectation is that the Chinese in Malaysia have had access to profitable economic activities and affluence without depending on education as a means unlike the Malays. The interaction effect is examined by replicating the MCA for each ethnic group.
3. How much of the variance in poverty is explained by ethnicity? We expect it to be quite large, relative to measures of SES and traditional values.
4. What is the probability of being poor in the various categories of the SES characteristics and measures of traditional values? We expect Malays who are poorly educated, mainly reside in the rural areas, are engaged in farming and strongly adhere to traditional values to have a high probability of being poor in contrast to the Chinese who are better schooled, live in metropolitan areas, are occupied in non-farm positions, and are less

traditional in their ways of life.

The Path Model

The final strategy of this research is to develop a set of path models to explain the variance in poverty and affluence within a causal framework. A path model, originally developed by Sewall Wright and initially applied in the social sciences by Dudley Duncan, is not a method for discovering causes but a method to facilitate our thinking in causal terms (Kerlinger and Pedhazur, 1973). The model requires that variables be placed in causal sequences based on our prior knowledge and theoretical assumptions about the relationships expected between the variables. The specification of a model involves a diagram in which the variables are ordered from left to right representing the direction of influence. The model we specify is a recursive model in that the direction of effect is assumed to be unidirectional with no feedback. Every variable to the left is regarded as having a causal influence on every variable to the right. And those variables that are regarded as being causally influenced are labelled endogeneous and those given at the extreme left, not influenced by any variable within the context of a given study, are labelled exogeneous. For example, a path diagram for the present study in an abbreviated form, restricting the number of variables for illustrative purposes, can be represented by Figure 3.3

Level of living is the ultimate dependent variable (X_5) to be predicted by Ethnicity (X_1), Age (X_2), Education (X_3), and Traditional values (X_4). All the variables are linked from left to right by a unidirectional arrow representing one-way causality, except for the pair of variables at the extreme left: Ethnicity and Age. These two are linked by a bi-directional curved arrow in that there is no assumption of causality between them. In the language of path analysis, these two variables, not regarded as being causally influenced by any other variable within the context of the study, as noted above, are referred to as exogeneous variables and all other variables regarded as being caused by every variable to their left in the diagram, are referred to as endogeneous variables. Further, each unidirectional arrow is regarded as a path between the two variables that are linked from left to right, and the strength of each link (i.e., path) can be estimated by a series of Ordinary Least Squares (OLS) multiple regression equations each of which takes a given variable as the dependent variable and all other variables to the left of it as the predictor variables, as follows:

$$X_5=B_4X_4+B_3X_3+B_2X_2+B_1X_1+e_5$$
$$X_4=\quad B_3X_3+B_2X_2+B_1X_1+e_4$$
$$X_3=\quad\quad B_2X_2+B_1X_1+e_3$$

Where X_1=Ethnicity

X_2=Age

X_3=Education

X_4=Traditional value

X_5=Level of living

B_i=Standardized regression coefficients associated with each predictor (X_i)

e_i=error term. (often shown in path analyses as U_i)

The beta coefficients (B_i) estimated by the above OLS regression equations constitute the path coefficients (p_{ij}) for the pair of variables linked directly by unidirectional arrows. In other words, the above equations can be rewritten with p_{ij}s replacing the B_{ij}s:

$$X_5=p_{54}X_4+p_{53}X_3+p_{52}X_2+p_{51}X_1+u_5$$
$$X_4= \quad p_{43}x_3+p_{42}x_2+p_{41}x_1+u_4$$
$$X_3= \quad p_{32}x_2+p_{31}x_1+u_3$$

These values of the path coefficients represent the direct effect on each variable of those variables located to its left. The arrows labelled u_i represent the error terms, or the influences of variables not explicitly included in the model, and are assumed to be unrelated not only to each other but also to any of the other variables specified in the model. The strength of relationship between the two exogeneous variables, Ethnicity and Age, is estimated by the zero-order product-moment r. The advantage of path analysis is not only that it provides an estimate of the direct effect between a pair of variables placed in a presumed

causal sequence but also that it provides an estimate of the indirect effect between a pair of variables through a third (or more) variable(s). The indirect effect of a given variable on another through a third variable is estimated by the product of the direct path coefficients that intervene. For example, the indirect path between Education (X_3) and Level of living (X_5) through traditional value (X_4) is defined by the product: $p_{54} \cdot p_{53}$. If we want to estimate the total indirect influence (rather than a specific indirect path) between two variables, we can subtract the path coefficient between them from the zero-order correlation coefficient between them. Using the above example, the total indirect influence of Education (X_3) on Level of living (X_5) through the various paths is: $r_{35} - p_{53}$. We can thus test the central hypothesis of this study about the presence of a pure ethnic effect on level of living by comparing the direct path coefficient (p_{51}) between Ethnicity (X_1) and Level of living (X_5) against the indirect path coefficient through Education (X_3), estimated by the product, $p_{53} \cdot p_{31}$. If p_{31} is not reduced to zero we can conclude that education does not eliminate the ethnic effect. We can also compare r_{ij} and p_{ij} and judge how much of the total effect (V_{ij}) is reduced to p_{ij} by taking other factors into account. It should be noted that path analysis, dependent as it is on Ordinary Least Squares multiple regression, must share the limitations that go with the latter. It is a linear and additive model with strict

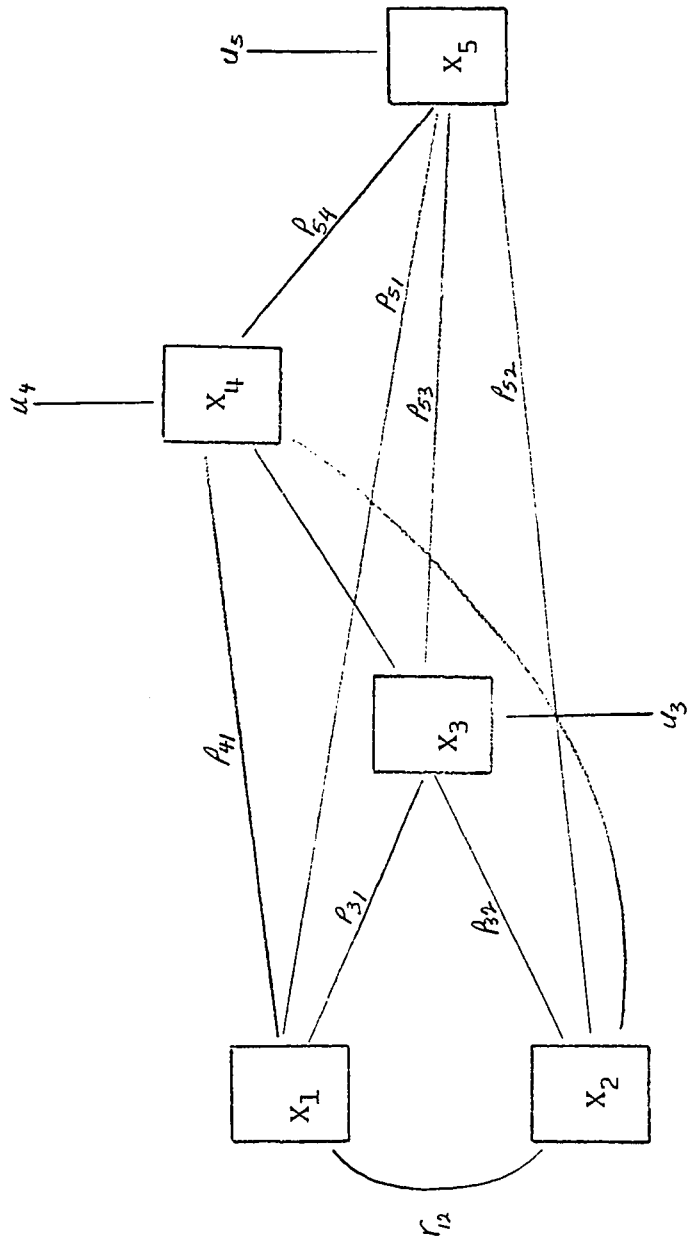


Figure 3.4. Abbreviated Path Diagram of Factors Affecting Level of Living

assumptions about the behavior of the error terms (as already noted above - at least in part). The three assumptions about the error terms are that:

1. they have the same variance (i.e., assumption of homoscedasticity);
2. they are uncorrelated with each other; and
3. they are independent of the explanatory variables.

The assumptions of linearity and constant variance of error terms were tested by using a graphical analysis of residuals, i.e.,by plotting the residuals (error term) of dependent variables (poor and affluent) against the predictors (x_{ip}) (Draper and Smith, 1966; Neter and Wasserman, 1974). The results of this analysis do not show any systematic association, indicating that the linear and constant variance assumptions are satisfied.

We can overcome the additive restriction to some extent by replicating the path analysis for, say, each ethnic group if interaction effects between ethnicity and some of the SES characteristics are suspected. In fact, in our application of path analyses, we do replicate it separately for each ethnic group and for the metropolitan and nonmetropolitan strata for reasons to be discussed later.

The OLS regression model further assumes that the variables are measured on an interval scale (C.A.O'Muircheartaigh and C.Payne,1977, pp.83-85). While dichotomous dependent variables, if not severely skewed, are frequently used, it is usually recommended that the

variables be measured at least on an ordinal scale. For this reason, we use a 5-point level of living scale (discussed in Chapter VI) for our dependent variable in place of proportion poor or affluent that was used in the MCA. Also, none of the other endogeneous variables are entered in a dummy variable form. Only ethnicity, an exogeneous variable in our model, is entered in a dummy variable form when path analysis is applied to the total sample and for the metropolitan and nonmetropolitan strata.

Now, as to our causal modelling for the application of path analysis, there are important limitations posed by the lack of appropriate data especially for the purpose of testing the two alternative theories of poverty - the traditional values versus the structural theory. Ideally, we would want some data on respondents' parents (e.g., their SES characteristics, their aspiration for their children , their adherence to traditional values, etc.) and on the respondents themselves at earlier stages of their lives (e.g., their adherence to traditional values in adolescence). In fact, of course, we have only cross-sectional data as of the time of the interview in 1974. The path model that we will employ is diagrammed in Figure 3.5. Apart from the absence of parental data, the model as diagrammed is problematic with respect to the location of the box on "traditional values" . Rather than placing it so far to the right as we have placed it, we would have preferred to locate it between "childhood place of

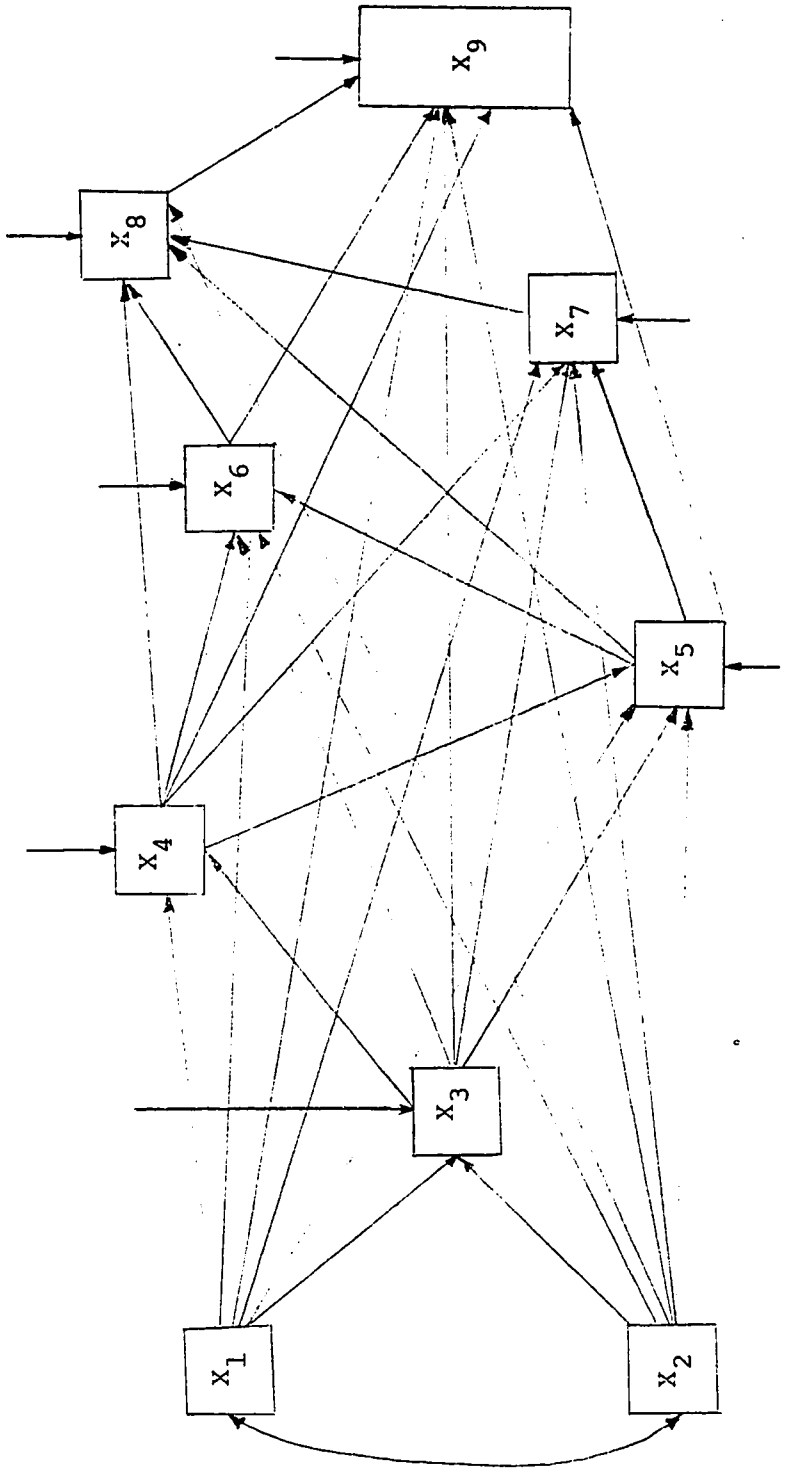


FIGURE 3.5. RECURSIVE PATH DIAGRAM OF FACTORS AFFECTING LEVEL OF LIVING

residence" and "education". Unfortunately, our measurement of "traditional values" refers to the time of the survey and not to an earlier time in the lives of our respondents. Measured as of the time of the survey, we have no recourse but to regard the "traditional values" as being at least in part a consequence of the life experiences (in education, occupation, and place of residence) in adulthood. This confounding associated with the measurement of "traditional values" will, inevitably, contribute to the difficulty in interpreting the results of our analysis vis-a -vis the two theories of poverty. As we have it diagrammed (necessitiated by the nature of the data), we cannot test whether "traditional values" are responsible for the respondents' education, type of occupation and current place of residence and level of living achieved. The locations of the variables in the model also reflect our assumptions of the temporal sequence. In the model we assume education to be influenced by childhood place of residence. As compared to the Chinese and the Indians, the Malays are more rural, and we would suspect them to be poorly educated relative to the other two ethnic groups. In Malaysia, education is generally assumed to affect, and therefore precede occupational choice. Those who are poorly educated are less likely to be in the higher status jobs. Current place of residence is assumed to be influenced by childhood place of residence, education and occupation. Our assumptions are that those who are better educated and are in higher status

jobs are more likely to reside in metropolitan places. The location of family size in the model, like the traditional value, is also problematic. In this study, however, we want to impose a temporal sequence and assume that the decision on the number of children ever born is a function of current residence, occupation, education, and childhood place of residence. The more modern one is, i.e., those who grew up in towns, the better educated, those who are in higher status jobs and those who currently reside in metropolitan places are assumed to have smaller number of children. Given our data limitations, we are confined to test the following kinds of hypotheses:

1. Malays, even after controlling for the effects of all other variables, are more likely than the non-Malays to:

    a. live in villages in their childhood
    b. have less schooling
    c. enter farming
    d. end up living in villages
    e. adhere to traditional values

    These hypotheses can be confirmed if direct effect of ethnicity on each of these is not reduced to statistical insignificance when the effects of the other variables preceding each of these are taken into account in the path model. The existence of direct effect between ethnicity and poverty suggests that ethnic differential in poverty cannot be accounted for fully by the various

SES characteristics that are associated with ethnicity . There is something about being a Malay or a non-Malay that affects the probability of being poor in the Malaysian context. A result like this could suggest , though not necessarily prove, the operation of cultural factors in probability of being poor in the Malaysian context. We cannot identify those cultural factors with the data at hand, however.

2. If much of the observed ethnic effect on poverty is mediated through childhood place of residence, education, occupation, current place of residence and/or traditional values, to the extent that the indirect effects through various combinations of these mediating factors are relatively large and statistically significant, then we can conclude that education, occupation, and place of residence facilitate rise in level of living (away from poverty) for all ethnic groups. This conclusion would be suggested in spite of the tendency for Malays to have less schooling, to be in farming, and to be living in rural areas. Beyond this, we can only speculate as to what accounts for the Malays being disadvantaged in these regards. We do not have appropriate data to attribute ethnic differential in education, occupation, and residence to either traditional values or

structural barriers

3. Traditional values are likely to be held more often by:
   a. the Malays
   b. those whose childhood was spent in estate or village
   c. those in farming
   d. those currently living in non-metropolitan places

   These expectations could be supported by statistically significant direct effects from these factors. However, one could argue for a feed back on traditional values from level of living. We do not include this possibility in the recursive path model that we are going to use, though some caution is warranted in interpreting our results. Perhaps the best we can say is that traditional values, measuresd as they are at the time of the survey, are <u>associated</u> with poverty.
4. Age is expected to affect mostly education (the younger are more likely to be better schooled) and traditional values (the younger are less likely to adhere to them), and other variables to much lesser extent, if at all. Age is entered as an exogeneous variable along with ethnicity in the path model and will serve more as a control variable rather than a

predictor variable.

In the path analysis our basic aim is to explain the variance in the level of living with ethnicity as a key predictor. We also look for the possibility of interaction effects of the various SES characteristics with ethnicity - that is, the possibility that the effect of these predictors may differ for each ethnic group. Three kinds of interaction can be hypothesized: ethnicity X husband's education, ethnicity X husband's occupation, and ethnicity X place of residence. The basis of these hypotheses is the expectation that the role of education, occupation and place of residence in raising one's level of living may differ by ethnicity. The Malays much more than the non-Malays may depend on better education, more appropriate occupation, and metropolitan residence as ways to improve their lot.

CHAPTER IV

CHARACTERISTICS OF POVERTY

Bivariate Analysis

The aim of bivariate analysis is to provide an initial look at the correlates of poverty in Peninsular Malaysia. There are three parts to this analysis. The first part examines the relationship of SES characteristics, measures of traditional values, demographic variables and ethnicity with poverty while the second part examines the relationship of these independent variables with affluence. In the third part we look at the relationship between ethnicity and the SES characteristics, measures of traditional values, and demographic variables. For this analysis, poverty and affluence as dependent variables are defined dichotomously. They are coded 1 if poor or affluent, as the case may be, and 0 if otherwise.

The results of the first and second parts of our bivariate analysis are summarized in Table 4.1, where the proportion poor and affluent in each category of our independent variables are shown in relation to the overall proportions: 22 per cent poor and 13 per cent affluent. The patterns are by and large consistent with our expectations. Looking first at the proportion poor, we find that it is

above the overall proportion for:

1. The Malays (35 percent)
2. Those with less than 1 year of formal schooling (47 percent) or 1-6 years of schooling but illiterate (37 percent)
3. Those who are farmers (48 percent) or farm workers (31 percent)
4. Those who grew up in villages (30 percent)
5. Those who currently reside in villages (27 per cent)
6. Those who consider religion as very important (24 percent) or important (25 percent)
7. Those who expect to rely on children for financial support in old age a great deal (25 per cent)
8. Those who expect financial support in old age from other family members (27 percent)
9. Those who live in households with 2-5 members (28 percent) or 6-7 members (25 percent) but not with 8 or more (17 percent)
10. Those who desire more than two children (26 per cent)
11. Those who are under 25 (31 percent) or 55 years of age or over (31 percent)

The proportion is especially high (say, 30 percent or more) among the Malays, the illiterate, the farmers and farm workers, those who currently reside in villages, and the youngest and the oldest in the population. By contrast it

is lowest among the Chinese (3 percent) and the Indians (7 percent), those with 7 years of schooling or more (5 per cent), professional (3 percent) or clerical workers (7 per cent), those who grew up in a town (4 percent) or currently reside in metropolitan (1 percent) or other urban places (6 per cent), those who are uncertain as to the importance of religion (6 percent), and those who expect to rely on pension (3 percent) for support in old age.

The proportion affluent is above the average (13 per cent) for:

1. The Chinese (22 percent)
2. Those with 7 or more years of schooling (38 per cent)
3. The professional (48 percent), clerical (38 per cent), sales (23 percent), and service workers (19 percent)
4. Those who grew up in towns (35 percent)
5. Those who currently reside in metropolitan (37 per cent) or other urban places (17 percent)
6. Those who are uncertain as to the importance of religion (19 percent)
7. Those who expect to rely on pension (32 percent) or saving (15 percent) for fianancial support in old age
8. Those who live in households of 2-5 members (18 per cent) or 6-7 members (16 percent)
9. Those who have 0-2 children (19 per cent) or 3-4

TABLE 4.1

PERCENTAGES POOR AND RICH BY ETHNICITY, SES CHARACTERISTICS, TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES

Predictors	N	%Poor	Deviation from overall%	%Rich	Deviation from overall%
Total	6,336	22	-	13	-
Ethnicity:					
Malay	3,587	35	+14	6	-7
Chinese	2,107	3	-19	22	+9
Indian	589	7	-15	13	+0
Husband's education:					
religious	221	22	0	8	-5
less than 1 year.	865	47	+25	2	-11
1-6, illiterate	231	37	+15	3	-10
1-6, literate	3,502	21	-1	6	-7
7 and above	1,397	5	-17	38	25

TABLE 4.1 (continued)

Predictors	N	%Poor	Deviation from overall%	%Rich	Deviation from overall%
Husband's occupation:					
professional	504	3	-19	48	+35
clerical	288	1	-21	38	+15
sales	630	10	-12	23	+10
farmer	1,381	48	+26	1	-12
general farm worker	984	31	+19	1	-12
service	575	9	-13	19	+6
production	1,640	17	-5	10	-3
laborer	287	20	-2	1	-12
Husband's childhood place of residence:					
town	1,322	4	-18	35	+22
village	4,637	27	+5	7	-6
estate	322	11	-11	6	-7

TABLE 4.1 (continued)

Predictors	N	%Poor	Deviation from overall%	%Rich	Deviation from overall%
Husband's current residence:					
metropolitan	1,014	1	-21	37	+24
small town	939	6	-16	17	+4
village	4,336	30	+8	6	-7
Importance of religion:					
very important	1,430	24	+2	10	-3
important	3,877	25	+3	11	-2
uncertain	839	6	-16	19	+6
Reliance on children for financial support:					
great deal	1,711	25	+35	8	-5
a little	388	21	-1	12	-1
not at all	3,870	9	-13	39	26

TABLE 4.1 (continued)

Predictors	N	%Poor	Deviation from overall%	%Rich	Deviation from overall%
Old age financial support other than children:					
other family members:	3,658	27	+5	7	-6
saving	1,646	20	-1	15	+2
pension	923	3	-19	32	+19
Household size:					
2-5	1,641	28	+6	18	+5
6-7	918	25	+3	16	+3
8 & above	2,970	17	-5	10	-3
Parity:					
0-2	5,523	21	-1	13	+0
3-4	470	26	+4	11	-2
5 & above	186	26	+44	10	-3

TABLE 4.1 (continued)

Predictors	N	%Poor	Deviation from overall%	%Rich	Deviation from overall%
Husband's age:					
under 25	341	31	+9	6	-7
25-29	862	22	0	16	+3
30-34	1,058	19	-3	17	+4
35-39	1,221	20	-2	12	-1
40-44	830	20	-2	12	-1
45-49	775	16	-6	12	-1
50-54	557	22	0	12	-1
55 & above	692	32	+10	8	-4

[a]Note that the n's do not add up to the total N because of the varying numbers of missing data (NA's) for the various variables.

children (17 percent)

10. Those who are in the ages 25-29 (16 percent) or 30-34 (17 percent)

Affluence by our definition is particularly conspicuous (say, more than 20 per cent) among the Chinese, the highly educated, the professional, clerical and sales workers, those who either grew up in towns or currently reside in metropolitan places, and those who expect to rely on pension for fianancial support in old age. As might be expected, these are the groups of people among whom poverty is least evident. They comprise the modern sector of the population of Peninsular Malaysia as the poor comprise for the most part the traditional, rural sector.

The results of the third part of our bivariate analaysis are also found to be consistent with our expectations, as can be seen in Table 4.2. Relative to the Chinese and the Indians, the Malays are found disproportionately in categories like childhood residence in villages (90 per cent) or current residence in villages (84 per cent), family size of 2-5 (32 per cent), religion to be very important (30 per cent) or important (69 percent), expect a good deal of financial support from children (23 per cent) and other family members (54 per cent) in old age, farmers (32 per cent), and less than 1 year of schooling (18 per cent) - which are all highly correlated with poverty. In contrast, the proportions of Malays is low in categories like 7 years and more of schooling (17 per cent),

professional (8 per cent), clerical (3 per cent), sales (5 per cent), and service (12 per cent) occupations, childhood residence in towns (10 per cent) or
current residence in metropolitan areas (6 per cent) and expect to rely on pension for financial support in old ages (16 per cent) - all highly correlated with affluence. The Chinese are disproportionately represented in these categories.

Trivariate Analysis

The aim of this analysis is to examine whether the relationship between ethnicity and poverty and affluence, observed in the bivariate analysis, hold even after the effect of each of the other SES characteristics, measures of traditional values, and demographic variables is taken into account one at a time. As in the bivariate analysis, our dependent variables are defined as the proportion poor at one end and the proportion affluent at the other end on the scale that measures the level of living.

The results of the trivariate analysis summarized in Table 4.3 reveal several important things:

1. Malays are indeed more likely to be poor - by a substantial margins than either the Chinese or the Indians, even after taking into acccunt, one at a time, other factors that were found to be related to both poverty and ethnicity in the earlier bivariate analysis. The proportion classified as

TABLE 4.2
PERCENT DISTRIBUTION ON SES,TRADITIONAL VALUES
AND DEMOGRAPHIC CHARACTERISTICS BY ETHNICITY

Predictors	All groups	Malay	Chinese	Indian
Total	6,283 (100%)	3,587 (53%)	2,107 (36%)	589 (10%)
	100%[a]	100%	100%	100%
Husband's education:				
religious schooling	4	3	5	0
less than one year	14	18	8	12
1-6 years, illiterate	4	3	3	6
1-6 years, literate	56	59	55	48
7 years and more	22	17	29	34
Husband's occupation:				
professional	8	8	8	9
clerical	4	3	6	9
sales	10	5	20	4
farmer	21	32	9	5

TABLE 4.2 (continued)

Predictors	All groups	Malay	Chinese	Indian
general farm worker	16	17	8	32
service	9	12	4	10
production	27	8	42	22
laborer	5	5	3	9
Husband's childhood residence:				
town	21	10	35	34
village	74	90	61	27
estate	5	0	4	39
Husband's current residence:				
metropolitan	16	6	30	24
small town	15	10	25	13
village	69	84	45	63

TABLE 4.2 (continued)

Predictors	All groups	Malay	Chinese	Indian
Houseld size:				
2-5	30	32	27	24
6-7	17	18	15	14
8 and above	53	50	58	62
Parity:				
0-2	57	60	54	53
3-4	23	22	25	25
5 and above	19	18	21	22
Number of children desired:				
0-2	89	86	93	95
3-4	9	10	5	3
5 and above	3	4	2	2

TABLE 4.2 (continued)

Predictors	All groups	Malay	Chinese	Indian
Importance of religion:				
very important	23	30	7	35
important	63	69	54	60
uncertain	14	1	39	5
Reliance on children for financial support:				
good deal	29	23	41	18
a little	65	72	54	65
not at all	6	5	5	17
Old age financial support support other than children:				
other family members	59	54	71	45
saving	26	30	20	32
pension	15	16	9	23

TABLE 4.2 (continued)

Predictors	All groups	Malay	Chinese	Indian
Husband's age:				
under 25	5	6	4	4
25-29	14	15	12	16
30-34	17	15	21	13
33-39	19	18	20	17
40-44	13	13	14	11
45-49	12	12	12	16
50-54	9	9	8	11
55 and above	11	12	9	12

[a]Based on cases for which data available for each of the variables.

poor is higher for the Malays in all but three cases (clerical workers, those who grew up in estates and those currently residing in metropolitan places) of the various factors taken into account. The largest differences are for those with less than 7 years of schooling, those who are other than professional or clerical workers, those who grew up in villages, and those who currently reside in villages.

2. The proportion poor among the non-Malays is generally very low; but within each ethnic group , there is ample indication that poverty is higher for the less educated, those in farming or who are production or unskilled laborers, those who either grew up in villages or who currently reside in villages, those who are less likely to depend on their children for financial support in old age or those who intend to depend on other family members (rather than on saving or pension). For only the Malays, poverty is somewhat more likely among the youngest (under 25) and the oldest (55 and above). For the non-Malays, the proportion poor is 10 per cent or more in the following categories: the Chinese with less than 1 year of schooling (10 per cent), the Indians with less than 1 year of formal schooling (13 percent) or thse who are illiterate inspite of 1-6 years of schooling (20 percent);the

TABLE 4.3

RELATIONSHIP BETWEEN ETHNICITY AND POVERTY AND AFFLUENCE AFTER CONTROLLING FOR SES CHARACTERISTICS, TRADITIONAL VALUES, AND DEMOGRAPHIC VARIABLES, ONE AT A TIME

Predictors	Percent Poor				Percent Affluent			
	All groups	Mal	Chi	Ind	All group	Mal	Chi	Ind
Total (%)	22	35	3	7	12	6	22	13
Husband's education:								
religous	22	34	4	0	8	2	13	0
less than 1 year	47	59	10	13	2	0	5	4
1-6,illiterate	37	78	8	20	3	2	8	0
1-6,literate	21	32	3	7	6	3	12	4
7 and more years	5	10	1	2	38	25	48	31
Husband's occupation:								
professional	3	4	0	0	48	30	66	57
clerical	1	0	0	0	38	23	52	57
sales	10	27	1	4	23	5	32	17

TABLE 4.3 (continued)

Predictors	Percent Poor				Percent Affluent			
	All groups	Mal	Chi	Mal	All groups	Mal	Chi	Ind
Husband's occupation (continued):								
farmer	48	56	7	3	1	0	5	0
general farm worker	31	43	10	14	1	0	3	0
production	13	60	3	5	10	10	13	9
services	9	11	0	3	19	16	27	20
laborer	20	27	8	6	2	1	0	4
Childhood residence:								
town	4	10	2	1	35	27	40	26
village	27	37	4	6	7	4	12	10
estate	11	0	5	1	6	0	11	3

TABLE 4.3 (continued)

Predictors	Percent Poor				Percent Affluent			
	All groups	Mal	Chi	Ind	All groups	Mal	Chi	Ind
Current residence:								
metropolitan	1	3	1	0	37	33	39	29
small town	6	13	1	5	17	14	18	13
village	30	39	6	10	6	4	13	7
Importance of religion:								
very important	24	30	5	9	10	1	19	14
important	25	36	3	6	11	6	21	12
uncertain	6	34	4	7	19	5	19	17
Reliance on for financial support:								
good deal	25	48	4	10	8	2	13	8
a little	21	32	3	6	12	7	25	10
not at all	9	14	1	8	39	25	30	13

TABLE 4.3 (continued)

Predictors	Percent Poor				Percent Affluent			
	All groups	Mal	Chi	Ind	All groups	Mal	Chi	Ind
Old age financial support other than children:								
other family members	27	47	4	10	7	5	14	6
saving	20	29	2	7	15	4	36	13
pension	3	4	1	1	32	16	28	28
Household size:								
2-5	28	41	0	16	18	8	32	16
6-7	25	38	4	0	16	7	26	23
8 and above	17	29	3	1	10	5	16	10
Parity:								
0-2	22	33	2	11	19	7	25	13
3-4	21	36	5	1	17	6	21	20
5 and above	22	38	4	5	11	4	15	5

TABLE 4.3 (continued)

Predictors	Percent Poor				Percent Affluent			
	All groups	Mal	Chi	Ind	All groups	Mal	Chi	Ind
Number children desired:								
0-2	21	34	3	6	13	6	22	14
3-4	26	34	2	2	11	8	22	0
5 and above	26	34	2	8	10	10	12	3
Husband's age:								
under 25	31	46	3	12	6	3	11	0
25-29	22	32	3	8	16	11	28	4
30-34	19	35	3	5	17	11	25	16
35-39	20	31	3	12	12	6	19	13
40-44	20	32	3	8	12	5	20	18
45-49	16	29	3	0	12	3	24	18
50-54	22	34	3	1	12	6	10	14
55 and above	32	46	3	10	8	3	19	0

0 indicates less than .5%, including 0 cases of poor or affluent based on n<10

Chinese (10 percent) and the Indians (14 percent) who are general farm workers, the Indians who currently live in villages, the Indians who intend to depend on their children a great deal for financial support in old age (10 percent) or on other family members (10 percent). This proportion is 10 percent or more also for the Indians with household size 2-5 (16 per cent), or with less than three children (11 percent), and those in ages under 25 (12 percent), 35-39 (12 percent), or 35 and over (10 percent), but the interpretation is somewhat difficult due to various confounding effects of other variables that are related to these demographic characteristics.

3. The Chinese have the highest proportion classified as affluenct in all but three categories (clerical workers, those who intend to depend on pensions for old age support, and those in the ages 50-54), but the ethnic differences are <u>not</u> as large as in the case of poverty. In fact, the Malays, though having consistently lower proportion affluent as compared to the Chinese, do have higher or similar proportion affluent as compared to the Indians in the following categories: production workers (Malay 10% vs Indians 9%), those who grew up in towns (Malays 27% vs Indians 26%), those who currently reside in metropolitan places (Malays 33% vs

Indians 29%), or in small towns (Malays 14% vs Indians 13%), those who do not intend at all to depend on their children for financial support in old age (Malay 25% vs Indians 13%), those who desire 3-4 children (Malays 8% vs Indians 0%) or 5 or more children (Malays 10% vs Indians 3%), those under 25 (Malay 3% vs Indians <1%); 25-29 (Malay 11% vs Indians 4%), or 55 and over (Malay 3% vs Indians <1%).

4. Within each ethnic group, affluence is more likely for those with 7 or more years of schooling, those in professional and clerical occupation and interestingly in services and for the non-Malays in sales, those who grew up in towns or who currently live in towns or metropolitan places in particular, those who tend not to depend on children or other family members, and for the Malays and the Chinese, those who are in the ages 25-34.

Summary

From the bivariate analysis we can conclude that the poor in Peninsula Malaysia are those who are Malay, the uneducated, the low status job holders, residents of rural areas both in childhood and currently, those who place high dependence on their children and other family members for financial support in old age and who percieve religion as very important or important in their lives. The affluent by contrast are the better educated, the urban residents in

both childhood and currently and holders mainly of good status jobs like professional, clerical and sales.

From the trivariate analysis we can see indications of pure ethnic effect. The proportion poor among Malays is highest and by a substantial margin relative to the Chinese and Indians, even when controlled for each predictor variable one at a time. For the affluent, however, the result is not consistent with our expectation in that in many instances, as can be seen in Table 4.3, the Malays are not necessarily the least affluent. In several categories, they do as well as, if not better than, the Indians though consistently less well than the Chinese.

CHAPTER V

MULTIPLE CLASSIFICATION ANALYSIS

In this chapter we move to a multivariate mode of analysis employing a multiple regression technique appropriate to our basically categorical data - Multiple Classification Analysis (MCA).

There are three parts to this chapter. The first part extends the trivariate analysis conducted in Chapter IV. The aim of this exercise is twofold: (1) to find out if the ethnic effect on poverty or affluence noted in the earlier analysis persists even after controlling for several SES characteristics, measures of traditional values and demographic variables all at one time, and (2) to determine whether there are interaction effects between ethnicity, the key SES variables: education, occupation, and current place of residence and level of living. In the second part of this chapter we want to decompose the variance explained in poverty and affluence by ethnicity and the three major groups of predictors: SES characteristics, measures of traditional values, and demographic variables. From this analysis we would like to be able to quantify the amount of variance in the dependent variables explained by these independent variables. Finally, we would like to profile

the poor and the rich by the various categories of the independent variables and estimate the probability of being poor or rich by those who fall into a number of these categories.

Ethnicity and Interaction

This study hypothesizes that there will be a pure ethnic effect on both poverty and affluence: we expect, after controlling all the 11 predictors, the Malays will be the poorest and the least rich among the three ethnic groups.

Two models are used to investigate the presence of pure ethnic effect on the dependent variables. In the first model we want to regress poverty and affluence on SES characteristics, measures of traditional values, and demographic variables for each ethnic group separately, thus allowing for any interaction effects ethnicity may have with the other predictors, the SES characteristics in particular, to show up. In the second model we want to take the total sample and ethnicity as one of the predictor variables on the assumption that whatever interaction effects ethnicity has with some of the key SES variables are negligible (a judgment to be based on the results of applying the first model).

Table 5.1 summarizes the results from the application of the first model. They confirm our expectation that Malays are the poorest in every category of the independent variables after controlling for the effects of all

variables. The proportion poor among the Malays in each category of the independent variables is in fact substantially larger than the proportion poor among the Indians and the Chinese. The results, however, do not confirm our expectation that the Malays are the least likely to be rich, as can be seen in Table 5.1, where in many instances the proportion rich among Malays equals or even exceeds the proportion rich among the Indians. In this analysis we can also see that the proportion rich among the Chinese for all categories of the independent variables exceeds that of the Malays and the Indians, and in most cases by substantial margins.

At the bottom of Table 5.1 are shown the Adjusted R^2 for the poor and the rich for each ethnic group. With poverty as the dependent variable, the Adjusted R^2 is 0.28 for the Malays as compared to only 0.03 and 0.08 for the Chinese and the Indians, respectively. What this mean is that the 11 predictors can explain 28 percent of the variance in poverty among the Malays but only 3 percent and 8 percent of the variance in poverty among the Chinese and the Indians. In the case of the affluent, these 11 perdictors are able to explain 29 percent of the variance for the Malays, 35 percent for the Chinese and 34 percent for the Indians.

From the beta coefficients in Table 5.1, we can also see the relative importance of the predictors in explaining the dependent variables. The betas for the Malays in order

are: husband's education (0.24), husband's occupation (0.23) wife' expectation of financial support in old age other than from children (0.16), family size (0.11), and husband's current place of residence (0.10). For the Chinese, the relative importance of the predictors is: family size (0.13), husband's occupation (0.12) and husband's place of residence (0.11), while among the Indians the ranking in relative importance is husband's education (0.21), husband's age (0.18) and husband's childhood place of residence (0.17).

For the affluent, the first three measures of SES invariably are very important predictors for all three ethnic groups. The fourth predictor, current place of residence, is also very important for all but the Indians. The traditional values, wife's dependence on children for financial support in old age is important for the Malays (0.10) and the Indians (0.14) and wife's expectation of financial support from other than their children for the Malays (0.12) and the Chinese (0.18). Of the demographic variables only husband's age is important for the Indians (0.21) and, to some extent, for the Chinese (0.10).

To get a better view of the relative importance of the three groups of predictors, each group is regressed separately within each ethnic group for poverty and affluence (Table 5.2). The four SES characteristics explain 19 percent of the variance of poverty among the Malays while measures of traditional values and demographic variables,

TABLE 5.1

SUMMARY STATISTICS OF MCA MODEL OF ETHNIC POVERTY AND AFFLUENCE BY SES CHARACTERISTICS, MEASURES OF TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES

Predictors	Adjusted Means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Grand mean	.35	.03	.07	.06	22	13
Husband's education:	(.24)	(.09)	(.21)	(.16)	(.19)	(.19)
religious	.41	.03	.10	.07	.28	.04
less than one year	.60	.08	.19	.07	.17	.11
1-6, illiterate	.56	.01	.24	.08	.17	.08
1-6, literate	.31	.02	.05	.07	.23	.10
7 and above	.25	.02	.04	.18	.40	.23
Husband's occupation:	(.23)	(.12)	(.08)	(.19)	(.23)	(.36)
professional	.24	.01	.03	.21	.51	.48
clerical	.22	.01	.08	.12	.40	.12
sales	.26	.01	.07	.05	.37	.03

TABLE 5.1 (continued)

Predictors	Adjusted means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Husband's occupation (continued):						
farmer	.50	.05	.09	.08	.20	.00
general farm	.39	.06	.08	.06	.17	.11
service	.22	.00	.06	.18	.21	.21
production	.30	.02	.05	.07	.23	.10
laborer	.35	.09	.02	.02	.12	.06
Husband's childhood place of residence:	(.07)	(.02)	(.17)	(.10)	(.11)	(.13)
town	.35	.02	.02	.17	.35	.21
village	.36	.02	.05	.08	.25	.10
estate	.00	.02	.12	.14	.24	.14

TABLE 5.1 (continued)

Predictors	Adjusted Means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Husband's current place of residence:	(.10)	(.11)	(.08)	(.18)	(.12)	(.05)
metropolitan	.22	.02	.04	.27	.36	.19
small town	.27	.00	.10	.11	.22	.13
village	.38	.04	.06	.07	.07	.15
Number of children ever born:	(.04)	(.08)	(.08)	(.01)	(.06)	(.06)
0-2	.35	.02	.06	.10	.30	.16
3-4	.36	.03	.11	.06	.26	.18
5 and above	.38	.04	.04	.09	.24	.13
Number of children desired:	(.01)	(.03)	(.08)	(.05)	(.06)	(.04)
0-2	.35	.02	.06	.10	.30	.16
3-4	.36	.03	.11	.06	.26	.18
5 and above	.38	.00	.00	.11	.17	.25

TABLE 5.1 (continued)

Predictors	Adjusted Means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Household size:	(.11)	(.13)	(.13)	(.03)	(.02)	(.05)
2-5	.40	.03	.10	.09	.28	.15
6-7	.37	.05	.03	.11	.30	.15
8 and above	.28	.00	.04	.08	.29	.15
Wife's perception on the importance of religion:	(.06)	(.06)	(.05)	(.01)	(.04)	(.06)
very important	.32	.06	.06	.10	.23	.15
important	.37	.02	.06	.09	.30	.16
uncertain	.46	.02	.11	.05	.28	.25

TABLE 5.1 (continued)

Predictors	Adjusted Means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Wife's dependence on children for financial support in old age:	(.02)	(.04)	(.12)	(.10)	(.07)	(.14)
good deal	.36	.03	.08	.08	.25	.11
a little	.35	.02	.04	.09	.30	.14
not at all	.40	.01	.11	.21	.37	.26
Wife's financial support in old age other than from children:	(.16)	(.03)	(.09)	(.12)	(.18)	(.05)
family support	.43	.03	.06	.08	.24	.14
saving	.31	.02	.08	.08	.39	.16
pension	.24	.01	.03	.17	.43	.18

TABLE 5.1 (continued)

Predictors	Adjusted Means					
	Poor			Rich		
	Mal	Chi	Ind	Mal	Chi	Ind
Husband's age:	(.08)	(.08)	(.18)	(.06)	(.10)	(.21)
less than 25	.41	.03	.03	.06	.23	.08
25-29	.39	.03	.11	.10	.27	.09
30-34	.37	.03	.02	.12	.29	.11
35-39	.31	.02	.05	.09	.26	.22
40-44	.30	.01	.05	.09	.31	.23
45-49	.35	.01	.05	.08	.33	.15
50-54	.32	.02	.00	.08	.47	.30
55 and above	.33	.01	.04	.08	.35	.31
Adjusted R^2	.28	.03	.08	.29	.35	.34

[a]Figures in parentheses are beta coefficients which in MCA give the realtive importance, though not the strength of relationship, of the predictor variables.

respectively, explain 11 percent and 3 percent. Clearly SES characteristics are the strongest predictors of Malay poverty, followed to a lesser extent, by traditional values and, to a very much lesser extent, by the four demographic variables. These predictors fail to explain much of the incidence of poverty, which is miniscule at best, among the non-Malays, though even for them the four SES characteristics do explain the most within the narrow confines of the small amount of variance explained overall for them.

Applied to the rich, the full model explains 29 percent of the variance for the Malays, 35 percent for the Chinese and 34 percent for the Indians. In this case again we see the much stronger predictive power of the SES characteristics as compared to the others.

The strong predictive power of the SES characteristics in relation to these dependent variables is not unexpected. This simply confirms our earlier results that suggested better schooling, good jobs, and urban residence to be related to better living in the Malaysian context.

Measures of traditional values are relatively strong predictors for poverty among the Malays and of affluence across the three ethnic groups, while the demographic variables are generally weak predictors for both the poor and the rich.

In Table 5.2 we see that in each column the sum of the

TABLE 5.2

DECOMPOSITION OF VARIANCE EXPLAINED IN POVERTY AND AFFLUENCE BY SES CHARACTERISTICS, TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES

	Poor			Rich		
Independent variables	Malay	Chinese	Indian	Malay	Chinese	Indian
socioeconomic status characteristics	.19	.04	.06	.22	.29	.27
measures of traditional values	.11	.00	.02	.11	.14	.07
demographic variables	.03	.01	.03	.01	.05	.06
Adjusted R^2	.28	.03	.08	.29	.35	.34

amount of variance explained by each group of predictors taken one group at a time exceeds the total variance explained in the full model where all the 11 predictors are entered at once. This indicates that the independent variables overlap across groups in their effects on these dependent variables.

One of the reasons for applying MCA separately for each ethnic group under the first model was to see if some of the interaction effects suggested in Table 4.3 between ethnicity and some of the other predictors do indeed hold under a multivariate context. It is important to make this assessment prior to moving to the second model where ethnicity is entered as a predictor along with the others to determine the presence or absence of pure ethnic effect on poverty or affluence. The basic question is whether or not it is necessary to incorporate any interaction effect involving ethnicity in specfying the second model. Rather than examining every possible interaction effect, we choose to restrict our attention to three, based on the following considerations, stated in the form of hypotheses:

1. There is interaction between ethnicity and education. It is expected that education plays a different role for the Malays and the non-Malays as far as improvement of living standards is concerned. Basically disadvantaged as the Malays are, their chances for upward social mobility are facilitated by education much more strongly than

the non-Malays

2. There is interaction between ethnicity and occupation. It is expected that occupation plays a similar role as education in facilitating upward social mobility - much more strongly for the Malays than for the ncn-Malays.
3. There is interaction between ethnicity and current place of residence. It is expected that metropolitan residence for the predominantly rural-born Malays serves to improve their living standards much more strongly than for the non-Malays.

These three hypotheses are consistent with the assumptions underlying Malaysia's New Economic Policy and New Education Policy which aim to eradicate poverty concentrated among the disadvantaged Malays due to their generally low schooling, rural residence, and farm status, by restructuring society - mainly by opening up educational and business opportunities for them, which inevitablly would entail movement to the urban centers where these opportunities are more abundant. Testing these three hypotheses will enable us to judge whether education, occupation, and metropolitan residence have served the Malays in their escape from the poverty trap more strongly (hence, the presence of interaction effects) than they may have served the non-Malays as of the mid-1970s (prior to any effects that could possibly have come from the new policies

most of which were promulgated in the early 1970s).

A graphical method is used to test for possible interaction effects between the three pairs of predictors suggested by the foregoing hypotheses: ethnicity X husband's education, ethnicity X husband's occupation, and ethnicity X current place of residence. As shown in Figures 5.1 - 5.6, the adjusted means of poverty and of affluence (from the MCA results summarized in Table 5.1) for each category of the SES varibales (education, occupation, and current place of residence) are plotted separately by ethnic group, thus yielding three lines (Malays, Chinese, Indian) to be compared for each pair of predictors between which interaction effect is examined. There is interaction effect to the extent that the lines depart from being parallel to each other, the most clear-cut case being where the lines intersect.

The examination of Figures 5.1 - 5.6 reveals that:

1. the lines are basically parallel in Figure 5.2, and 5.3 and 5.4 suggesting little interaction between ethnicity and education on affluence (Figure 5.2), and ethnicity and occupation on both poverty and affluence (Figure 5.4).
2. the lines depart from being parallel in Figures 5.1, 5.5, and 5.6, suggesting some interaction between ethnicity and education on poverty (Figure 5.1) and between ethnicity and place of residence on both poverty and affluence (Figure 5.6). As

hypothesized, the lines that have different slopes (and hence depart from being parallel) are those for the Malays and the steepness is towards the categories "7 or more years of schooling" and "metropolitan residence".

These results indicate that good education is related to less poverty for the Malays (and to some extent the Indians) and metropolitan residence, to both less poverty and more affluence for the Malays - much more so than for the Chinese, if not also for the Indians. The strongest interaction effect is found between ethnicity and current place of residence, as can be seen from the steeper slopes of the Malay lines in Figures 5.5 and 5.6 as compared to Figure 5.1, where the slopes of the Malay is only slightly steeper than that of the Indians though considerably more so than that of the Chinese.

In our next stage of analysis we choose to incorporate only the strongest interaction effect which is the effect that ethnicity and current place of residence have on level of living.

Pure Ethnic Effect

In the second model, the total sample is examined with ethnicity as one of the predictors along with the other SES characteristics, measures of traditional values, and demographic variables. Two research questions guide this analysis: (1) How important is ethnicity relative to all

Figure 5.1

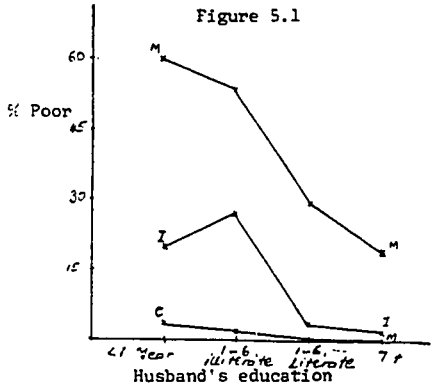


Figure 5.2

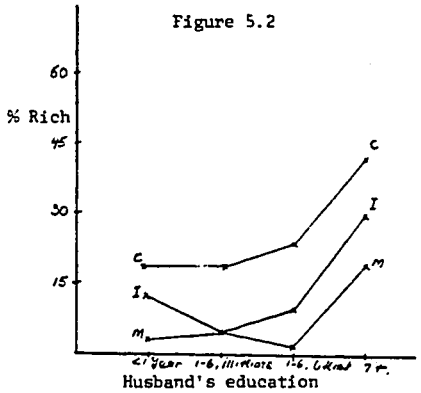


Figure 5.3

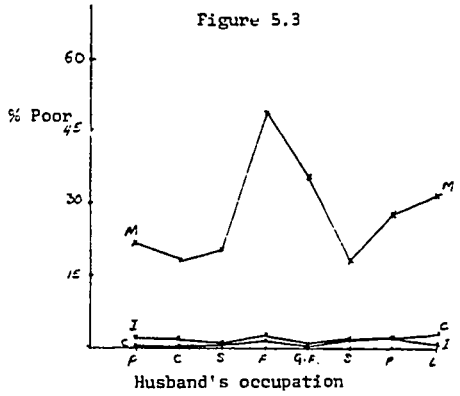
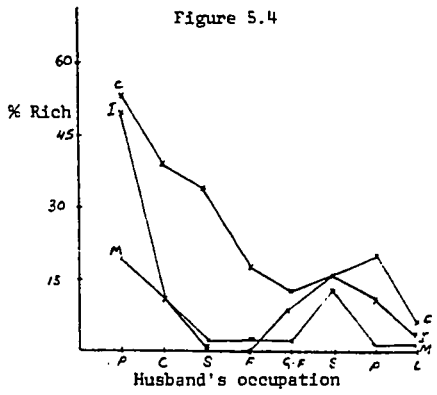


Figure 5.4



P=professional C=clerical S=sales F=farmer
L=laborer

G.F=general farm S=service P=production

Figure 5.5

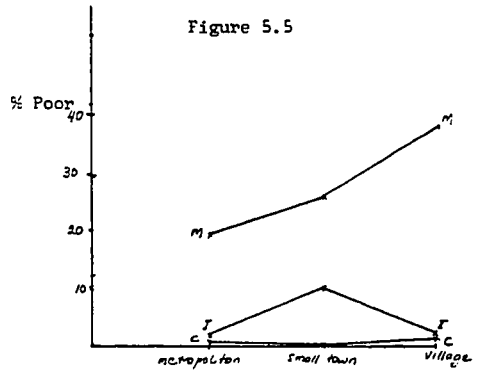


Figure 5.6

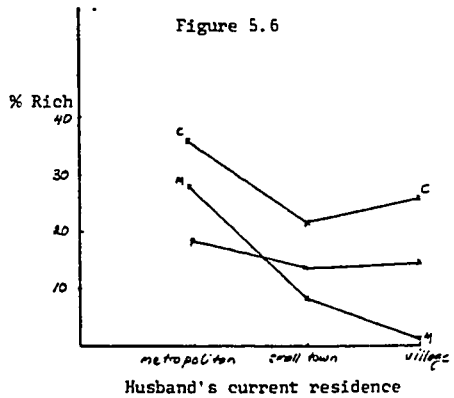


FIGURE 5.1-5.6. INTERACTION EFFECTS BETWEEN ETHNICITY AND EDUCATION, ETHNICITY AND OCCUPATION, ETHNICITY AND CURRENT RESIDENCE AND LEVEL OF LIVING

the other predictors in explaining poverty and affluence and, (2) what is the probability of being poor for each ethnic group after controlling for all the other predictor variables.

The results of the first application of the second model are summarized in Tables 5.3 and 5.4. From the ranking of the beta coefficients, we find that ethnicity is the most important predictor of poverty, followed by husband's education and occupation. For affluence, however, husband's occupation and education are more important than ethnicity. Traditional values and demographic variables are relatively less important in predicting either poverty or affluence.

It is important to note that once ethnicity is taken into account along with all other predictors the differences in the rates of poverty and of affluence are reduced substantially - that is, there is a convergence towards the means (See the change in coefficients in Table 5.4).

The least amount of convergence is observed among the demographic variables and ethnicity indicating further the importance of the latter factor in accounting for poverty and affluence in Peninsular Malaysia. There is strong evidence of a pure ethnic effect on level of living, so much so that once this effect is taken into account the socioeconomic and traditional value effects, observed at the bivariate level, are substantially reduced.

Still, focussing on the changes in the coefficients for

ethnicity, we note a pattern of convergence (however little it is compared to the convergence observed for the other predictors) that merits closer attention. The proportion poor among the Malays declines from .36 to .31 while the proportion rich rises from .09 to .13. By contrast, the proportions poor rises for the Chinese (from .02 to .08) and Indians (from .06 to .15) and the proportion rich declines for the Chinese (from .29 to .25) and Indians (from .16 to .05).

The proportion poor among the Malays (.31) is still large relative to the Chinese (.08) and the Indians (.15), even after the effects of all other predictors are taken into account, indicating the presence of pure Malay effect on poverty. However, the 5 percentage points drop in the proportion poor among the Malays and the 6 and 9 percentage point increase among the Chinese and the Indians once the other predictors are controlled result in a narrowing of the gap between the Malays and the non-Malays.

When all predictor variables are controlled, the proportion rich among the Malays not only increases but exceeds that of the sample average (13 percent). In contrast, the proportion rich among the Indians drops by as much as 11 percentage points (to 8 percent below sample average), and in the same manner the proportion rich among the Chinese drops by 4 percentage points.

TABLE 5.3

MCA's BETA COEFFICIENTS IN DESCENDING ORDER FOR THE POOR AND THE RICH

Predictors	Poor	Predictors	Rich
Ethnicity	.267	Husband's occupation	.192
Husband's education	.226	Husband's education	.181
Husband's occupation	.193	Ethnicity	.175
Support in old age	.137	Current residence	.136
Household size	.111	Childhood residence	.128
Current residence	.085	Support in old age	.118
Husband's age	.057	Children support	.091
Religion	.042	Husband's age	.055
Parity	.034	Children edsired	.037
Childhood residence	.033	Parity	.035
Children support	.031	Household size	.027
Children desired	.004	Religion	.015
Adjusted R^2	.338	Adjusted R^2	.344

TABLE 5.4

CLASS MEANS AND ADJUSTED MEANS FOR ETHNICITY, SES CHARACTERISTICS, TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES FOR THE POOR AND THE RICH

Predictors	Poor		Rich	
	class $\bar{x}$	adjusted $\bar{x}$	class $\bar{x}$	adjusted $\bar{x}$
Ethnicity:				
Malay	.36	.31	.09	.13
Chinese	.02	.08	.29	.25
Indian	.06	.15	.16	.05
Husband's education:				
religious	.25	.24	.13	.14
less than 1 year	.58	.43	.02	.12
1-6, illiterate	.49	.36	.03	.11
1-6, literate	.22	.19	.07	.12
7 and above	.04	.16	.41	.27

TABLE 5.4 (continued)

Predictors	Poor		Rich	
	class x	adjusted x	class x	adjusted x
Husband's occupation:				
professional	.02	.14	.54	.34
clerical	.01	.15	.42	.22
sale	.09	.17	.29	.21
farmer	.53	.38	.02	.14
general farm	.35	.26	.002	.13
service	.07	.10	.25	.21
production	.12	.17	.12	.11
laborer	.22	.21	.02	.07
Husband's childhood residence:				
town	.03	.22	.40	.25
village	.29	.22	.08	.14
estate	.11	.15	.07	.17

TABLE 5.4 (continued)

Predictors	Poor		Rich	
	class $\bar{x}$	adjusted $\bar{x}$	class $\bar{x}$	adjusted $\bar{x}$
Husband's current residence:				
metropolitan	.01	.17	.42	.27
small town	.05	.16	.22	.13
village	.31	.24	.08	.15
Parity:				
0-2	.21	.20	.18	.17
3-4	.22	.23	.18	.17
5 and above	.22	.23	.11	.14
Number of children desired:				
0-2	.21	.22	.18	.17
3-4	.26	.21	.10	.13
5 and above	.24	.21	.10	.15

TABLE 5.4 (continued)

Predictors	Poor		Rich	
	class $\bar{x}$	adjusted $\bar{x}$	class $\bar{x}$	adjusted $\bar{x}$
Household size:				
2-5	.26	.26	.18	.17
6-7	.25	.24	.19	.18
8 and above	.14	.16	.14	.16
Wife's perception on importance of religion:				
very important	.23	.18	.14	.16
important	.25	.22	.16	.17
uncertain	.04	.22	.25	.16
Wife's dependence on children for financial support:				
good deal	.25	.22	.09	.13
a little	.21	.21	.16	.17
not at all	.09	.26	.47	.28

TABLE 5.4 (continued)

Predictors	Poor		Rich	
	class x	adjusted x	class x	adjusted x
Wife's financial support other than from children:				
family member	.28	.26	.09	.13
saving	.21	.18	.18	.18
pension	.02	.12	.40	.25
Husband's age:				
under 25	.30	.25	.05	.12
25-29	.21	.24	.16	.16
30-34	.18	.22	.20	.17
35-39	.17	.19	.17	.16
40-44	.19	.18	.18	.18

TABLE 5.4 (continued)

Predictors	Poor		Rich	
	class $\bar{x}$	adjusted $\bar{x}$	class $\bar{x}$	adjusted $\bar{x}$
Husband's age (continued):				
45-49	.22	.21	.19	.18
50-54	.26	.17	.21	.22
55 and above	.37	.21	.13	.19

Pure SES Effect

In order to estimate the effect of "structural barriers" on the probability of being poor and rich between the three ethnic groups we examine the changes in the adjusted means where MCA is run with and without the SES variables. The effect of the structural, SES variables can be estimated by the increment in the R^2 when the SES variables are added to the MCA without these variables. The results of this exercise are summarized in Table 5.5, where only the changes in adjusted means for the ethnic categories are presented along with the R^2 for each model. Based on the size of the increment in the R^2 (.128 for the poor and .185 for the rich), and since especially the size of the sample is large, we can assume that the differences in the R^2s are significant. This means that the structural, SES variables do indeed make a difference in accounting for the variances in being poor or rich.

The addition of the SES variables in an MCA without them implies a removal of structural barriers, or equalization of structural opportunities, for all ethnic groups. The changes in the adjusted means between the two runs of the MCA (from without to with the SES variables) reveal that:

1. The Malay probability of being poor declines from .37 to .31, and their probability of being rich rises from .08 to .13
2. By contrast, the Chinese and the Indian

probabilities of being poor rise, respectively, from .001 to .08 and from .11 to .15, and their probabilities of being rich decline, respectively, from .32 to .25 and from .09 to .05

In short, the removal of structural barriers results in the convergence of the probabilities of being poor or rich among the ethnic groups. The Malay disadvantages and the non-Malay advantages, presumably brought about in part by the differential access to structural opportunities, are reduced, though not completely removed especially with regard to the Malay probability of being poor. This probability remains high (.31) for the Malays as compared to the others (Chinese: .08, and Indian: .15). The Malay probability of being rich (.13), on the other hand, is raised so much by the removal of structural barriers to exceed that of the Indian (.05), though still much lower than that of the Chinese (.25).

Metropolitan and Nonmetropolitan Differences

To take account of the interaction effect we noted earlier between ethnicity and place of residence, we replicate the MCA under the second model for two different strata: metropolitan and nonmetropolitan places. In Table 5.6, the results are shown only for the ethnic categories. Clearly poverty is a nonmetropolitan phenomenon and virtually confined to the Malays (adjusted mean=.36). It hardly exists in metropolitan places regardless of ethnic status. Malays are as less likely to be poor in the

TABLE 5.5

CLASS MEANS AND ADJUSTED MEANS FOR ETHNICITY, CONTROLLING FOR DEMOGRAPHIC VARIABLES,TRADITIONAL VALUES AND SES CHARACTERISTICS

	Poor			Rich		
	class $\bar{x}$(all[a])	adjusted $\bar{x}$(SES[b])	adjusted $\bar{x}$ (all[c])	class $\bar{x}$ (all[a])	adjusted $\bar{x}$ (SES[b])	adjusted $\bar{x}$ (all[c])
Malay	.36	.37	.31	.09	.08	.13
Chinese	.02	.001	.08	.29	.32	.25
Indian	.06	.11	.15	.16	.09	.05
Adjusted R^2		.210	.338		.159	.344

a = ethnicity with no control

b = all variables but SES characteristics

c = all variables

metropolitan places as the non-Malays (all less than .01).

Affluence, on the other hand, is basically a metropolitan phenomenon regardless of ethnic status. In fact the Malays (.36) are more likely to be affluent than the Indians (.21), though somewhat less likely to be so than the Chinese (.49). Only the Chinese have any reasonable chance of being rich (.19) in the nonmetropolitan places. By contrast, the Malays (.08) and the Indians (.04) have little chance if they live in nonmetropolitan places.

These results are not inconsistent with our expectations. As expected, those who are not residing in metropolitan places tend to be traditional in their way of life as they have less access to modern facilities and, therefore, have less opportunities to be rich, while those who are currently residing in metropolitan places are more exposed to modern facilities and, therefore, are less likely to be trapped in poverty.

In the light of the structural theory, these modern facilities found in metropolitan places are important factors in facilitating those who make use of them to climb up higher in the level of living. When we focus our analysis on the metropolitan residents, we are in effect equalizing accessibility to modern facilities by the three ethnic groups. We find that the proportions rich for all the three ethnic groups exceed that of the sample average (12.7 percent), suggesting that affluence has an important structural component which is associated with metropolitan

TABLE 5.6

CLASS MEANS AND ADJUSTED MEANS FOR ETHNICITY, CONTROLLING FOR SES CHARACTERISTICS, DEMOGRAPHIC VARIABLES AND TRADITIONAL VALUES IN THE METROPOLITAN AND THE NONMETROPOLITAN STRATA

	Poor		Rich	
	class $\bar{x}$	adjusted $\bar{x}$	class $\bar{x}$	adjusted $\bar{x}$
Metropolitan stratum:				
Malay	.01	.009	.40	.36
Chinese	.01	.008	.46	.49
Indian	.00	.002	.27	.21
Nonmetropolitan stratum:				
Malay	.38	.36	.07	.08
Chinese	.03	.07	.20	.19
Indian	.09	.18	.11	.04

residence, and not an exclusively ethnic phenomenon (though Chinese do have a higher probability of being affluent than the others).

Profiles of the Poor and the Rich

We will now move into the last part of this chapter and attempt to profile the rich and the poor of Malaysia by the various categories of the independent variables, and will also attempt to compute the probability of being poor and rich of hypothetical cases or persons by the various characteristics assigned to them. To do this we refer to Tables 5.7 and 5.8.

The grand mean ($\bar{X}$) in Table 5.7 refers to the overall probability of being poor for each ethnic group: 35 percent for the Malays, 3 percent for the Chinese, and 7 percent for the Indians. The b values are the MCA coefficients (deviation of the adjusted mean from the grand mean of each group) obtained from the results of the first model that we specified. The values refer to the increment (positive values) or decrement (negative values) in percentages poor or rich in each category of the predictor variables as compared to the overall mean (grand mean). For example, less than one year of schooling adds 24 percent (b-value) to the overall probability (grand mean) of being poor for the Malays, yielding the adjusted grand mean ($\bar{x}$+b), which comes to 59 percent (35% + 24%). Based on this simple computation, we first profile the Malays into 3 groups. The first and the poorest group can be identified as those who

TABLE 5.7

PROBABILITY OF BEING POOR BY SES CHARACTERISTICS, TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES

Predcitors	Mal		Chi		Ind	
	b	($\bar{x}$+b)	b	($\bar{x}$+b)	b	($\bar{x}$+b)
Grand mean:		.35		.03		.07
Husband's education:						
less than one year	.24	.59	.06	.04	.13	.20
1-6, illiterate	.20	.55	-.03	.00	.18	.25
1-6, literate	-.03	.32	-.00	.03	-.01	.06
7 and above	-.11	.24	-.00	.03	-.02	.05
Husband's occupation:						
professional	-.12	.23	-.01	.02	-.03	.04
clerical	-.14	.21	-.01	.02	.02	.09
sales	-.09	.26	-.01	.02	.01	.08
farmer	.14	.49	.03	.00	.03	.11

TABLE 5.7 (continued)

Predcitors	Mal		Chi		Ind	
	b	($\bar{x}$+b)	b	($\bar{x}$+b)	b	($\bar{x}$+b)
Husband's occupation (continued):						
service	-.13	.22	-.02	.01	.00	.07
production	-.06	.29	-.00	.03	-.01	.06
laborer	-.01	.34	.07	-.04	-.04	.03
Husband's childhoods residence:						
town	-.01	.34	.00	.03	-.04	.03
village	.00	.35	-.00	.03	-.01	.06
estate	-.41	-.06	-.00	.03	.05	.12
Husband's current residence:						
metropolitan	-.13	.22	-.01	.02	-.02	.05
small town	-.09	.26	-.02	.01	.04	.11
village	.02	.37	-.02	.01	.00	.07

TABLE 5.7 (continued)

Predcitors	Mal		Chi		Ind	
	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$
Wife's perception of religion:						
very important	-.04	.31	.04	.07	.00	.07
important	.02	.37	-.00	.03	-.00	.07
uncertain	.11	.46	-.00	.00	.05	.12
Wife's reliance on children for financial support:						
good deal	-.01	.36	.01	.04	.02	.09
a little	-.01	.34	-.00	.03	-.02	.05
not at all	.04	.39	-.01	.02	.05	.12
Wife's financial support in old age other than children:						
family members	.07	.42	.00	.03	.00	.07
saving	-.05	.30	-.01	.02	.02	.09
pension	-.12	.23	-.01	.02	-.03	.04

Table 5.7 (continued)

Predictors	Mal		Chi		Ind	
	b	($\bar{x}$+b)	b	($\bar{x}$+b)	b	($\bar{x}$+b)
Household size:						
2-5	.05	.40	.01	.04	.04	.11
6-7	.01	.36	.02	.06	-.34	.04
8 and above	-.07	.28	-.02	.01	-.02	.05
Parity:						
0-2	-.02	.33	-.01	.02	.02	.09
3-4	.02	.37	.01	.04	-.02	.05
5 and above	.02	.34	.01	.05	-.02	.05
Number of children desired:						
0-2	-.00	.35	.00	.03	.00	.07
3-4	-.00	.35	.01	.04	.05	.11
5 and above	.03	.38	-.02	.01	-.01	-.03

TABLE 5.7 (continued)

Predictors	Mal		Chi		Ind	
	b	($\bar{x}$+b)	b	($\bar{x}$+b)	b	($\bar{x}$+b)
Husband's age:						
less than 25	.06	.41	.01	.04	-.03	.04
25-29	.04	.39	.01	.05	.05	.12
30-34	.02	.37	.01	.05	-.05	.02
33-39	-.05	.30	-.01	.03	-.02	.05
40-44	-.06	.29	-.01	.02	.07	.14
45-49	-.01	.34	-.01	.02	-.01	.06
50-54	.04	.31	-.04	-.01	-.06	.01
55 and above	-.02	.33	-.01	.02	-.03	.04

are illiterate, farmers, and those who are uncertain about religion. A second group can be identified as those who are involved in general farm work residing in rural areas - both in childhood and currently, those who think religion as important, those who tend to rely on children and other family members for financial support in old age, those who have medium or large number of children or who intend to have large number of children but live in small household size, and who belong to the younger age groups (under 30). Malays who are literate, occupationally who are professionals or clerical, sale or production workers, grew up in urban areas and currently reside in metropolitan places, whose wive's perceive religion as important, who live in large households but have small parity or desire small number of children, and who are in the older age groups are less likely to be poor.

The highest probability of being poor among the Indians is also found among the illiterate. The second group can be identified by their being farmers, being uncertain about religion, having small household size but desire medium number of children, not expecting financial support from children, and being in the ages 25-29 and 40-44.

As for the Chinese, they are generally not poor. The probability of their being poor does not deviate much from the mean (.03) regardless of their characteristics.

As shown in the first row (grand mean) of Table 5.8, the probability of being rich for the Malays is 6 percent

while it is 22 percent for the Chinese and 13 percent for the Indians. In Table 5.8 we can see further the deviation from these means for each ethnic group by the various categories of the independent variables. From these deviations we can identify the rich Malays by their urban residence, their being professionals or occupied in services, educationally having 7 or more years of schooling, and relying on pension and not on their children for financial support in old age.

The Chinese, as shown in Table 5.8, have higher probabilities of being rich if they have 7 or more years of education, occupationally are professionals or are in clerical or sales, have resided in urban areas in childhood or are there currently, expect to rely on pension and savings and not on their children for financial support in old age, have small parity or desire small number of children, and are in older age groups.

As for the rich Indians, they can be identified by their having 7 or more years of education, being professionals, residence in metropolitan places, uncertainty about religion, expected nonreliance on children for financial support in old age, tendency to live in medium household size and have medium parity but desire to have medium to large numbers of children, and those in the age groups 50-54 and 55 and above.

Another way to profile the poor and the rich is to compare the probability of being poor or rich associated

TABLE 5.8

PROBABILITY OF BEING RICH BY SES CHARACTERISTICS, TRADITIONAL VALUES AND DEMOGRAPHIC VARIABLES

Predictors	Mal		Chi		Ind	
	b	(x+b)	b	(x+b)	b	(x+b)
Grand mean		.06		.22		.13
Husband's education:						
less than one year	-.02	.04	-.12	.10	-.05	.08
1-6, illiterate	-.02	.04	-.13	.09	-.08	.05
1-6, literate	-.03	.03	-.06	.16	-.06	.07
7 and above	.08	.14	.11	.33	.08	.21
Husband's occupation:						
professional	.10	.16	.22	.44	.32	.45
clerical	-.02	.08	.11	.33	-.04	.09
sales	-.04	.02	.08	.30	-.13	.00
farmer	-.02	.04	-.09	.13	-.17	-.04

TABLE 5.8 (continued)

Predictors	Mal		Chi		Ind	
	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$
Husband's occupation (continued):						
general farm worker	-.03	.03	-.12	.10	-.05	.08
service	.09	.15	-.08	.14	.05	-.18
production	-.03	.03	-.06	.16	-.06	.07
laborer	-.08	-.02	-.17	.05	-.10	.03
Husband's childhood residence:						
town	.08	.14	.06	.28	.05	.18
village	-.01	.05	-.04	.18	-.06	.07
estate	.05	.11	-.05	.17	-.02	.11

TABLE 5.8 (continued)

Predictors	Mal		Chi		Ind	
Husband's current residence:						
metropolitan	.17	.23	.07	.29	.03	.16
small town	.02	.08	-.07	.15	-.03	.10
village	-.02	.04	-.02	.20	-.01	.12
Wife's perception of religion:						
very important	.00	.06	-.06	.16	-.01	.12
important	-.00	.06	.01	.23	-.00	.13
uncertain	-.04	.02	-.01	.21	.09	.21
Reliance on children for financial support:						
good deal	-.01	.05	-.04	.18	-.05	.08
a little	-.01	.05	.01	.23	-.02	.11
not at all	.12	.18	.08	.30	.10	.23

TABLE 5.8 (continued)

Predictors	Mal		Chi		Ind	
	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$
Wife's financial support in old age other than children:						
family members	-.02	.04	-.06	.16	-.02	.11
saving	-.02	.04	.10	.23	.00	.13
pension	.07	.13	.14	.36	.02	.15
Household size:						
2-5	.00	.06	-.01	.21	-.01	.12
6-7	.01	.07	.01	.23	.04	.17
8 and above	-.01	.05	.00	.22	-.01	.12
Parity:						
0-2	.00	.06	.02	.24	-.01	.12
3-4	-.00	.06	.01	.23	.03	.16
5 and above	-.00	.06	-.06	.16	-.03	.10

TABLE 5.8 (continued)

Predictors	Mal		Chi		Ind	
	b	$(\bar{x}+b)$	b	$(\bar{x}+b)$	b	$(\overset{+}{x}b)$
Number of children desired:						
0-2	.01	.07	.01	.23	-.00	.13
3-4	-.03	.03	-.03	.19	.02	.15
5 and above	.02	.08	-.12	.10	.09	.15
Husband's age:						
less than 25	-.04	.02	-.16	.06	-.08	.05
25-29	.00	.06	-.02	.20	-.07	.06
30-34	.02	.08	-.00	.20	-.05	.08
35-39	.00	.06	-.03	.19	.06	.19
40-44	.00	.06	.02	.24	.07	.20
45-49	-.01	.05	.04	.26	-.01	.12
50-54	-.01	.05	.18	.40	.14	.27
55 and above	-.01	.05	.06	.28	.15	.28

with a fixed set of characteristics for each ethnic group. From the review of literature, the bivariate, trivariate and the MCA analyses we concluded that the poor in Peninsular Malaysia tend to be the Malays, the uneducated, farmers, those having large number of children and in the age group of 35-39. We can estimate the probability of being poor for a Malay with these particular characteristics, and compare it with the probabilities for a Chinese and an Indian having the very same characteristics.

For a Malay having the above characteristics the probablity of being poor is 81 percent while it is only 15 percent for the Chinese and 21 percent for the Indians, as shown in Table 5.9. Similarly with the probability of being rich for the three ethnic groups having the characteristics shown in Table 5.10. The predicted scores for all the three ethnic groups exceed the overall sample mean (.13) by considerable margins, though the Chinese do exhibit the highest probability (.76), followed by the Indians (.48), and the Malays (.38). It is noteworthy that metropolitan residence is the most important characteristic (.17) for a Malay to be rich among these selected characteristics as well as overall (as shown in Table 5.10). In fact, the likelihood of being poor for the Malays and the Chinese are substantially diminished even for those with characteristics generally associated with poverty if they currently reside in metropolitan places, as can be seen in Figure 5.11.

TABLE 5.9

SOME CHARACTERISTICS OF POVERTY
BY ETHNICITY

Characteristics	Mal	Chi	Ind
Less than 1 year of school	.24	.06	.13
Farmer	.14	.03	.03
Currently in rural area	.02	.02	.00
5 or more children	.02	.01	-.02
Relying on other family members for financial support	.07	.00	.00
Grand mean	.35	.03	.07
Predicted score	.81	.15	.21

TABLE 5.10

SOME CHARACTERISTICS OF AFFLUENCE
BY ETHNICITY

Characteristics	Mal	Chi	Ind
7 years and more of schooling	.08	.11	.08
Professional	.10	.22	.32
Metropolitan residence	.17	.07	.03
Relying on pension for financial aid in old age	.07	.14	.02
Grand mean	.06	.22	.13
Predicted score	.38	.76	.48

TABLE 5.11

SOME CHARACTERISTICS OF POVERTY
BY ETHNICITY AND METROPOLITAN STRATUM

Characteristics	Mal	Chi	Ind[1]
Less than one year of school	-.013	-.006	-
Farmer	-.007	-.005	-
Currently in rural area	.02	.02	-
5 or more children	.006	.001	.-
Relying on other family members for financial support	.017	.002	-
Grand mean	.032	.022	.00
Predicted score	.055	.034	

[1]There was no Indian in the sample with the above characteristics in the metropolitan area found to be poor

Summary

In the first MCA model we found the presence of pure Malay effect among the poor. This effect, however, was absent when predicting the rich. SES characteristics were found to be strong predictors of poverty among the Malays and of affluence for the three ethnic groups.

In the second model we included ethnicity as a predictor along with other SES characteristics, traditional values and demographic variables. The ethnic differences in proportion poor and rich were large, suggesting that poverty and affluence are an ethnic phenomenon: poverty is a Malay phenomenon while affluence is a Chinese phenomenon. However, the results of this analysis also show that the proportion Malays who were poor is reduced by 5 percentage points (from .36 to .31) and the proportion Malays who were rich raised by 4 percentage points (from .09 to .13), while for the Chinese and the Indians the proportions move in the opposite direction, when the effects of the various intervening factors are brought under control, suggesting some significant structural effects in the ethnic differences in level of living.

To estimate the pure structural effect on being poor and rich between the three ethnic groups we ran the MCA with and without these variables. The proportion poor and rich between the three ethnic groups did change. With the inclusion of structural variables, the Chinese and the Indians experience an increase in the probability of being

poor and a decrease in the probability of being rich while the Malays experience a decrease in the probability of being poor and an increase in the probability of being rich.

Our attempt at profiling the poor confirms our review of literature and expectation. The poor are mainly the Malays. Generally, the poor comprised those who are illiterate, farmers or farm workers, those who have resided in rural areas both in childhood and currently, who tend to rely on children and other family members for financial aid in old age and those who consider religion as very important or important. The rich, by contrast, are mainly the Chinese, followed by the Indians. Generally, the rich comprised those who are in professional occupations, having 7 or more years of education and currently residing in metropolitan places. As expected, the Malays are more likely to be poor than the Indians and the Chinese, but even their probability of being poor is substantially reduced if they are better educated, have higher status jobs, and have modern values, and even less so if they are currently residing in metropolitan places.

CHAPTER VI

PATH ANALYSIS

The aim of this chapter is to examine the relationship between the predictor variables of this study and level of living within a causal framework, using path analysis as the statistical tool. First we run a separate path analysis for each ethnic group to identify those variables that have strong, direct effects on level of living for each group as well as to understand how the independent variables affect each other in a temporal sequence. Then, we include ethnicity as an exogeneous variable and apply a path analysis to the total sample and to the metropolitan and the nonmetropolitan samples separately.

The dependent variable for the path analysis is measured in an ordinal scale at five levels, going from 1. poor, 2. lower-middle, 3. middle-middle, 4. upper-middle, and 5. upper level of living in an ascending order. For traditional value, we have a summative index based on a combination of categories of financial aid in old age from children and the categories of finanacial aid from other family members other than children. This new variable has a scale of six, ranging from the most traditional (category 1), a combination of relying a great deal on children and

relying on other family members, to the most modern (category 6), a combination of not relying on children at all and relying on pension. The importance of religion is not included in the definition of traditional value because it is found not to be sufficiently discriminatory in relation to being traditional or modern and also in relation to being poor or rich.

The most important thing about path analysis is the specification of the model. The ordering of the variables in the model indicates our assumption about the temporal sequence between them (Kendall and O'Murcheartaigh, 1977). In figure 7.1-7.6 we present our path models with the statistical assumptions described in Chapter III and the ordering of the variables justified in detail there.

For the purpose of path analysis we reordered most of the categories of the variables to be used. To facilitate easier comprehension of the results of the analysis we list the variables below:

Variable 1. Ethnicity (entered as a dummy variable)

1. Malay 0. others

2. Ethnicity (entered as a dummy variable)

1. Chinese 0. others

3. Husband's age

1. less than 25
2. 25-29
3. 30-34
4. 35-39

5. 40-44
6. 45-49
7. 50-54
8. 55 and above

Variable 4. Childhood place of residence

1. village
2. estate
3. town

5. Husband's educational status

1. less than one year
2. 1-6 years, but cannot read
3. 1-6, and can read
4. 7 and above

6. Husband's occupational status level

1. laborer
2. production
3. service
4. general farm worker
5. farmer
6. sales
7. clerical
8. professional

7. Husband's current residence

1. village
2. small town
3. metropolitan place

8. Family size

1. 0-2
2. 3-4
3. 5 and more

9. Traditional value
   1. most traditional
   2. traditional
   3. fairly traditional
   4. fairly modern
   5. modern
   6. most modern

10. Level of Living
    1. poor
    2. lower-middle
    3. middle-middle
    4. upper-middle
    5. upper

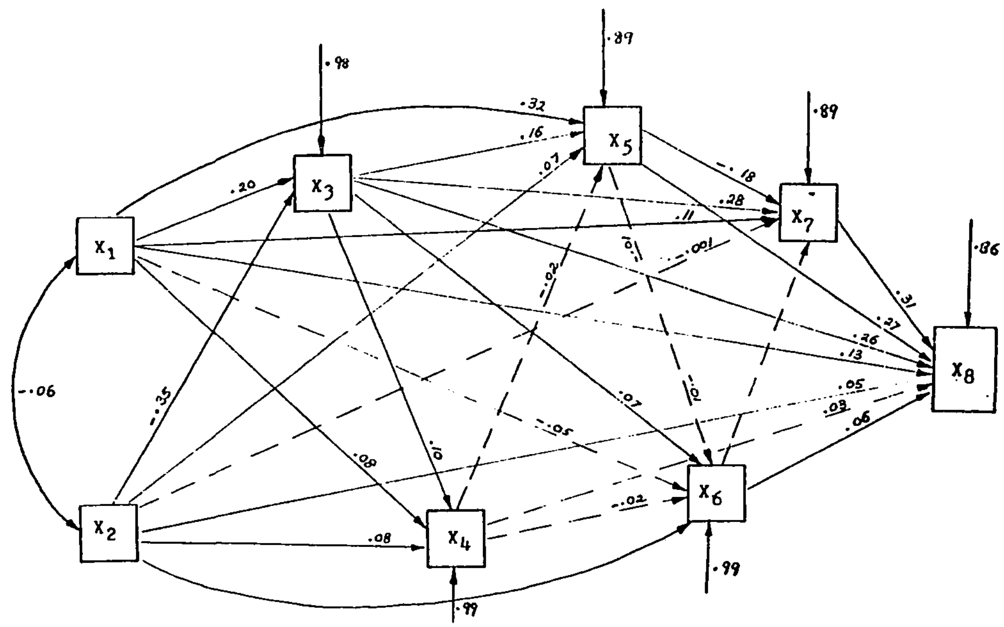
Path Model for the Malays

The application of the path analysis for the Malays is summarized in Figure 6.1. For the Malays, the strongest, direct paths to the level of living, in descending order are, traditional values ($P_{8,3}$=.31), current residence ($P_{8,5}$=.27), education ($P_{8,3}$=.26), and, to a lesser extent, childhood place of residence ($P_{8,1}$=.13). These direct paths are consistent with our expectations - that affluence is positively related to modernism which takes the form of expected financial independence in old age, metropolitan residence and higher educational attainment. Age (X_2),

occupation (X_4) and family size (X_6), however, do not show significant relationships to the level of living, once the effects of all other variables are taken into account.

For the Malays, the better educated and those who grew up in urban places tend to be more modern in their values, as can be seen from the strong, positive, direct effect ($P_{7,3}$=.28), and a moderately strong direct effect from childhood place of residence ($P_{7,1}$=.11) to the value variable. The negative, direct path from current residence ($P_{7,5}$=-.18) to the value variable, however, is puzzling. Age and occupation show negative effects ($P_{7,2}$=-.001 and $P_{7,4}$=-.05) on values though the coefficients are not statistically significant. The sign for age at least is consistent with our expectation: the young are more likely to be modern in their values. The direct path from family size and traditional values is insignificant ($P_{7,6}$=-.01), suggesting that large number of children does not entail traditional expectation about old age support.

The small direct path from age to current residence ($P_{5,2}$=.07) suggests that age is not an important influence on metropolitan residence, while the insignificant relationship between occupation and current residence ($P_{5,4}$=-.02) is surprising in that farm or farm-related works could surely be expected to be associated with rural residence almost by definition. There is a strong, direct path from childhood place of residence and a moderately strong direct path from education to current residence,



X_1=Childhood place of residence
X_2=Husband's age
X_3=Husband's education
X_4=Husband's occupation
X_5=Current place of residence
X_6=Family size
X_7=Tradition l value
X_8=Level of living

Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except the dotted paths are significant at .005 level.

Figure 6.1. Recursive Path Diagram of Factors Affecting Level of Living for Malays (N=3,587)

($P_{5,1}$=.32 and $P_{5,3}$=.16, respectively), indicating that Malays who grew up in towns and the better educated tend to reside in metropolitan places.

The moderate, positive relationship between education and occupation ($P_{4,3}$=.10) suggests that for the Malays education does influence occupational choice to some extent, the better educated taking more modern, nonfarm occupations. The weak, positive relationship between age on childhood place of residence and occupation, on the other hand, are consistent with our expectations: we could have expected the older Malays to be occupied in farming (thus, a negative relationship), and rural childhood upbringing to predispose them to the farm or farm-related occupations (thus, also negative relationship).

Age is inversely related to education ($P_{3,2}$=-.36), suggesting that older Malays tend to be less educated. A relatively strong, direct path from childhood residence ($P_{2,1}$=.20) indicates that those who grew up in towns tend to be better educated.

The indirect paths from any one of the predictors to the level of living are all small. The largest indirect path is from childhood place of residence through current place of residence ($P_{5,1}P_{8,5}$=.09), suggesting the advantage of continous urban exposure from childhood to adulthood on gaining higher level of living.

Path Model for the Chinese

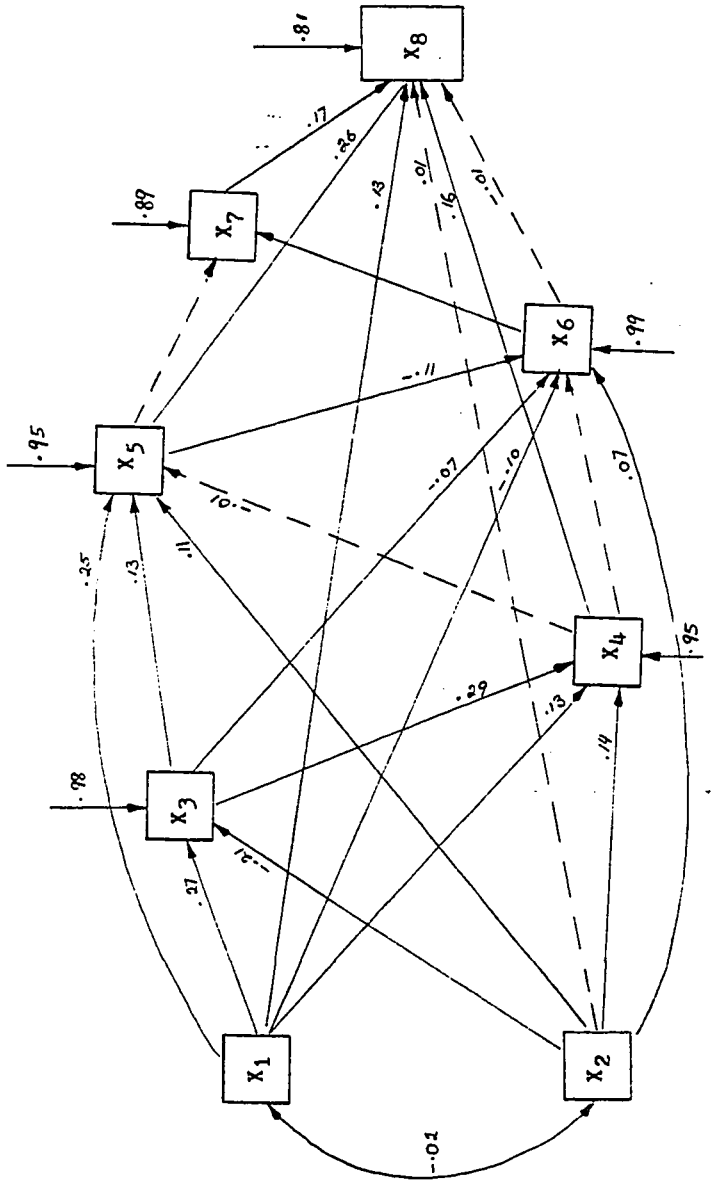
As can be seen in Figure 6.2, the direct path to the

level of living for the Chinese is strongest for current residence ($P_{8,5}$=.26) followed by education ($P_{8,3}$=.21), traditional values ($P_{8,7}$=.17), occupation ($P_{8,4}$=.16) and childhood place of residence ($P_{8,1}$=.13). Unlike the Malays, occupation has a moderately strong, direct effect for the Chinese. Age and family size, on the other hand, show no relationship with level of living just as for the Malays.

Occupation has the largest, direct effect on values ($P_{7,4}$=.26), suggesting that the Chinese who are in higher status jobs are more likely to be modern in their values. Education and childhood place of residence have moderately strong, direct effects on values. Age has a negative effect on values ($P_{7,2}$=-.13) suggesting that the older Chinese tend to be more traditional. The negative, direct effect ($P_{7,6}$=-.13) from family size to values suggest that Chinese with large number of children tend to be traditional in their values.

The direct paths from current residence, occupation, education and childhood place of residence to family size are small, but in the right direction (i.e., negative): metropolitan residence, nonfarm, modern occupation, better education and upbringing in urban places - characteristics that are modern in nature - apparently predispose the Chinese to smaller family size.

One possible reason for the insignificant direct path from occupation to current residence ($P_{5,4}$=-.01) is that only a small proportion of Chinese are in professional or



X_1=Childhood place of residence
X_2=Husband's age
X_3=Husband's education
X_4=Husband's occupation
X_5=Current place of residence
X_6=Family size
X_7=Traditional value
X_8=Level of living

Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except the dotted paths are significant.

Figure 6.2. Recursive Path Diagram of Factors Affecting Level of Living for Chinese (N=2,107).

clerical occupations. The lack of a stronger and direct relationship is inconsistent with our expectation. Our suspicion is that this inconsistency is due to the weakness of the coding of the variable. Occupationally, a large proportion (41 percent) of the Chinese are in production, and a very large proportion of them in this occupation score high on level of living. However, this category of occupation is placed next to the laborer, the most unskilled job, stemming from the fact that most Malays and Indians classified in production are poor.

There are moderately, strong direct paths from education and age to current place of residence, suggesting that the better educated and the older among the Chinese tend to be found in metropolitan places.

Education has the strongest, direct path to occupation ($P_{4,3}$=.29), consistent with our expectation that the better educated Chinese tend to be in the better jobs. Childhood place of residence and age show moderately strong direct effects on occupation indicating that the older Chinese and also those who grew up in towns tend to be in more modern occupation and less so in unskilled or low status status.

Similar to the Malays, the older Chinese tend to be less educated, as indicated by the negative, direct path ($P_{3,2}$=-.21). Those who grew up in towns, on the other hand, tend to acquire better education ($P_{3,1}$=.27).

One important contrast to note is that, unlike the Malays, occupation for the Chinese is an important predictor

of traditional values and level of living. For the Malays, education is the important predictor of modern values and and level of living.

Like the Malays, the indirect paths to the level of living are all small for the Chinese too, and the largest indirect path is from childhood place of residence ($P_{5,1}P_{8,5}$=.07).

Path Model for the Indians

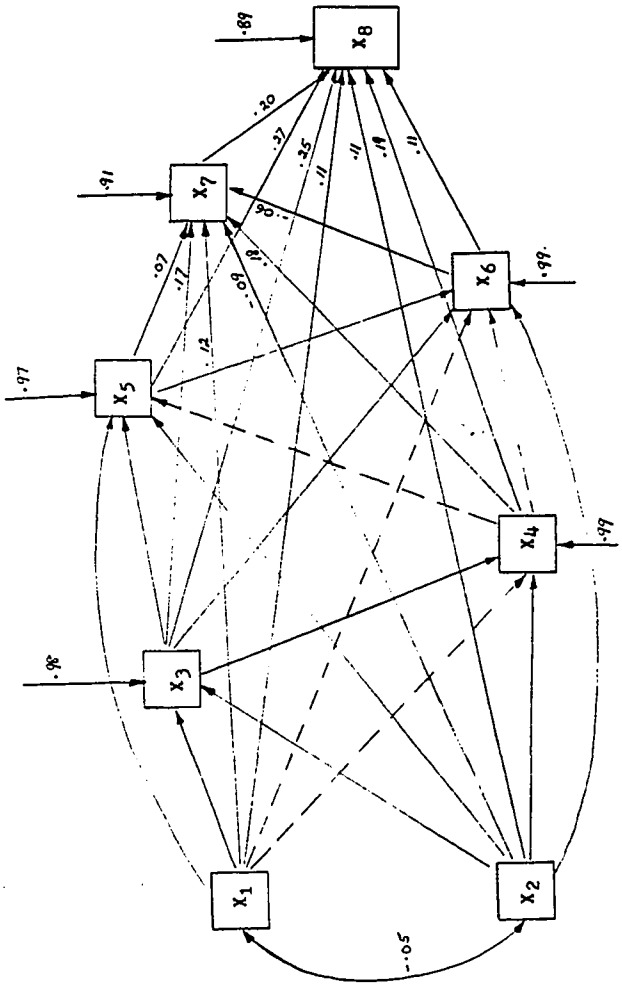
Unlike the Malays and the Chinese, all direct paths to level of living for the Indians are significant. Current residence (X_5) shows the largest, positive direct path to level of living ($P_{8,5}$=.27), suggesting that Indians living in metropolitan places are more likely to be affluent, likewise for the more educated ($P_{8,3}$=.25), the more modern ($P_{8,7}$=.20), and those with higher status jobs ($P_{8,4}$=.19), and to a lesser extent, those who grew up in towns ($P_{8,1}$=.11), the older persons ($P_{8,2}$=.11) and those who have larger (not smaller) number of children ($P_{8,6}$=.11). Like the Chinese, occupation has a moderately strong, positive effect, but unlike the Malays and the Chinese, family size has a fairly strong, direct, positive path to the level of living for the Indians, suggesting that those in high status occupations and to a lesser extent, those with large number of children are less likely to be poor.

Occupation shows the largest, direct effect on values ($P_{7,3}$=.18), suggesting that those in higher status jobs are

less likely to be traditional as also the better educated ($P_{7,3}$=.17) and, those who grew up in towns ($P_{7,1}$=.12). Current residence (X_5) shows a weak but significant direct path to traditional values ($P_{7,5}$=.07), while number of children ever born (X_6) has a weak but negative path ($P_{7,6}$=.06), suggesting that those who reside in metropolitan places are less likely to be traditional while those with large number of children are less likely to be modern.

Unlike the Malays, the direct path between current residence to family size for the Indians is negative ($P_{6,5}$=-.10), suggesting that Indians living in metropolitan places are less likely to have large number of children. Unlike the Chinese, childhood place of residence shows no significant, direct relationship with family size ($P_{6,1}$=.01). Education and occupation are related negatively, albeit weakly, to family size for the Indians as for the Chinese, but childhood place of residence is virtually unrelated. Age, as expected, is positively related.

The strongest direct path to current residence for the Indians is, surprisingly, age ($P_{5,3}$=.17), implying that the older Indians are somewhat more likely than the younger Indians to be in metropolitan places, as also the better educated ($P_{5,3}$=.16), and, to a lesser extent, those who grew up in towns ($P_{5,1}$=.12). For the Indians, occupation shows no direct relationship to current residence ($P_{5,4}$=-.02).



X_1=Childhood place of residence
X_2=Husband's age
X_3=Husband's education
X_4=Husband's occupation
X_5=Current place of residence
X_6=Family size
X_7=Traditional value
X_8=Level of living

Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except the dotted paths are significant at .005 level.

Figure 6.3. Recursive Path Diagram of Factors Affecting Level of Living for Indians (N=589).

Education shows the largest direct effect on occupation ($P_{4,3}$=.31) for the Indians implying that the better educated are more likely to be in the higher status jobs. The direct path from age ($P_{4,2}$=.14) suggests a positive relationship between older Indians and higher status jobs, while the direct path from childhood place of residence ($P_{4,1}$=.03) shows no discernible relationship.

As expected, there is a strong, inverse relationship between age and education ($P_{3,2}$=-.22), suggesting that the older Indians have lower educational attainment, and a slightly strong path from childhood place of residence indicating that those who grew up in towns tend to be better educated.

Unlike the Malays and the Chinese, all indirect paths to the level of living for the Indians are insignificant. The strongest, however, ($P_{8,4}P_{4,3}$=.06) is from education through occupation.

Ethnic Effect on Level of Living

The second path analysis aims to identify the environments in which the various linkages between the predictor variables can best serve to facilitate the poor's escape from poverty to achieve affluent living.

The findings of the first part of the path analysis confirmed the results of the first MCA model in Chapter V that SES characteristics are the important predictors of affluence among the Malays, the Chinese and the Indians. In

the second MCA model we established that poverty is associated with ethnicity and is a predominantly nonmetropolitan phenomenon while affluence is a predominantly metropolitan phenomenon and is associated with education and occupation - the two important means of social mobility in Malaysia, particularly for the Malays.

In this analysis we want to demonstrate how living in metropolitan places might bring about sequential reactions in one's life in acquiring values that are less dysfunctional and facilitate his escape from poverty. To do this, we divide our analytical strategy into three parts. To serve as a reference, our first path analysis will be applied to the total sample. In the second part, we will restrict our analysis to the nonmetropolitan stratum. We do not expect a great deal of differences in the patterns of direct and indirect paths between these two analyses as nearly 84 percent of the sample are nonmetropolitan. The third path analysis will be applied to just the metropolitan residents. We expect the patterns of causal relationships in this analysis to differ from those of the total and nonmetropolitan samples. In this analysis we expect the Malays, like the Chinese and the Indians, to exhibit modern behavior patterns: they are better educated, tend to have smaller number of children, expect to be independent of financial aid from children and other family members in old age, and more importantly, tend not to be in the lower levels of living.

The ethnic variables are entered into the regression equations as recoded dummy variables. The Indians are the basis of comparison as they generally fall in between the Malays and the Chinese in most measures of SES characteristics.

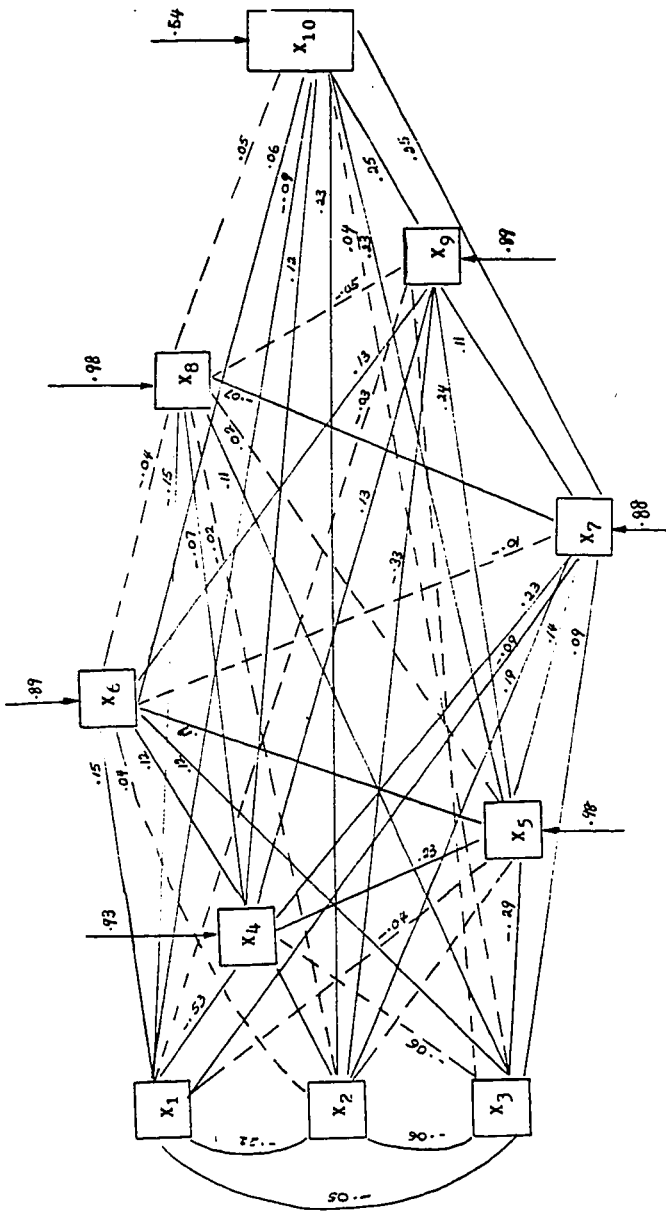
Path Model for the Total Sample

In Figure 6.4, the Malays (X_1) have a weak, negative direct effect ($P_{10,1}$=-.09) while the Chinese (X_2) have a fairly strong, direct effect ($P_{10,2}$=.23) on the level of living, suggesting that, relative to the Indians, and after controlling for all other variables, the Malays have the tendency, however weak, to be in lower level of living, while the Chinese have a fairly strong tendency to be higher in level of living. Traditional value (X_9) and current residence (X_7) have, by far, the largest direct effect ($P_{10,9}$=.25 and $P_{10,7}$=.25 respectively) on the level of living. These are consistent with our expectation that those who are more modern and residents of metropolitan places are less likely to be poor. Childhood place of residence (X_4) shows a mildly strong direct path to level of living ($P_{10,4}$=.12), suggesting that those who grew up in towns tend not to be poor. The direct effect from education to the level of living is fairly strong ($P_{10,5}$=.23) implying that the better educated are less likely to be in the lower level of living. Number of children (X_8) and occupation (X_6) show very weak direct paths to the level of living.

Age (X_3) shows no relationship.

"Traditional values" is coded in such a way as to have the higher score mean less dependence on children and other family members for financial aid in old age and, therefore, reflecting a more modern value orientation. Relative to the Indians, the Malays show no significant, direct effect on traditional values ($P_{9,1}$=-.03). Surprisingly, the Chinese are more traditional, as can be seen from the strong, negative, direct effect ($P_{9,2}$=-.33); the Chinese apparently are more likely to rely on children and other family members for financial aid in old age as compared to the Indians and the Malays. Consistent with our expectation, the better educated are less likely to be traditional ($P_{9,5}$=.24) as also those in higher status jobs ($P_{9,6}$=.13), those who grew up in towns ($P_{9,4}$=.13) and those who reside in metropolitan places ($P_{9,7}$=.11). Age shows a weak but significant, negative path to traditional value suggesting that the older people are less likely to be modern.

Being a Malay has, by far, the largest negative effect on the number of children ($P_{8,1}$=-.15). Relative to the Indians, and even more so as compared to the Chinese, the Malays are the least likely to have large numbers of children. The Chinese, relative to the Indians, shows a weak tendency, if at all, to have fewer children ($P_{8,2}$=-.02). Consistent with our expectation the older people are more likely to have larger numbers of children



Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except the dotted paths are significant at .005 level.

Figure 6.4. Recursive Path Diagram of Factors Affecting Level of Living For the Total Sample (N=6283).

($P_{8,3}$=.11).

Not unexpectedly, the Malays tend to live in rural places while the Chinese tend to live in metropolitan places, as can be seen in the direct paths, ($P_{7,1}$=-.09) and ($P_{7,2}$=.19), respectively. Childhood place of residence shows a fairly strong direct path to current place of residence ($P_{7,4}$=.25), suggesting that those who grew up in towns are more likely to reside in metropolitan places.

Education has the largest direct effect on occupation ($P_{6,5}$=.19), consistent with our expectation that the better educated tend to have higher status jobs. The moderate, direct path from childhood place of residence ($P_{6,4}$=.12) suggests that those who grew up in towns are less likely to be in lower status jobs.

Relevant to the aim of this analysis, we focus on the negative direct effect of being a Malay on level of living. The path coefficient, which represents the strength of the direct effect, between these two variables has a value of -.09. This suggests that, even after controlling for eight other predictors, the Malays continue to have a tendency towards lower level of living. In fact, the largest indirect path that goes through childhood place of residence is weaker than the direct path: $P_{4,1}$=-.06<-.09. When, however, the direct effect ($P_{10,1}$=-.09) is compared with the total ethnic effect ($r_{1,10}$=-.43), there is a substantial reduction due to the various intervening factors: $r_{1,10}$-$P_{10,1}$=-.43-(-.09)=-.34 (This is the sum of <u>all</u> the indirect

effects). What this implies is that while there is some tendency for Malays towards lower level of living, that tendency is much, much less once the ethnic groups (Malays and Indians in particular) are equalized on the various SES and related factors.

What we can ask is whether the pure Malay effect on the level of living is to be attributed to the culture of the Malays or to their adaptation to an uncompromising rural enviroment that systematically inhibits upward mobility among them. While we cannot offer an unequivocal answer to this question with the data we have, we point to some evidences that appear to be consistent with one of these alternative explanations - namely, the adaptation hypothesis. To muster these evidences, we replicate the path analysis separately for the metropolitan and the nonmetropolitan strata, given the relatively strong interaction effect we noted between ethnicity and current place of residence and the earlier observation that poverty tends to be a predominantly rural or nonmetropolitan phenomenon in Peninsular Malaysia.

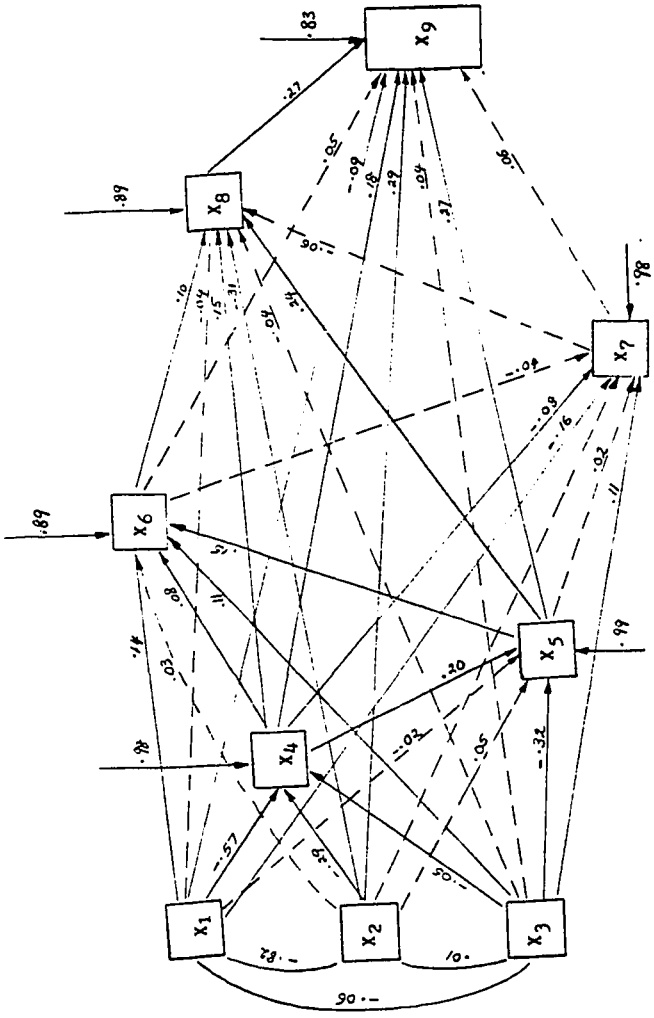
It is also relevant to note that the Chinese, relative to the Indians and the Malays, rely fairly heavily on their children and other members of the family for financial aid in old age, but at the same time exhibit a fairly strong direct path to higher level of living not exceeded by any indirect paths.

Path Model for the Nonmetropolitan Stratum

The patterns of causal linkages between ethnicity and the other predictors and the relationship among them in the application of path analysis are generally similar to those observed for the total sample, as expected, given that 84 percent of the total sample belong to this stratum. The one difference that is found is extremely significant from the point of view of how we interpret the ethnic effect on level of living. The direct path between being a Malay (X_1) and level of living ($P_{9,1}$=-.09) is slightly weaker than the indirect path by way of childhood residence (X_4), which is ($P_{4,1}P_{9,4}$=-.10). This suggests that nonmetropolitan Malays are indeed more likely to be in the lower level of living as compared to the Indians and the Chinese in particular but that it is worse for those Malays who grew up in rural places.

Path Model for the Metropolitan Stratum

The direct path from being a Malay to level of living has a positive value of .09, implying that, after controlling the effects of all other predictors, the Malays in metropolitan places do not necessarily experience low level of living. The indirect paths through education ($P_{6,1}P_{4,6}$=.01) and traditional value ($P_{8,1}P_{9,8}$=.04) to level of living are weak but negative, implying, if anything, departure from being poor. When we trace the Malay path through childhood place of residence the effect on level of



X_1=Malay vs Others (Indians)
X_2=Chinese vs Others (Indians)
X_3=Husband's age
X_4=Childhood place of residence
X_5=Husband's education
X_6=Husband's occupation
X_7=Family size
X_8=Traditional values
X_9=Level of Living

Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except the dotted paths are significant at .005 level.

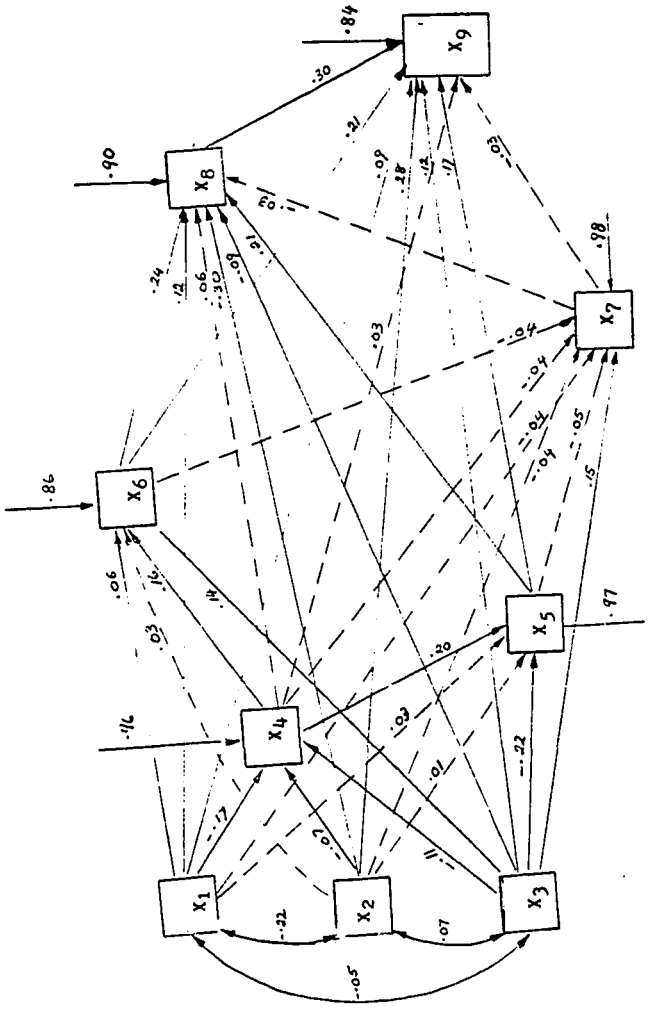
Figure 6.5. Recursive Path Diagram of Factors Affecting Level of Living For Nonmetropolitan Residents (N=5297).

living is negative but insignificant ($P_{4,1}P_{9,4}$=-.01), indicating that even rural residence in childhood does not deter the metropolitan Malays from achieving higher level of living. This is in sharp contrast to the effect of childhood rural residence on level of living for the Malays currently living in nonmetropolitan places. We noted above that the effect for them was to increase their chance of being poor.

Relative to the Malays and the Indians, the Chinese enjoy a higher level of living that cannot be accounted for by any indirect paths through the various, otherwise facilitating factors. There apparently is something about being a Chinese in the Malaysian context that the factors we have specified in this study cannot explain.

Summary

The patterns of relationship among the independent variables and the independent variables with level of living are nearly identical for the three ethnic groups in the first model. The direct path from current place of residence, traditional values and education to level of living are strong for the Malays, the Chinese and the Indians. Unlike the Malays, the direct path from occupation to the level of living for the Chinese and the Indians is fairly strong. Only the Indians show a fairly strong direct path from parity to the level of living. All indirect paths to the level of living are small for the three ethnic



X_1=Malay vs Others (Indians)
X_2=Chinese vs Others (Indians)
X_3=Husband's age
X_4=Childhood place of residence
X_5=Husband's education
X_6=Husband's occupation
X_7=Family size
X_8=Traditional values
X_9=Level of living

Note: No significant differences are observed between the patterns of standardized and the unstandardized coefficients.

All except dotted paths are significant at .005 level

Figure 6.6. Recursive Path Diagram of Factors Affecting Level of Living For Metropolitan Residents (N=1,024).

groups.

In the second path analysis we confirmed our earlier findings that poverty is a predominantly nonmetropolitan phenomenon and affluence, a predominanatly metropolitan phenomenon. Two contrasting results from the application of path analysis to the metropolitan and nonmetropolitan strata are significant. In the nonmetropolitan application the direct negative effect of being a Malay on level of living, while there, is slightly weaker than the indirect effect through childhood place of residence. Rural residence in childhood, if anything worsens the nonmetropolitan Malays' chance for higher level of living. By contrast, the metropolitan results show that being a Malay is positively related (as compared to the Indians) to level of living and even childhood rural residence does not effectively deter a Malay's chance of higher level of living if he is currently living in a metropolitan place. What is suggested is that persistent rural experience (from childhood to adulthood) may be a more important condition leading to low level of living among the Malays than just being a Malay.

The Chinese, on the other hand, show an advantage that cannot be fully accounted for by any of the predictors specified in our model.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The purpose of this study was to search for causes as to why the poor in Peninsular Malaysia are concentrated disproportionately among the Malays and it is otherwise in the case of the rich, or, at least not reflective, within reasonable limits, of the ethnic composition of the population of the country.

The currently popular, alternative theories, cultural versus structural theories of poverty, were employed to guide our search for a causal explanation of the differential probabilities of being poor or rich in Peninsular Malaysia. This is perhaps the first time these two theories are evaluated scientifically and empirically, while also acknowledging the potential sensitivity of the outcomes of the findings. It is hoped that the findings from this research would provide some direction in the implementation of Malaysia's "New Economic Policy", which, among other things, is intended to reduce and finally eliminate poverty in the country. Basically this study looked for answers to two questions: why the poor are mainly Malay and the rich, mainly Chinese, with the Indians in between. Is it due to the culture of the Malays which is

often assumed to be inherently dysfunctional in a rapidly modernizing economy, or is it due to the existence of structural barriers that prevent the Malays from escaping the poverty trap and becoming rich?

The 1974 Malaysian Fertility and Family Survey, a World Fertility Survey project, based on a probability sample of ever-married women in the ages 15-49 (and data about their current or most recent husbands) served as the data base. Given the cross-sectional nature of the data, the fundamental research questions posed could not be addressed directly in such a way as to provide unequivocal answers to support one or the other of the alternative theories of poverty. These theories, however, served as a framework for our search for as much evidence as we could muster to shed insights into the possible causes of the poverty phenomenon in Peninsular Malaysia.

We summarize below the salient findings from our series of analysis going from a simple bivariate to a set of complex multivariate analysis. The dependent variable was defined as the level of living based on a composite, weighted scale developed by the application of a multidimensional scaling technique (the MINISSA). The derived 5-point scale combines data on household income, availability of basic household facilities and possession of modern appliances. This approach was deemed appropriate to compensate for the weaknesses of the income data in the 1974 Malaysian Fertility and Family Survey. While the full scale

approximating an interval scale is used for the path analysis, the proportion at the lowest end (the poor) and at the highest end (the rich, or affluent) are used for the cross-tabulation and the MCA analyses.

The Cross-Tabulation Analysis

From a series of bivariate analysis we were able to identify the correlates of poverty in Peninsular Malaysia as of 1974. Malay background, and such other SES characteristics as illiteracy, rural residence in childhood and currently, and agricultural occupation are all characteristics associated with a traditional way of living in Malaysia. Most importantly, these characteristics of traditional living are found to correlate highly with being Malay.

The correlates of affluence, on the other hand, are: Chinese background, and such SES characteristics as good education, professional, sales and clerical occupations, and metropolitan residence - all characteristics associated with modernism. These modern characteristics tend to correlate highly with being Chinese.

The subsequent trivariate analysis attempted to establish in a preliminary way whether these ethnically-related tendencies can be accounted for by the SES compositional differences or whether they persist even after controlling for the latter.

The proportion poor among the Malays was consistently

high relative to the Indians and the Chinese in every category of the other SES variables entered as a control one at a time. At this stage, there is suggestion at least of a pure ethnic effect on poverty.

The proportion rich, on the other hand, was higher for the Chinese as compared to the Malays and the Indians in nearly all categories of the independent variables controlled one at a time. At the same time, however, the Malays were not always the least rich. In many instances the proportion rich among the Malays exceeded, or at least was equal to, the proportion rich among the Indians, suggesting perhaps an absence of a pure Malay effect at the higher end of level of living in contrast to the lower end.

These findings from the cross-tabulation analyses merely set the stage for a more systematic, multivariate analysis by which several variables are taken into account simultaneously. Clearly no conclusions about the two alternative theories of poverty could be offered at this stage. What became apparent was that being a Malay may be an important factor in poverty but less so in affluence.

Multiple Classification Analysis

The aim of the MCA analysis was to explore more systematically the relative importance of ethnicity in comparison with other factors in accounting for being poor or rich. In the first MCA model the proportion poor among the Malays was found to be quite large as compared to the

Indians and the Chinese leading us to suspect that there is somethig about being a Malay in Malaysia that predisposes him to poverty. However, the proportion rich among the Malays is not always the smallest. In many instances it is equal to or even higher than that for the Indians, suggesting the absence of a pure Malay effect. We also noted that the proportion rich among the Chinese is almost always the largest as compared to the Indians and the Malays, suggesting a pure Chinese effect on affluence. These results confirm those from the cruder cross-tabulation analyses.

In the second MCA model we introduced ethnicity as a predictor variable along with the other independent variables. We were particularly interested to see what would happen to the proportion poor and rich between the three ethnic groups after controlling for the effect of all the predictor variables at one time, based on the assumption that the interaction effects, if present, are not serious enough to invalidate our interpretation of the results. The results showed that the proportion poor among the Malays was still large relative to the Indians and the Chinese, but declined (from .36 to .31), while the proportion poor among the Indians and the Chinese increased. The proportion rich among the Malays experienced an increase to slightly above the sample mean (from .09 to .13) while those of the Chinese and the Indians declined (from .29 to .25 and from .16 to .05, respectively).

We advanced two interpretations for the above results. The fact that the proportion poor among the Malays was still large relative to that of the Chinese and the Indians, even after controlling for all the predictor variables, led us to interpret that pure Malay effect is present but that some of the effect is attenuated once the structural, SES factors are equalized among the ethnic groups. Further, the fact that the proportion rich among the Malays exceeded the sample mean (12.7) and that of the Indians (.05) and that there was a decline in the proportion rich among the Chinese and the Indians led us to attribute some of the original ethnic differences to the presence of "structural barriers" in the social system working against the Malays or enhancing the affluence of the Chinese and the Indians.

The above results were interpreted with caution as we detected interaction effect in the first and the second MCA models. Interaction between ethnicity and current place of residence was found to have the most serious effect, and we appropriately took it into account replicating the MCA separately for the metropolitan and the nonmetropolitan strata. Our hypothesis was that metropolitan residence would make a substantial difference, especially to the Malays, in escaping poverty and to achieving affluent living. The results were consistent with our expectations. The poor were confined to the nonmetropolitan Malays and almost nonexistent in the metropolitan places. Affluence, on the other hand, was found to be in the metropolitan

places, and regardless of ethnic background, and only the Chinese were likely to be rich (.19) in the nonmetropolitan places. The proportion rich for all the three ethnic groups in the metropolitan places exceeds the overall mean by a substantial margin. On the basis of these results, we could conclude with confidence that affluence is a metropolitan phenomenon and not an ethnic phenomenon, even though the proportion rich among the Chinese exceeds those for the Malays and the Indians by a substantial margin.

Path Analysis

In view of the Malaysian government's New Economic Policy, the path analysis was employed to identify, within a postulated causal framework, the linkages between the independent variables and the level of living that might suggest ways to escape the poverty trap and achieve affluent living.

In the first path model applied separately to each ethnic group, we found that SES characteristics and traditional values have strong direct paths to the level of living for all three ethnic groups, suggesting that those in the highest SES and who have modern values are less likely to be low in their level of living. Education had a strong direct effect for the Malays and occupation for the Chinese. One specially important result was the size of the direct effect between being a Malay and level of living ($p_{10,1}$=-.09) as compared to the total Malay effect

($r_{1,10}$=-.43). When all the intervening factors were taken into account, the Malay effect was reduced substantially.

The second application of the path model involved a stratification by current place of residence (metropolitan versus nometropolitan) and the inclusion of ethnicity as an exogeneous variable to evaluate its direct effect on level of living in the two contrasting contexts. Two results suggested the operation of structural effects on level of living: (1) in the metropolitan stratum, the direct Malay effect, which was negative, was weaker than the indirect effect through childhood place of residence, and (2) in the metropolitan stratum the direct Malay effect was positive and was stronger than the indirect effect through childhood place of residence. We interpreted the former to mean that the Malay tendency toward poverty was even stronger if combined with childhood rural residence and the latter to mean that the Malay tendency towards affluence, as compared to the Indians (though not to the Chinese), was not deterred by childhood rural experience if they currently live in metropolitan places. In short, level of living is depressed for the Malays only if they had <u>persistent</u> rural experience from childhood to adulthood; it can be raised once there is escape from the hold of rural, and presumably traditional, way of life.

Discussion and Policy Implications

Socioeconomic characteristics were found to be strong predictors of level of living. Government efforts in

raising the socioeconomic status of the disadvantaged are, therefore, not inappropriate. The finding that poverty is predominantly a nonmetropolitan phenomenon and in metropolitan places even the otherwise disadvantaged Malays find their way to higher level of living suggests that the Malays are not necessarily trapped into poverty by their culture. It is still true that being a Malay in a nonmetropolitan setting predisposes him disproportinately to poverty and being a Chinese to affluence regardless of place of residence, and we cannot on the basis of this study identify what accounts for these apparently "pure" ethnic effects. But the fact that even the Malays once in the metropolitan setting, however they come to be there, enjoy a fairly good chance of higher level of living suggests that they are certainly capable of availing themselves of life-improving opportunities. Perhaps we are begging the question if we pursue this further and ask why more Malays, wherever they currently live, don't avail themselves of the various opportunities and find cultural factors, or prevailing traditionalism, at the root. From a policy point of view, however, it would seem adequate and appropriate if we can assume that if opportunities are indeed made available more equitably - say, through Government intervention, more Malays would surely be able to escape from poverty and realistically aspire to higher level of living that has been denied them, at least generally, in the past.

The present Government, it would seem, assumes both cultural and structural factors to be responsible for the preponderance of poverty among the Malays as it pursues policies of structural adjustments in the form of the New Economic Policy and the New Education Policy even as it calls upon the Malays (and Malaysians, generally) to disciplined diligence by emulating the work ethics of the Japanese and the Koreans (as manifested in the latest Look-East policy). While the data of this study made it easier for us to look for structural effects, the results suggest the possible operation of both factors: some undefined ethnic effect (i.e., Malay effect) on poverty and some specific structural effect (education, occupation, and especially metropolitan residence) on affluence.

Unfortunately we were not able to identify the effects of traditional values and demographic factors on level of living due to the cross-sectional nature of our data. Measured as these variables were at the time of the interview, they could be the consequences as well as the causes of achieved level of living. While they were initially included in the study to test the traditional value theory of poverty, they could not be used in any convincing way to do so in fact. Instead, we had to rely on the statistically defined "pure" ethnic effect as a proxy for the concept of culture and report our findings by a vague reference to "something about being a Malay or a Chinese." (This in spite of the fact that we tried to avoid

the notion of culture associated especially with poverty as formulated by Oscar Lewis).

Certainly the fact that parity and the size of household show no systematic relationship to level of living in this cross-sectional study should not be taken to mean that they would not have any effect in a longitudinal setting. The results of this study, in other words, should not be used as a basis for formulating, or revising, Malaysia's population policy, however justified such a revision might be on other grounds. The present Government has recently declared the need for a substantially larger population (New Straits Times, November 24, 1982,p.12) to facilitate the industrial growth of the country. In this context, there is an urgent need to study carefully the relationship between rapid population growth and the pace of industrialization - not only at the macro level but also at the micro level (as they affect the welfare of individual families). It is probably the case that some of the ethnic and SES effect on level of living is mediated through family size preference and actual family size. The critical question is whether smaller family size is an inevitable prerequisite for achieving affluence in a rapidly industrializing society. This question needs to be addressed with more appropriate data than what were available to us in this study.

Implications for Further Research

The ultimate aim of this study was to offer a causal explanantion of the relationship of ethnicity and poverty----or, more broadly, level of living----in Peninsular Malaysia. Two alternative theories were identified as offering the needed explanantion: traditional value theory and the structural barrier theory. Our statistical analyses suggest that both factors may be at work. On the one hand, there is evidence that something about being a Malay predisposes them to poverty and something about being a Chinese predisposes them to affluence----at least, within the context of the kinds of data that were available and built into our analytic framework. On the other hand, there is evidence that even a Malay, if he is better educated and living in a metropolitan place, has a diminished chance of being poor and an increased chance of being affluent. The critical question, which we could not answer with the kind of data we had at our disposal, is: Why do relatively more of the Malays remain rural and unschooled and thus poor as compared to the Chinese and to some extent the Indians. What distinguishes the Malays who do seek better schooling and oportunities in the metropolitan places and thus become relatively well-off as compared to the majority of the Malays? Can we assume that opportunities are available and accessible about equally for the different ethnic groups but that people differ in their value orientation (and therefore,

motivation) to take advantage of them? Or, do we assume that aspirations for better living are shared about equally by the different groups of people but that opportunities to realize their aspiration are not equally available to the different ethnic groups. The former implies the traditional value theory and the latter, the structural theory. We have repeatedly suggested that our data could not address these critical questions directly. The issue then becomes one of specifying the appropriate kinds of data we might collect if these questions merit more direct answers. We already noted that the Government of Malaysia is pursuing policies that assume both factors to be responsible for the present imbalance in level of living between the ethnic groups. Thus, a further pursuit of the applicability of the alternative theories may be academic. But since so many scholars and political leaders have argued about the issue over the years, let us pursue this matter.

The most important limitations of our data have to do with the cross-sectional nature of the survey through which the data was obtained and the lack of information about the parents' (the father's, in particular) socioeconomic background, and their value orientation. To test the theories more directly, it is necessary to have measures of values and demographic status (i.e., parity and desired family size) of the respondent at different stages of his life and information about the father. Only then can we address the question: Did a traditional value orientation

of the father and/or the respondent at an earlier stage of life deter him from going to school, from taking up non-farm occupations, or moving away from rural places? Was it the interaction of low socioeconomic status of the father and his traditional orientation that perpetuates the traditional orientation of the respondent, which in turn deters him from taking advantage of the various opportunities to improve his level of living? If the traditional value theory of poverty is to hold up, these relationships should be in evidence across the different ethnic groups, assuming of course that we have a comprehensive measure of the value orientation that affect motivation to take advantage of whatever opportunities there are in the society for improving one's lot. The measure used in this study, based on a survey that had not been designed to tap these things, is clearly inadequate in this regard as well. Thus there is the need to identify and measure the appropriate dimensions of the value-orientation that affect the kind of behavior we are interested in. Now, the structural theory of poverty would be supported, if in spite of a value orientation conducive to fuller economic participation in the present-day market-oriented society, persons of different ethnic backgrounds are found to vary in their schooling, occupation, and place of residence, or that disadvantaged or advantaged status with regard to these is concentrated in one or the other of the ethnic groups. Our guess is that even with data more appropriate to addressing our central question our analysis

is likely to yield a more-or-less kind of answer with regard to the relative importance of traditionalism versus structural factors rather than an either-or kind of answer. No doubt both factors are at work (thus precluding any either-or answer any way), but the availability of temporally sequenced data would improve our ability to estimate the relative importance of these factors.

The foregoing indicates the need for better specification of the independent variables both in terms of their scope and time dimension. There is also the need to get a better measure of the dependent variable in a study like this. The measure of level of living was based on rather crude data that happened to be available in the survey that had not been intended for this kind of study. The weakest item must be the income data as they were obtained in a rather summary fashion, without attempting to tap all the possible sources of income, in money and in kind, or any systematic effort to assign appropriate monetary values to income reported in kind. Besides, the income data (as all data in this survey) were obtained from wives, many of whom were not working. We could argue that with the scale that was developed, based on a multidimensional scaling technique, we could rank order the individuals in a fashion probably consistent with the rank order that would have been obtained had we had more adequate data. What we could not do was to estimate the absolute level of poverty or affluence that prevailed in Peninsular

Malaysia in the mid-1970s. For this, a comprehensive economic survey would be required. For this study, all we did was to classify those as "poor" if they ranked lowest and those as "affluent" if they ranked highest in our 5-point scale of level of living. Short of a utopian society, we cannot expect uniformity with regard to level of living in any population, and therefore there will always be the lowest and the highest on any measure of level of living. It may be useful in future efforts to define poverty, if not affluence, in more absolute terms and assess the success of a government program in terms of how much it has reduced those below the absolute level or increased those above a particular standard defined as a goal to achieve for the citizenry. There is also the question of varying standards for an urban versus a rural setting. The relative absence of "poverty" in the metropolitan setting, according to the present study, may be a function of having used a single scale spanning all strata. It might be more discriminating to derive a scale based on differing standards for the different areas of the country.

The present analysis also suggests the advisability of differentiating the nonmetropolitan population by industry in which the husband is employed - to understand better why the Chinese in nonmetropolitan places end up being substantially more affluent than the others. Clearly, these Chinese are not likely to be in traditional, padi farming that the Malays tend to be in, and it would be useful to

demonstrate this.

Another line of inquiry that merits some serious thought is to differentiate the nonmetropolitan Malays by region, if not by state, to take into account the fact that Malays are quite heterogeneous with respect to their culture that might affect their economic orientation. The East Coast Malays are more traditional in many respects than, for example, the Malays of Negeri Sembilan or Johor. It should be relatively easy to incorporate this dimension into the present analysis by adding dummy variables with respect to regions and test whether this factor makes a difference on level of living among the Malays.

Clearly there is much more to be done to fully understand the ethnic imbalance in level of living in Peninsular Malaysia. We hope that this study serves to stimulate more intensive studies in this area of critical concern to all of us interested in the improvement of human welfare not only in Malaysia but throughout the Third World.

BIBLIOGRAPHY

Andrews, Frank M., J.N. Morgan, J.A. Sonquist and Laura Klem
1973 Multiple Classification Analysis. Ann Arbor: Survey Research Center, University of Michigan.

Asher, Herbert B.
1976 Causal Modeling. Sage University Paper Series on Quantative Application in Social Science. 07-003. Beverly Hill and London: Sage Publication.

Caldwell, J.C.
1967 "Malaysia Population Problem." Pp. 165-188 in S. Chandrasekhar (Ed.)
Asia's Population Problems. New York: Frederich A. Praeger.

Department of Statistics
1977 Vital Statistics -- Peninsular Malaysia 1975. Kuala Lumpur, Malaysia:on Deparment of Statistics.

Duncan, Otis Dudley
1975 Introduction to Structural Equation Models. New York: Academic Press.
1975 Introduction to Structural Equation Models. New York: Academic Press

Government of Malaysia
1976 Third Malaysia Plan: 1976-1980 Kuala Lumpur: Government Printer.

Government of Malaysia
1981 Fourth Malaysia Plan: 1981-1985. Kuala Lumpur: Government Printer.
1975 Introduction to Structural Equation Models. New York: Academic Press.

Fisk, E.K. and Osman Rani
1982 The Political Economy of Malaysia. Oxford University Press. Kuala Lumpur.

International Labor Office
1977 Poverty and Landlessness in Rural Asia. International Labor Office, Geneva.

Johnson, R.A., Wichern D.W.
1982 Applied Multivariate Statistical Analysis. New Jersey: Prentice - Hall,Inc.

Jomo K.S., and Ishak Shari
1981 "Income Distribution and the Role of the State in Peninsular Malaysia: A Review." Pp. 212-252 in H. Osman - Rani, Jomo K.s. and Ishak Shari (Ed.), Development in the Eighties with Emphasis on Malaysia.

Kerlinger, Fred N., Elazar J. Pedhazur
1973 Multiple Regression in Behavioral Research. New York: Holt, Rinehart and Winston, Inc.

Kusnic, Michael W., Julie Da Vanzo
1980 Income Inequality And The Distribution of Income: The case of Malaysia.
Prepared for The Agency for International Development. Santa Monica: Rand Corporation.

Kuznets, Simon
1976 "Demographic Aspects of the Size Distribution of Income: An Explanatory Essay." Economic Development and Cultural Change. Vol. 25, no. 1.

Lewis, O.
1959 Five Families. "Mexican Case Study in the Culture of Povert". Basic Book Inc.

Lewis, O.
1965 La Vida. A Puerto Rican Family in the Culture of Poverty. San Juan, New York. Random House.

Lim, David
1975 Readings on Malaysian Economic Development. Oxford University Press. Kuala Lumpur.

Lipton, Michael
1976 Why Poor People Stay Poor. A Study in Urban Bias in World Development. Harvard University Press.

Mahathir Mohamad
1970 The Malay Dilemma. Kuala Lumpur: Federal Publications.

Meerman, J.
1979 Public Expenditure in Malaysia - Who Benefit and Why. Oxford University Press.

Mencher, Samuel
1972 "The Problem of Measuring Poverty. Pp. 71-85 in J.L. Roach (Ed.) Poverty. Penguins Books.

Mohd. Nor Abdul Ghani
1977 "Dimensions of Poverty and Poverty Eradication Programmes." Pp. 215-227 in Mokhzani Abdul Rahim and Khoo Siew Mun (Ed.), Poverty in Malaysia.

Mokhzani, B.A. and Khoo, S.M.
1970 Poverty in Malaysia. Persatuan Ekonomi Malaysia. University Malaya Press.

Ness, Gayl D.
1967 Bureaucracy and Rural Development in Malaysia. Berkerly: University of California Press.

Neter, John and William Wasserman
1974 Applied Linear Statistical Models. Homewood, Illinois: Richard Irwin Inc.

Nor Laily Aziz, Tan Boon Ann and Lin Chee Kuan
1979 The Malaysian Family Planning Programme -- Some Facts and Figures.
Kuala Lumpur: National Family Planning Board.

Nunnaly, Jum C.
1979 Psyconometric Theory. New York: McGraw - Hill Book Company.

O'Muircheartaigh, C.A. and C. Payne
1977 Exploring Data Structure. The Analysis of Survey Data. Vol. 1. New York: John Wiley and Sons.

O'Muircheartaigh, C.A. and C. Payne
1977 Model Fitting. The Analysis of Survey Data. Vol. 2. New York: John Wiley and Sons.

Palmore, J.A.
1975 "Demographic Situation in Malaysia", in John F. Katner and Lee McCaffrey (Ed.), Population and Developement in Southeast Asia. Lexington, Mass: D.C. Health and Company.

Repetto, Robert
1979 Economic Equality and Fertility in Developing Countries. Johns Hopkins University Press.

Ryan, William
1979 Blaming The Victim. Vintage Books.

Snodgrass, Donald R.
1980 Inequality and Economic Development in Malaysia. Kuala Lumpur: Oxford University Press.

Spath, Helmuth
1980 Cluster Analysis Algorithms. John Wiley and Sons.Kuala Lumpur: Oxford University Press.

Syed Husin Ali
1981 "Alternative Development Strategies for Malaysia: A Comment." Development in the Eighties. Jurnal Ekonomi Malaysia.

Tan, Tat Wai
1982 Income Distribution and Determination in West Malaysia. Kuala Lumpur:d University Press. Oxford University Press.

Thomas, George R.
1972 Poverty in the Nonmetropolitan South: A Causal Analysis. Lexington Books.

Murdoch, W.M.
1980 The Poverty of Nations. The Political Economy of Hunger and Population. Johns Hopkins University Press.

Young, K.W., C.F. Bussink and Parvez Hasan
1980 Malaysia: Growth and Equity in a Multiracial Society. Baltimore: Johnsks. Hopkins University Press.