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Tsang Wing Kwong

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#### About the author

Tsang Wing Kwong is a Lecturer in the Department of Educational Administration and Policy, The Chinese University of Hong Kong.

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# Educational and Early Socioeconomic Status Attainment in Hong Kong

#### Abstract

Hong Kong residents believe that they are living in an achievement-oriented society, that is, status in the Hong Kong social structure is allocated in accordance with individuals' achievements rather than socially ascribed attributes. This conclusion, which has unambiguously been confirmed by social-psychological studies in the last two decades, will be verified in this study by objective status-attainment data. The data used in this study are generated from the Hong Kong 1981 census data. The attainment models guiding the analysis are Duncan's Basic Model, the Wisconsin Model, and the structuralist models. The study reveals that ascribed attributes, such as family background and sex, have significant impacts on the status-attainment processes of young men and women in Hong Kong during the 1970s. These ascribed attributes assert their effects mainly through their influence on educational achievement, which in turn imposes significant effect on occupational-status attainment. In other words, achievement and ascription have joined forces in a particular way in determining the attainment opportunities of young men and women in Hong Kong. At the crux of this ascription-achievement partnership is the educational system which acts as a mediator between social origins and destinations. Taken together, this study has revealed that achievement is by no means the sole criterion for the allocation of social opportunities as most of Hong Kong residents perceive. Ascription also find its way to assert itself into the attainment process mainly through the educational system.

Hong Kong has been depicted as an achievement-oriented society. Studies in the last two decades have unambiguously concluded that Hong Kong residents believe that social status within the social structure of Hong Kong is allocated in accordance with individuals' achievement rather than their ascribed attributes.<sup>1</sup>

In the early 1970s, Chaney and Podmore found in their survey of young adults that 62.7 percent of respondents agreed with the statement that "Hong Kong is truly a land of opportunity and 2

people get pretty much of what they deserve here" (Chaney and Podmore, 1973:60). In 1969 Johnson conducted a survey on the community leaders in Tsuen Wan and found that over half of the respondents identified achievement rather than ascription as the primary determinant for individual success in Hong Kong (Johnson, 1971:252). In a survey conducted in Kwun Tong in 1985, Lau and Kuan found that "an overwhelming 87.6 percent of respondents agreed or strongly agreed that Hong Kong was a place full of developmental opportunities. Hence, it is individual efforts that count in one's success or failure" (Lau and Kuan, 1988:63-64). Again in a similar survey done in 1986, Lau and Kuan found that "84.2 percent of respondents... agreed that in Hong Kong, provided a person had the ability and worked hard, he should have the opportunity to improve his social and economic status" (1988:64).

These research findings have consensually indicated that Hong Kong is an achievement-oriented society. However, all the above mentioned findings are based on social psychological data. That is, they are but the social reality perceived by samples of Hong Kong residents. None of these studies have ever tried to confirm the subjective perception they have revealed with objective data. For instance, the subjective attributions of personal success to achievement have never been verified with conventional status attainment models.

It is, therefore, the purpose of this essay to employ objective status-attainment data to validate whether social opportunities are catered to individuals because of achievement rather than ascription, that is, whether Hong Kong is really an achievementorientated society as her residents perceive.

The status-attainment data used in this study are constructed from the Hong Kong 1981 census data. The attainment models guiding the following analysis are Blau and Duncan's Basic Model, the Socialization Model, and the Structuralist Models. Hence, in the following pages, I will first review the theoretical backgrounds of various status attainment models. Then the data set and instrument used in the analysis will be explicated. Three

status attainment models will be tested against the data. It is hoped that this analysis could reveal some significant factors contributing to the attainment opportunities of socioeconomic status of young men and women in Hong Kong in the 1970s.

### 1. Status Attainment Study: A Review

It has commonly been recognized that within the area of mobility study, there are two distinct methodological traditions. One is the contingency-table tradition, while the other is the regression tradition (Duncan, 1979:793; Hauser *et al.*, 1975:586; Hauser, 1978:920-921; and Pullum, 1975:2). Status attainment study belongs to the latter. Hence, in the review that follows, I will confine my exposition to the major theories and researches of the regression tradition of mobility study.<sup>2</sup> Accordingly, the following review will be organized in a chronological way which reflects the development of the regression tradition. They are the Blau-Duncan status attainment model, the Wisconsin model, and the structuralist models.

#### 1.1. Blau-Duncan Status Attainment Model

There has been a general consensus that Blau and Duncan, in their path-breaking work — *The American Occupational Structure* (1967) — have made invaluable contributions to mobility study both methodologically and conceptually. One reviewer even asserted that the work had started a "conceptual and methodological revolution" in mobility study (Kerckhoff, 1984:140-141). Therefore, it will be helpful to outline the significance of the work before we discuss the details of its theory and methodology.

Before the mid-1960s, social mobility study had been dominated by the mobility-table tradition. However, the research tradition suffered from one essential methodological limitation, that is, the focus of analysis was limited to the descriptive level. Mobility-table analysis focused mainly on exploring the general patterns of

social mobility but stopped short of providing any explanation to them (Kerckhoff, 1984). By utilizing the socioeconomic index constructed by Duncan (1961), Blau and Duncan transformed the occupational titles from a categorical variable to a continuous variable. As a result, more refined statistical models, such as regression analysis, could be used in the study. Based upon this methodological refinement, various kinds of intervening variables could then be introduced into the study. Thus, it conceptually transformed the conventional model of cross-tabulation of origin by destination to a model of attainment path. Subsequently, it raised the level of inquiry of mobility study from exploratory and descriptive to explanatory and analytical.

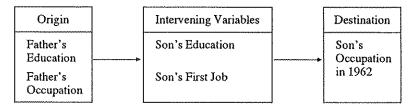
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Blau and Duncan started their analysis with a basic model which injected two intervening variables into the conventional origin-destination model. The two intervening variables were educational level and early work experience (the first job) of the sons. The model is presented in Figure 1. This basic model was tested against a data set collected in the United States in March 1962, which contained 20,700 males aged 20 to 64. The analysis revealed that the model could explain 43 percent of the variance of the sons' occupational status in 1962, 33 percent of the variance of their first job, and 26 percent of that of educational attainment. Among the direct effects on occupational achievement, the effect of educational attainment was the greatest (the path coefficient, p=.394), following was the first job (p=.281), and then the father's occupation (p = .115). Blau and Duncan concluded that "although most of the influence of social origins on occupational achievements is mediated by education and early experience, social origins have a continuing impact on career that is independent of the two variables pertaining to career preparation" (1967:403).

Blau and Duncan extended their analysis by including additional variables into the basic model. They input some structural variables, such as race, region of birth, nativity, and types of community in which one lived and worked (1967:207-294). Some variables pertaining to family background were also injected into the model, for instance, number of siblings, sibling position, the

relations among siblings, and the marital status of the sons. On the whole, Blau and Duncan laid the groundwork for a new research tradition which is now commonly called status attainment study.

Figure 1. Blau-Duncan Basic Model of Attainment



Source: Blau and Duncan, 1967:170, Fig. 5.1.

Before we end the explanation of the Blau-Duncan model, we should highlight one critique of the model as well as its defense, because this discourse is of great relevance to the present study. The critique claimed that applying Duncan's socioeconomic index to the attainment model brought spurious results. That was because Duncan's index, which used educational achievement as one of the two predictors of the occupational status; at the same time education was included as an independent variable in the regression equation to predict occupational status attainment. Therefore, the regression equation was itself a self-fulfilling prophecy, because a high correlation between occupation and education had already been built into the index (Blau and Duncan, 1967:124).

Blau and Duncan admitted that "the criticism is germane, and the critics' point must somehow be met" (1967:124-125). They organized their defenses as follows:

The first response to the critics, then might be that the status score, interpreted as an estimate of occupational prestige, should legitimately reflect the fact that one determinant of an occupation's prestige is, in fact, the educational level of its incumbents. But because not all

persons in an occupation have the same educational attainment, the formula for the status score does not by any means produce a perfect correlation between the estimated prestige of the individual's occupation and his educational attainment. On the other hand, in the light of our rather full knowledge of occupational prestige, no acceptable estimate of occupational prestige could fail to show some appreciable correlation between an individual's education and the prestige of the occupation in which he is engaged. It could be argued, in other words, that the apparent circularity of the procedure that was followed is simply a realistic reflection of the fact that high-prestige occupations do recruit men with superior education whereas low-prestige occupations recruit men with inferior schooling, by and large, (1967:125)

Empirically, Blau and Duncan replaced the Duncan's socioeconomic index with another measurement of occupational prestige, which did not explicitly include an education component, in their attainment analysis. In comparing the results of the two analyses, they found a general similarity between them (1967:126-128; cf. Duncan and Hodge, 1963). In fact, Blau and Duncan's defense was well received and no explicit refutation has ever been put forth.

#### 1.2. The Wisconsin Model

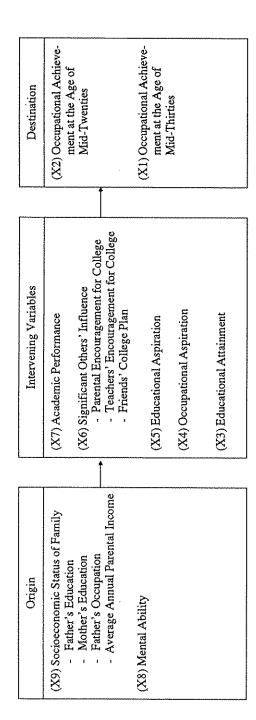
Among the studies initiated by the Blau-Duncan model, the studies conducted by William Sewell and his colleagues in the University of Wisconsin have been widely regarded as the most influential because they have input some significant elaborations into the model. The contributions made by the Wisconsin model, as it is now commonly called, can be summarized into two aspects. Methodologically, the Wisconsin model is basically a longitudinal study which consists of a series of follow-up studies at different points of time in the respondents' careers. Thus, the data collected are regarded as more reliable and valid than those collected in cross-sectional studies in which respondents are asked to recall information at different phases of their careers. Further-

more, since data are collected simultaneously with the respondents' career development, that makes it possible to introduce a set of socio-psychological variables into the model. As a result, the Blau-Duncan model has been conceptually expanded. The Wisconsin model is summarized in Figure 2.

The initial study of the Wisconsin model was conducted in 1957 by J.K. Little, with the cooperation of the Wisconsin State Superintendent of Schools. The study covered almost all the high school seniors, both male and female, in the state of Wisconsin. The original objective of the study was "to obtain information that would be useful in the planning of statewide programs of higher education" (Sewell and Hauser, 1975:15-16). Thus, the study contained substantial information about the educational and occupational aspirations of the respondents. In 1962, the data were turned over to Sewell and a random sample of approximately one-third of the total respondents was drawn for further study. In 1964, seven years after the students graduated, a follow-up study was conducted by Sewell and his colleagues. The follow-up study, however, only contained the males in the random sample (Sewell et al., 1969; Sewell et al., 1970; Sewell and Hauser, 1975; and Sewell et al., 1976). The second follow-up study was conducted in 1975. It contained approximately 90 percent of the one-third random sample, both males and females (Sewell et al., 1980; and Clarridge et al., 1977). These studies presented a detailed picture of status attainment process of both males and females in the United States.

As for the results of the studies, take the 1975 study as an example: the model was able to explain, for the male sample, 54 percent of the variance of educational attainment, 62 percent of that of early occupational achievement, and 47 percent of that of occupational achievement at the age of thirty-five (Sewell *et al.*, 1980:571). In comparison with the Blau-Duncan model, the Wisconsin model significantly improved the predicting power on educational attainment but did not gain much on predicting the occupational achievement at middle age. Thus, it was pointed out that the Wisconsin model was in essence a model of educational attainment and socialization rather than of occupational attain-

Figure 2. The Wisconsin Model



Sources: Sewell et al., 1969; and Sewell et al., 1980.

ment (Kerckhoff, 1976 and 1984) because all it input into the status attainment model was a set of variables which accounted for the outcome of education and socialization.

The Wisconsin model triggered a number of similar longitudinal studies, for instance, the Explorations in Equality of Opportunity (EEO) survey (Alexander *et al.*, 1975; Alexander and Eckland, 1980) and the Project Talent survey (Jencks and Brown, 1975; Porter, 1974; Weis and Steel, 1980; and Jencks *et al.*, 1983); and it still attracts considerable attention within the forum of the discipline (cf. Kerckhoff, 1980; and *Sociology of Education* Vol. 56, No.1, 1983).

#### 1.3. The Structuralist Models

In the mid-1970s, the status attainment model met strong criticism, the first of which was launched by Lewis A. Coser in his Presidential Address at the Annual Meeting of the American Sociological Association. In his speech entitled "Two Methods in Search of a Substance" (Coser, 1975), Coser took issue with two research methods, one of which was path analysis, specifically its application to stratification studies. Coser quoted Blau and Duncan's work (1967) as an example and accused the research tradition of "a hypertrophy of method at the expense of substantive theory" (1975:698). Such an accusation of being "atheoretical" triggered heated debate, and subsequently led to serious reflections on the theoretical bases of the research tradition (Burawoy, 1977; Crowder, 1974; Horan, 1978; Horan *et al.*, 1981; Colclough and Horan, 1983; and Knottnerus, 1987).

Horan and his colleagues, on several occasions, pointed out that "status attainment was not atheoretical. Quite the contrary, it was heavily theory-laden" (Horan, 1978:534). Horan argued his case by underlining two aspects of the Blau-Duncan model which, he claimed, reflected the underlying theoretical orientation of the model. First of all, Horan pointed to the Duncan's socioeconomic index, which was an essential building block of the model, and asserted that it basically reflected "the functionalist conception of a unidimensional, consensual evaluation of occupations" (Horan,

1978:536). To support his point, Horan contrasted Duncan's index with some functionalist classics, such as Parsons' article, "An Analytical Approach to the Theory of Social Stratification"; and the work of Davis and Moore, "Some Principles of Stratification" (Horan, 1978; cf. Crowder, 1974). Furthermore, Horan concluded that Duncan's index accorded strikingly with functionalist conception and principles of stratification. Secondly, Horan pointed to the attainment process itself and claimed that the process was built upon a functionalistic and neo-classical conception of occupational placement (1978:537; cf. Stolzenberg, 1975). He asserted that both the Blau-Duncan model and the Wisconsin model assumed that the status attainment process was "an open, fully competitive market process in which individual characteristics are identified and rewarded according to their societal value" (1978:537). Horan contended that the status attainment model was heavily laden with the functionalist and neo-classical conceptions of stratification. More recently, Knottnerus pointed to another more general theoretical conception underlying the status attainment model, that is, the implied overall image of society (1987). Knottnerus asserted that the image of society implied in the works of status attainment study was distinguished by features related to the core concept of universalism and achievement-orientation (1987:116). Knottnerus then described in detail the social structure and action orientation within such a society (1987:116). In short, it was "an optimistic image of modern, mass, industrial society" typified by neo-classical and functionalist writings on stratification (1987:118).

All these discussions on the underlying theoretical orientation pointed to one basic pitfall in the status attainment model, that is, it totally ignored the structural constraints which bore upon individuals as well as their attainment opportunities (Bielby, 1981; Horan, 1978; Knottnerus, 1987; Kerckhoff, 1976 and 1984; Stolzenberg, 1975). The model was criticized for its assumption that the attainment process took place in a vacuum which was completely insulated from the social, political, and economic context. It was also criticized for attributing the attainment outcome

entirely to individualistic and voluntaristic reasons.

Based upon these "astructural" critiques, Kerckhoff drew our attention to the fact that there could be two distinct approaches to status attainment study, which he named "the socialization model" and "the allocation model" (1976). By the socialization model, Kerckhoff referred to the model which saw status attainment as the outcome of socialization of individuals. Thus the main task of the model was to look for "the explanation of attainments in the analysis of the evolving characteristics of individual actors." Such a model "tends to view the individual as relatively free to move within the social system, his attainment being determined by what he chooses to do and how well he does it" (1976:369). Apparently, both the Blau-Duncan model and the Wisconsin model belonged to this model. On the other hand, the allocation model saw attainments as the result of a social allocation process through which individuals were identified, selected, processed, classified, and assigned according to externally imposed criteria (1976:369). The primary objective of the approach was to investigate the mechanism and criteria governing this allocation process and see how it constrained the attainment opportunities of some individuals or groups and at the same time enhanced the chances of others. Hence, the model "views the individual as relatively constrained by the social structure, his attainments being determined by what he is permitted to do" (1976:369).

Since the mid-1970s, a stream of researches, based upon the allocation or structural perspective, has emerged within the research area of status attainment. All of them aim at investigating the structural constraints which bear upon individuals in their attainment process. One of the most apparent structural constraints in modern society is sex, which has attracted much attention and research effort. In fact, many scholars, including Sewell and Hauser, have tried to reveal the attainment differences between sexes and to see how being a female constrains a woman's opportunities in both educational and occupational attainment (Alexander and Eckland, 1974; McClendon, 1976; Sewell *et al.*, 1980; Treiman and Terrel, 1975; Wolf and Fligstein, 1979). Another

constraint that has been well researched, especially in the U.S., is race. The findings unambiguously suggest that being black in the U.S. limits one's opportunities for educational and status attainment (Bonacich, 1976; Kluegel, 1978; Porter, 1974; Portes and Wilson, 1976). The third constraint explored by both sociologists and economists is the structure of the labor market. This branch of research aims to find out how segmentation and differentiation of labor markets affect the attainment opportunities (Beck *et al.*, 1978; Bibb and Form, 1977; Stolzenberg, 1975; Tolbert *et al.*, 1980; Wallace and Kalleberg, 1981). More specifically, some scholars even go into the organizational level and investigate how organizational factors, such as the authority structure, organizational size, and organization of work, constrain individual attainment (Baron and Bielby, 1980; Stolzenberg, 1978; Wallace and Kalleberg, 1981; Wolf and Fligstein, 1979).

Apart from the structural or allocation model, there is still another research approach emerging from the debate over the theoretical foundations of status attainment study, that is, the Marxist approach. The main difference between the structural model and the Marxist approach is that the former simply pinpoints the structural aspect of the attainment process which the Blau-Duncan model neglected, while the latter challenges the basic conception of the social hierarchy within which the attainment process takes place. Therefore, the Marxist challenge is relatively more profound than the structural model. A typical example of the Marxist challenge is Wright's critique of Duncan's socioeconomic index in particular and the Blau-Duncan attainment model in general. He argued that the Marxist conception of class could explain more adequately the income inequality in advanced capitalism than the Blau-Duncan model (Wright, 1979; Wright and Perrone, 1977; and Wright, 1978b). Kalleberg and Griffin furthered Wright's argument by extending the dependent variable from income inequality to inequality in job rewards, which included both economic success and fulfillment. Their conclusion was similar to Wright's, which stated that Duncan's index proved to be relatively less adequate (1985).4

Taken together, we can see that all the criticisms on status attainment study point at its theoretical foundation. First, Coser accused the research tradition of being atheoretical. Horan and his colleagues then related the study to neo-classical and functionalist principles of social stratification. The Marxists challenged the conception of class underlying the study. In light of all these queries on the theoretical foundation of the research tradition, I think it is necessary to identify the theoretical footing of status attainment study in general and that of the present study in particular, before we proceed with the empirical analysis. In my opinion, the search for theoretical footing should begin with the crux of the study, that is, Duncan's conception of the socioeconomic status.

I would like to underline that both Duncan himself and a number of scholars have unambiguously related the theoretical origin of Duncan's socioeconomic status index to Weber's concept of economic class. By economic class, Weberians meant a group of individuals, most likely incumbents of a same occupation, sharing similar market capacities or bargaining strengths in both labor and commodity markets (Weber, 1978:302-307, 926-940; Giddens, 1981:41-52; and Collins, 1986:132-138). Duncan and quite a number of scholars contended that Duncan's socioeconomic status index, which used education and income levels as predictors, could be taken as a reliable and valid measure of the market situations of occupational groupings in modern industrial societies (Duncan, 1961:116-117; cf. Blau and Duncan, 1967:6-7; Breiger, 1981; Goldthorpe, 1987:40; and Marshall et al., 1988:21-23).

Following the postulate that Duncan's socioeconomic index is a measure of economic-class situation, we can then interpret the conventional status attainment model, which is built upon Duncan's index, as a model accounting for the individual variations in economic-class situation. In other words, what is suggested is to locate the work of attainment study within the Weberian theory of class. In light of the Weberian conception of market situation and capacity, the debates between the socialization and structural models within the attainment study can then be integrated neatly into one coherent theoretical framework.

First, the educational attainments and socialization outcomes emphasized in the socialization model can be interpreted, within the Weberian conception, as relevant attributes which individuals bring to the bargaining encounter in the labor market as forms of market capacities. In fact, such an interpretation has been well documented within the Weberian tradition. For instance, Weber himself asserts that as education and training are rationalized, educational qualifications and credentials will become the major criteria in social selection and serve as the legitimate basis for the monopolization of privilege and authority in modern society (Weber, 1969:240-244). This thesis has been elaborated in greater detail in the context of modern U.S. society by Collins in his work, The Credential Society (1979). Secondly, in light of the Weberian concept of market capacity, we can also interpret sex and race, the two structural constraints emphasized in the structural model, as two other forms of market capacities which individuals bring with them to the labor market encounter. Finally, as for the differences in the attainment opportunities among different market segments and work organizations, which have been highlighted in the structural model, they can again be construed as differences in definition and valuation of market capacities among different market segments and work organizations.

Taken together, with reference to the Weberian concepts of economic-class situation and market capacity, the socialization outcomes emphasized in the socialization model and the structural constraints put forth by the structural approach are in fact two sides of the same coin. On one hand, educational credentials, family socialization outcomes, sex, race, and all other individual attributes can be interpreted as market capacities that individuals bring to the bargaining encounter in the labor market; but on the other hand, whether these attributes will be rewarded or penalized will be determined by the overall definition and valuation prevailing in the market structure as a whole or in different segments of the market. In this study, we will take this interpretation of the status attainment model as the theoretical postulate for the following analysis of the status attainment path in Hong Kong.

### 2. The Study

#### 2.1. The Problem

In the above section, we have reviewed the various models of attainment study and have come to the conclusion that they can be subsumed under the Weberian theory of class in general and the conception of economic-class situation in particular. In light of the Weberian concepts of economic-class situation, the status attainment model can be interpreted as a model accounting for individuals' variations in market capacities that they bring to bargaining encounters in the labor market or particular segments of the market. Furthermore, from the debate between the socialization and structural models, we can see that there are basically two orientations to understanding the mechanism governing the distribution of market capacities and economic-class situations in modern society. First, it is the neo-classical or the functionalist conception of stratification (Parsons, 1940; Davis and Moore, 1945; and Bell, 1973), which postulates that status attainment process operates within a universalistic, achievement-oriented, and meritocratic social structure. The orientation "tends to view the individual as relatively free to move within the social system, his attainment being determined by what he chooses to do and how well he does it" (Kerckhoff, 1976:369; see also Crowder, 1974; Horan, 1978; and Stolzenberg, 1975). The studies of the socialization approach, therefore, concentrate its analyses on explaining the differentials in status attainment by socialization outcomes and individual efforts. On the other hand, the structural model criticizes the socialization model as well as functionalism for ignoring the ascribed and structural constraints borne upon the attainment process. Thus, to the structuralists, the social structure is depicted not as an open and achievement-oriented system but rather a deterministic and ascription-oriented context. Accordingly, the studies of the structural approach emphasize explaining the differentials in status attainment by ascribed constraints generated from the social structure. One of objectives of the present study is to address this theoretical debate within the social context of Hong Kong by investigating whether individual achievement is really more crucial than ascription in determining one's opportunity for status attainment.

Apart from the aforementioned theoretical concern, this study also aims to address an empirical problem which I have explicated at the beginning of the essay. It has been confirmed by a stream of empirical studies conducted in Hong Kong in the last two decades that the Hong Kong residents strongly believe that Hong Kong is an achievement-oriented society, that is, attainment opportunities are allocated among them according to individual abilities and efforts rather than ascriptive attributes (Chaney and Podmore, 1973; Johnson, 1971; Lau and Ho, 1982; and Lau and Kuan, 1988). Thus, the primary objective of this study is to investigate whether such a subjective perception is in congruence with the objective structure of Hong Kong society. In other words, in the following pages, we are going to find out what are the criteria and mechanisms which govern the attainment opportunity of young men and women in Hong Kong as they move along the ladder of success in Hong Kong society?

Hence, we are going to construct and test a number of status attainment models with 1981 Hong Kong census data. The first model to be tested is Blau and Duncan's basic attainment model, which simply consists of variables representing the socioeconomic statuses of fathers and their sons or daughters. Then the basic model is extended and tested by including other family-background variables, namely mother's educational attainment and number of siblings. Finally, we test a structuralist model, which is an attainment model that takes into account one of the structural constraints, namely, sex difference which marks individuals in their attainment process.

#### 2.2. The Data Set

The data set that the present study is going to analyze is selected from the 1981 census data, which were collected and prepared by

the Census and Statistics Department of the Hong Kong Government. It is a five percent random sample of the Hong Kong population made available by the Census and Statistics Department. The sample has been arrayed by family. That is, in each case, the information of the son/daughter, father and mother are included. This data set is tailored for the purpose of status attainment study. However, it must be emphasized that the census data are a household data rather than a family data, that is, they only contain family members who live together within a household. Hence, it is not possible to track down, from the data, those sons and daughters who are of age and have moved away from the household. In order to avoid serious bias caused by any possible characteristics demonstrated by those sons and daughters who still lived with their parents after being of age, the data set will only include those sons and daughters aged fifteen to twenty-seven, a considerably large proportion of whom still live with their parents. Furthermore, since the data set is tailored for status attainment analysis, only those cases in which both sons/daughters and fathers are economically active will be included. Taken together, the data set contains 19,375 cases, among which 10,440 are males and 8,935 are females.6

Before we utilize the family data set in our status-attainment analysis, I think that we must verify, first of all, that the sons and daughters in the family data set do not differ much from the same age-cohort in the population. A comparison has been made between the sons and daughters in the family data set with a 20 percent individual data set of the same age-cohort which is also made available by the Census and Statistics Department. The result suggests that in regard to economic-class situation and market capacities, which are the primary concern of the study; the sons and daughters in the family data set do not deviate much from the same age cohort in the population (Tsang, 1990, Chapter 2).

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#### 2.3. The Instrument

As explicated in the previous section, the primary building block of the status attainment study is the socioeconomic status index, which is a set of scores assigned to occupational titles to serve as measure of the socioeconomic statuses of the incumbents of the respective occupations. The main contribution of the index is to transform occupational titles which are by definition a categorical variable into a measure on a continuous scale. As a result, this allows for more refined statistical models, such as regression analysis, to be used in status attainment analysis. Therefore, if we are going to analyze the mechanism governing the status attainment paths taken by young men and women in Hong Kong, we must first of all construct a socioeconomic status index for all occupational titles found in Hong Kong.

There are a number of approaches to construct the socioeconomic index,7 the most commonly used in status attainment studies is Duncan's approach (Duncan, 1961), which is a uni-indicator approach using occupational titles as the sole indicator of socioeconomic status. The approach identifies the educational and income levels of each occupation as predicators in calculating the socioeconomic status score for the respective occupational title. However, because of the structure of the data under study, this study will not adopt the Duncan approach; instead, the Nam-Powers approach (Nam and Powers, 1983) will be used in the calculation of the socioeconomic status index. The theoretical logic of the Nam-Powers approach is basically the same as that of Duncan's. The reason for choosing the Nam-Powers approach is simply because the approach is specifically designed for analyzing census data, hence the approach fits in well with the structure of the Hong Kong census data.

The socioeconomic status index used in this study is constructed from a 20 percent random sample of the 1981 census data. The data set is arrayed by individuals. All individuals who are aged fifteen or above and economically active are included. Thus the data set contains 466,057 cases among which 298,888 are male

and 167,169 are female. The index consists of 153 occupational groupings which are generated by the 147 occupational titles used in the 1981 census data. The procedure of the calculation can be summarized as follows:<sup>8</sup>

- (a) The 153 occupational groupings are ranked in ascending order according to the means of the educational levels of the incumbents.
- (b) The occupational groupings are ranked the same way according to the means of the incumbents' income levels.
- (c) By using the number of incumbents in each occupational grouping, we compute the cumulative intervals of the incumbents in each occupational grouping for each of the two rankings.
- (d) The midpoints of the cumulative intervals of each occupational groupings in each of two rankings are divided by the total number of incumbents in all the occupational groupings. The resulting values, which range from 0 to 100, can be taken as the scores for income and educational levels of each grouping.
- (e) By averaging the two scores of each occupational grouping, we then obtain the socioeconomic status score for each occupational grouping.

In the analysis that follows, this socioeconomic index will be applied to both fathers' and their offsprings' occupations so as to explore the status attainment path that young men and women in Hong Kong have gone through in the second half of the 1970s.

## 3. Social Background and Status Attainment: A Test of Blau and Duncan's Basic Model

Blau and Duncan's status attainment model is built upon a conceptual scheme which defines "the individual's life cycle as sequence in time that can be described, however partially and crudely, by a set of classificatory or quantitative measurements

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taken at successive stages." The model is, then, constructed by following individuals as they pass through these successive stages in life. Through this we can determine "how and to what degree do the circumstances of births condition subsequent status? and, how does status attained (whether by ascription or achievement) at one stage of the life cycle affect the prospects for a subsequent stage?" (Blau and Duncan, 1967:164). Given this conceptual scheme, Blau and Duncan construct their basic model with five variables, which measure successive stages in life. They are (1) father's educational attainment, (2) father's occupational status, (3) respondent's educational attainment, (4) status of respondent's first job, and (5) status of respondent's occupation in 1962 (Blau and Duncan, 1967:165).

Based upon Blau and Duncan's basic model, we begin our analysis with a four-variable model. The data set under study does not allow us to trace the attainment path of sons and daughters beyond their early career, thus we can only have one variable measuring their early status attainment. Hence, the model, which is to be analyzed, consists of:

- (1) FEDYRS (x1): Father's years of education,9
- (2) FSES (x2): Father's socioeconomic status,
- (3) EDYRS (y1): Son's and daughter's years of education, and
- (4) SES  $(y_2)$ : Son's and daughter's socioeconomic status.

Apart from identifying the variables in the model, we also have to determine the causal or temporal ordering of these variables. Based upon the temporal order worked out by Blau and Duncan (1967:166-168), we postulate that the causal order of the variables in our model is:

This causal or temporal order implies, first of all, that we make no assumption about the temporal ordering between FEDYRS and FSES, since the father's career is not the main concern of the study and furthermore they can be discerned as "contemporaneous from the son's (and daughter's) viewpoint"

(Blau and Duncan, 1967:166). In other words, we simply take fathers' status variables as "a configuration of background circumstances or origin conditions for... sons (and daughters)" (Blau and Duncan, 1967:166).

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Secondly, the causal order also implies the precedence of FEDYRS and FSES with respect to EDYRS and SES. However, it must be underlined that the data set used in this study contains only concurrent measures of educational levels and occupational statuses of fathers and their sons or daughters in 1981, thus it may seem to be incongruent with the assumption of temporal order. Yet I think the incongruence is not as problematic as it appears. First, we would contend that, though the variables in question are concurrent measurement of 1981, this does not mean that we cannot determine the temporal order among them. This is especially true for the precedence of FEDYRS to EDYRS and SES, because it is quite a common occurrence that a father will have finished schooling well before his son or daughter leaves formal schooling for a full-time job. Secondly, as for the priority of FSES with respect to EDYRS and SES, we have to admit that this causal order is more problematic. In order to resolve, at least partially, this problem, we suggest that we should apply Duncan's origindestination interpretation to the variables in question. That is, instead of thinking of father's occupational status as such, we can "think of it as describing the origin statuses of the sons (and daughters). Particularly if the data on father's occupation applies to a time point proximate to the opening of the son's (and daughter's) career, this origin status provides a natural baseline against which one can measure the son's subsequent occupational achievement" (Duncan, 1966:62-63; see also Blau and Duncan, 1967:166). To further our compliance with Duncan's origin-destination interpretation, we have confined our analysis to a sample of sons and daughters who were age fifteen to twenty-seven in 1981, that is, at "a time point proximate to the opening of their career." Thus, we assume that FEDYRS and FSES are origin variables which contribute to the subsequent achievement of the young men and women under study.

Finally, for the assumption of the precedence of EDYRS to SES, we have tailored our sample in a way that only young men and women who had left formal schooling for full-time occupations in 1981 would be included. Thus, any case which does not correspond with the causal order will be excluded from the study.

So far we have identified the constituent variables as well as their causal ordering for our status attainment model. Now we can proceed to the third step of our model-building process, that is to establish the pattern of associations among the variables. This can simply be accomplished by computing the simple correlation for the four variables in our model. The correlation matrix is presented in Table 1.

Table 1. Pearson Correlation Coefficients for the Four Constituent Variables in the Basic Model of Status Attainment (N=19,355)

			Vari	iables	
Varia	ıbles	EDYRS	SES	FEDYRS	FSES
EDYRS	(y <sub>1</sub> )	1.00000			
SES	(y <sub>2</sub> )	0.58165	1.00000		
FEDYRS	$(x_1)$	0.29805	0.21049	1.00000	
FSES	$(x_2)$	0.25500	0.22619	0.37051	1.00000

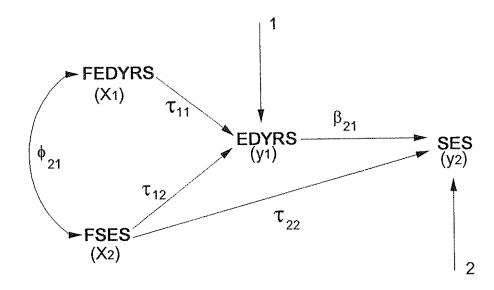
All coefficients are significant at 0,0001 level,

In view of the assumed causal ordering, these simple correlations can be viewed as reflecting the gross effects of the antecedent variables upon their respective consequent variables. But it must be underlined that these correlations are in no way telling us the net effects or direct and indirect effects among these variables. However, there is still a number of observations worth highlighting. The first observation is that the magnitude of  $\gamma_{x_2 x_1}$  (=.37051) is considerably smaller than that of  $\gamma_{y_2 y_1}$  (=.58165). The difference can

be interpreted as the gross effect of education on socioeconomic status having risen in Hong Kong over the years between the father's and son's and daughter's generations. The second observation is that there is a clear order of influence on the son's or daughter's educational attainment. That is,  $\gamma_{y_1 x_1} > \gamma_{y_1 x_2}$ . In other words, the father's educational attainment has a greater effect on son's and daughter's educational attainment than father's socioeconomic status. Thirdly, we can also see an order of influence on the son's and daughter's early socioeconomic status. That is,  $\gamma_{y_2 y_1} > \gamma_{y_2 x_2} > \gamma_{y_2 x_1}$ .

Based on the causal ordering and the simple correlations, we can now construct a causal model for the four variables. The graphic representation of the model is shown in Figure 3.

Figure 3. Basic Model of Status Attainment



To construct this causal model, the linear structural equation modeling method is used (Duncan, 1975; and Asher, 1983). More specifically, I use the computer program known as the LISREL model (Jöreskog and Sörbom, 1986) to estimate the parameters of the model presented in Figure 3. In fact, I have already used the LISREL notation to indicate the parameters in Figure 3.

As shown in Figure 3, the causal model is a recursive model with exogenous variables  $x_1$  and  $x_2$  and endogenous variables  $y_1$  and  $y_2$ . Thus, the structural equations are as follows:

$$y_1 = \tau_{11}x_1 + \tau_{12}x_2 + \zeta_1$$
 (3.1)  

$$y_2 = \beta_{21}y_1 + \tau_{22}x_2 + \zeta_2$$
 (3.2)

or in matrix form:

$$\begin{bmatrix} y_1 \\ y_2 \end{bmatrix} = \begin{bmatrix} 0 & 0 \\ \beta_{21} & 0 \end{bmatrix} \begin{bmatrix} y_1 \\ y_2 \end{bmatrix} + \begin{bmatrix} \tau_{11} & \tau_{12} \\ 0 & \tau_{22} \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \end{bmatrix}$$

that is, 
$$y = \beta y + \Gamma x + \zeta$$

Accordingly, the model involves four parameter matrices, i.e.  $\beta(BETA)$ ,  $\Gamma(GAMMA)$ ,  $\Phi(PHI)$ , and  $\Psi(PSI)$ . These parameters can be estimated by means of the maximum likelihood method in the LISREL computer program. These LISREL estimates are recorded in Table 2. Furthermore, the LISREL computer program also provides the T-values of these parameters which "can be used to test whether the true parameters are zero" (Jöreskog and Sörbom, 1986:III.12). These T-values are presented in Table 3.

Based upon these figures, we can now evaluate the performance of the basic model. Jöreskog and Sörbom suggest that model evaluation can be conducted in two different ways, one is to assess the explanatory power of the model, while the other is to see how well the model fits the data (Jöreskog and Sörbom, 1986:I.36-I.42).

Table 2. LISREL Estimates (Maximum Likelihood) for the Basic Model of Status Attainment

I.	BETA:		EDYRS	SES
		EDYRS	0.000	0.000
		SES	0.560	0.000
II.	GAMMA:		FEDYRS	FSES
		EDYRS	0.236	0.168
		SES	0.000	0.083
III.	PHI:		FEDYRS	FSES
		FEDYRS	1,000	
		FSES	0.371	1.000
IV.	PSI:		EDYRS	SES
		EDYRS	0.887	0.655
٧.	Squared Multi	ple Correlations for	Structural Equations:	,
			EDYRS	SES
			0.113	0.345
	Total Coeffici	ent of Determination	n for Structural Equat	ions is 0.122

VI. Measures of Goodness of Fit for the Whole Model:

Chi-square with 1 Degree of Freedom is 5.73 (prob. level = 0.017)

Goodness of Fit Index is 1.000

Adjusted Goodness of Fit Index is 1.000

Root Mean Square Residual is 0.004

Table 3. T-value of the LISREL Estimates for the Basic Model of Status Attainment

I.	BETA:		EDYRS	SES
		EDYRS	0.000	0.000
		SES	93.129	0.000
II.	GAMMA:		FEDYRS	FSES
		EDYRS	32.374	22.991
		SES	0.000	13.840
III.	PHI:		FEDYRS	FSES
		FEDYRS	0.000	
		FSES	0.000	0.000
IV.	PSI:		EDYRS	SES
		EDYRS	98.367	98.367

First, we can look into the explanatory power of the model which can be reflected in the squared multiple correlations for the model's two structural equations, namely, equations 3.1 and 3.2. They read 0.113 and 0.345 respectively. Jöreskog and Sörbom suggest that the squared multiple correlation for a structural equation can be interpreted as the proportion of variance in the dependent variable explained by the independent variables (Jöreskog and Sörbom, 1986:III.28). Hence, we can say that the basic model has explained about 10 percent of the variance in the educational attainment of the sons and daughters in the sample. On the other hand, the model has done much better in explaining the variance in status attainment because it has explained more than one-third of that variance. Furthermore, we can also look at the total coefficient of determination for the two structural equations in the model, which reads 0.122. Thirdly, we can assess the explanatory power of the model by looking at the magnitude of each parameter and its t-value. The rule of thumb suggested by Jöreskog and Sörbom in judging the significance of the estimated parameters is that "parameters whose t-values are larger than two in magnitude are normally judged to be different from zero" (Jöreskog and Sörbom, 1986:III.12). Accordingly, we can confidently take all the estimated parameters in the model to be statistically significant, because the magnitudes of all the t-values in Table 3 are well beyond the value of two.

Secondly, we can evaluate the overall fit of the model to the data. The LISREL program provides three measures for assessing the goodness of fit of the whole model. One is the  $\chi^2$  measure and its associated degree of freedom and probability level. Jöreskog and Sörbom suggest that "instead of regarding  $\chi^2$  as a test statistic one should regard it as a goodness (or badness) of fit measure in the sense that large  $\chi^2$  values correspond to bad fit and small  $\chi^2$ values correspond to good fit. The degrees of freedom serve as a standard by which to judge whether  $\chi^2$  is large or small" (Jöreskog and Sörbom, 1986:I.39). Accordingly, we may say that the  $\chi^2$  value (=5.73) is relatively large in relation to its degree of freedom (=1). Therefore, it seems that the model does not fit the data well. The other two measures provided in the LISREL program are the goodness of fit index (GFI) and the root mean square residual (RMR). "Both of these measures should be between zero and one" (Jöreskog and Sörbom, 1986:I.40). However, they take on different properties. For GFI, the larger the value, the better the goodness of fit; while for RMR, it is the reverse. Accordingly, the values of these two measures presented in Table 2 suggest that the basic model fits the data quite well. Therefore, we may conclude that the model fits the data quite well but it can further be modified as suggested by the  $\chi^2$  value.

Table 4.	Modification Indices of LISREL Estimates for the Basic
	Model of Status Attainment

I.	BETA:		EDYRS	SES
		EDYRS	0.000	5.731
		SES	0.000	0.000
II.	GAMMA:		FEDYRS	FSES
		EDYRS	0.000	0.000
		SES	5.731	0.000
III.	PSI:		EDYRS	SES
		EDYRS	0.000	0.000

Again, the LISREL program has provided a set of modification indices which can help us to decide how the model should be modified. In the program, "for each parameter which is fixed in the model there is a modification index equal to the expected decrease in  $\chi^2$  if this single parameter alone would be free." Thus, the practical procedure to improve the  $\chi^2$  value is the following:

Find the largest modification index for all fixed parameters. If this is larger than five, set this parameter free and re-estimate the model. The decrease in  $\chi^2$  for the new model as compared with the old should be at least equal to the modification index. Often the decrease in  $\chi^2$  will be much larger than the modification index. If the fit of the model is still bad this procedure can be repeated. Do not relax more than one parameter each time since the modification indices can change drastically from one solution to the next. (Jöreskog and Sörbom, 1986:III.19)

Last but not least, Jöreskog and Sörbom underline that any modification must, first and foremost, be supported by substantive theory.

With reference to these guidelines, it seems that among the modification indices shown in Table 4 only one parameter meets with the requirement, that is, Gamma(2,1). Thus, the parameter is set free and the model is re-estimated. The results of this modified basic model are presented in Tables 5 to 7. Though the magnitude of the parameter, Gamma(2,1), is comparatively small (=.015), its corresponding t-value (=2.394) is statistically significant. And most of all, the  $\chi^2$  value has dropped to zero, which suggests that the modified model fits the data well. Therefore, we will accept this modified model as the basis for our further analyses.

The modified basic model as a whole represents a simple but typical attainment path that young men and women in Hong Kong in the early 1980s went through. Based upon this model, we can now look into the implications signified by these parameters. Subsequently, it is hoped that we can come up with evidence to substantiate whether it is individual achievement or familial ascription which determines one's status attainment.

The most salient feature of the model is that, among the total effects presented in Table 7, the effect of EDYRS on SES is the largest (=0.557). It signifies that an individual's educational achievement has an essential effect on one's subsequent status attainment. Furthermore, the Table also records that EDYRS is, in turn, affected by the two family-background variables in the model, i.e. FEDYRS and FSES. Their total effects are 0.236 and 0.168 respectively. Therefore, we can postulate that an individual's educational attainment acts as a vital intervening variable between one's family background and status attainment in the model. We can further confirm this postulate by looking into the composition of the total effects of FEDYRS and FSES on SES. According to Jöreskog and Sörbom's explication, these total effects can be decomposed into direct and indirect effects. The direct effects are simply Gamma(2,1) and Gamma(2,2) respectively, while the indirect effects are the difference between the corresponding total and direct effects (Jöreskog and Sörbom, 1986:III.39). The decomposition is presented in section III of Table 7. From the decomposition, we can see that the effects of family background on an individual's status attainment are mainly via one's educational attainment. This is signified by the fact that the

indirect effects of FEDYRS and FSES on SES are relatively larger than the corresponding direct effects.

Table 5. LISREL Estimates (Maximum Likelihood) for the Modified Basic Model of Status Attainment

I.	BETA:		EDYRS	SES
		EDYRS	0.000	0.000
		SES	0.557	0.000
II.	GAMMA:		FEDYRS	FSES
		EDYRS	0.236	0.168
		SES	0.015	0.078
III.	PHI:		FEDYRS	FSES
		FEDYRS	1.000	
		FSES	0.371	1.000
IV.	PSI:		EDYRS	SES
			0.887	0.655
٧.	Squared Multi	ple Correlations for	Structural Equations:	
			EDYRS	SES
			0.113	0.345
	Total Coeffici	ent of Determination	n for Structural Equat	ions is 0.122

VI. Measures of Goodness of Fit for the Whole Model:

Goodness of Fit Index is 1.000

Root Mean Square Residual is 0.000

Table 6. T-values of LISREL Estimates for the Modified Basic Model of Status Attainment

ВЕТА:		EDYRS	SES
	EDYRS	0.000	000,0
	SES	90.176	0.000
GAMMA:		FEDYRS	FSES
	EDYRS	32.374	22.991
	SES	2.394	12.355
PHI:		FEDYRS	FSES
	FEDYRS	0.000	
	FSES	0.000	0.000
PSI:		EDYRS	SES
		98.367	98.367
	GAMMA: PHI:	EDYRS SES  GAMMA:  EDYRS SES  PHI:  FEDYRS FSES	EDYRS 0.000 SES 90.176  GAMMA: FEDYRS EDYRS 32.374 SES 2.394  PHI: FEDYRS FEDYRS 0.000 FSES 0.000  PSI: EDYRS

 $<sup>\</sup>chi^2$  with 0 Degree of Freedom is 0.00 (prob. level = 1.000)

Table 7. Total Effects for Modified Basic Model of Status
Attainment

I.	Total effects of X on Y:			
			FEDYRS	FSES
		EDYRS	0.236	0.168
		SES	0.147	0.172
II.	Total effects of Y on Y:			
			EDYRS	SES
		EDYRS	0.000	0.000
		SES	0.557	0.000
III.	Decomposition of effects	s:		
			Effects of	on SES
			By FEDYRS	By FSES
	Total effect		0.147	0.172
	Direct effect		0.015	0.078
	Indirect effect		0.132	0.094

To summarize, the modified basic model has been able to account for 34.5 percent of the variance of individual's status attainment. Among the effects which are all statistically significant, an individual's educational achievement contributes the largest direct effect. However, the total effects of family background are also considerable. Furthermore, family background also has significant effect on educational achievement. Thus, we may initially contend that familial ascription has effect on both the educational and status attainment. However, the effect is greater on education than on status attainment. In other words, status attainment in Hong Kong is not based solely on individual achievement, and familial ascription plays a significant part in one's status attainment path.

Based upon this initial result with the basic model, we can now further our exploration of the attainment path in Hong Kong by extending the model. One way to do that is to introduce some more family-background variables into the model as the Wisconsin model or the socialization model does.

# 4. Socialization and Status Attainment: A Test of the Socialization Model

The analytical result of the basic model reveals that educational attainment plays an essential role as an intervening variable in the attainment path. In fact, such a result is congruent with the findings of mobility studies in other societies such as the United States and Britain (Blau and Duncan, 1967:163-177; and Halsey, 1977). As explained in Section 1, these findings have triggered a new stream of research within the mobility study tradition. This stream of research, which has been called the socialization model, sets out to explore other variables which may affect individual's educational achievement. The most representative study is, of course, the Wisconsin study, which is a longitudinal study across the time span of eighteen years. It has provided a comprehensive account of the socializing effects of both family and school on educational attainment.

As a cross-sectional study, the present study can in no way accommodate all the socialization variables that the Wisconsin study has explored. Thus, all we can do is inject into the basic model some additional variables which may help to account for the variance of educational attainment, and subsequently, to have a fuller comprehension of the operation of the attainment path prevailing in Hong Kong. From the census data under study, we can locate two such variables. They are the mother's educational attainment (MEDYRS) and the number of siblings in the family (SIBNO). But before we incorporate these two variables into the basic model, we must, first of all, settle their causal ordering with the other variables already in the model. As for the MEDYRS, we simply take it as an antecedent variable with the same causal ordering as FEDYRS or FSES. In other words, we do not make any

assumption about the temporal ordering between MEDYRS and FEDYRS or FSES as they are correlated with each other. As for the SIBNO, the matter is not so clear-cut, because the variable is measured by the reported number of children ever given birth by one's mother. However, since we do not know the birth order of an individual, we cannot tell whether one's education is attained prior to the arrival of one's brothers and/or sisters. We therefore contend that the timing of the arrival of one's siblings is not the primary concern here. What does matter is the very existence of one's siblings and the effects that they bear upon one's chance and outcome of education as well as socialization. That is, we simply take the number of siblings as a contextual factor which affect one's socialization, and assume that SIBNO is causally prior to EDYRS and SES.

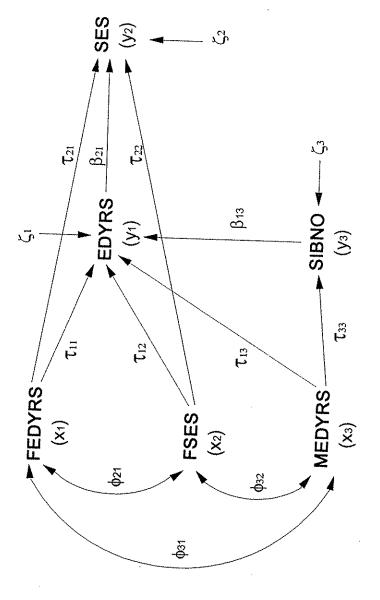
The extended model for status attainment which we are going to test in this section will have three exogenous variables and three endogenous variables. The simple correlation matrix, upon which the LISREL analysis is based, is presented in Table 8. The graphic representation of the model is offered in Figure 4.

Table 8. Pearson Correlation Coefficients for the Six Constituent Variables in the Extended Model of Status Attainment (N=17,576)

	Variables					
Variables	EDYRS	SES	SIBNO	FEDYRS	FSES	MEDYRS
EDYRS (y <sub>1</sub> )	1.00000					
SES (y <sub>2</sub> )	0.58165	1.00000				
SIBNO (y <sub>3</sub> )	-0.17134	-0.10581	1.00000			
FEDYRS (x <sub>1</sub> )	0.29805	0.21049	-0.19188	1.00000		
FSES (x <sub>2</sub> )	0.25500	0.22619	-0.11390	0.37051	1.00000	
MEDYRS (x <sub>3</sub> )	0.27175	0.19282	-0.24105	0.51185	0.32282	1.00000

All coefficients are significant at 0.0001 level.

re 4. Extended Model of Status Attainment



Accordingly, the three structural equations that we are going to text are as follows:

$$y_1 = \beta_{13}y_3 + \tau_{11}x_1 + \tau_{12}x_2 + \tau_{13}x_3 + \zeta_1$$
 (4.1)

$$y_2 = f_{21}y_1 + \tau_{21}x_1 + \tau_{22}x_2 + \zeta_2 \tag{4.2}$$

$$y_3 = \tau_{33} x_3 + \zeta_3 \tag{4.3}$$

In matrix form, they are:

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} = \begin{bmatrix} 0 & 0 & \beta_{13} \\ \beta_{21} & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} + \begin{bmatrix} \tau_{11} & \tau_{12} & \tau_{13} \\ \tau_{21} & \tau_{22} & 0 \\ 0 & 0 & \tau_{33} \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \end{bmatrix}$$

that is, 
$$y = \beta y + \Gamma x + \zeta$$
.

Subsequently, the parameters of the model are estimated by means of the LISREL computer program. The results of the analysis are recorded in Tables 9 to 11. Based upon these figures, we can evaluate the performance of this extended attainment model.

First of all, the extended model has been able to explain more than one-third of the variance in socioeconomic status, 13.2 percent of the variance in educational attainment, and 5.8 percent of that in number of siblings. Taken together, the total coefficient of determination for all three structural equations is 0.171. In comparison with the basic model, the extended model has been unable to make any improvement on explaining the variance in socioeconomic status. This is probably because the two newly injected variables are mainly suitable to explain socialization and education outcome rather than status attainment. On the other hand, the extended model has made some progress in the explanation of the variance in educational attainment, that is, the variance explained has increased by about 2 percent. As for the newly added endogenous variable, SIBNO, the model has only been able to explain 5.8 percent of its variance. As for the properties of individual parameters, we can see that all the parameters are statistically significant, because all the t-values in Table 10 are well beyond the value of 2.

Table 9. LISREL Estimates (Maximum Likelihood) for the Extended Model of Status Attainment

Ι.	BETA:		EDYRS	SES	SIBNO
		EDYRS	0.000	0.000	-0.095
		SES	0.557	0.000	0.000
		SIBNO	0.000	0.000	0.000
Π.	GAMMA:		FEDYRS	FSES	MEDYRS
		EDYRS	0.166	0.145	0.117
		SES	0.015	0.078	0.000
		SIBNO	0.000	0.000	-0.241
III.	PHI:		FEDYRS	FSES	MEDYRS
		FEDYRS	1.000		
		FSES	0.371	1.000	
		MEDYRS	0.512	0.323	1.000
ĺ۷.	PSI:		EDYRS	SES	SIBNO
			0.865	0.655	0.942
٧.	Squared Mult	iple Correlation	s for Structural	Equations:	
			EDYRS	SES	SIBNO
			0.132	0.344	0.058
	Total Coeffic	ient of Determin	nation for Struct	ural Equations	is 0.171

VI. Measures of Goodness of Fit for the Whole Model:

 $\chi^2$  with 4 Degrees of Freedom is 128.36 (prob. level = 0.000)

Goodness of Fit Index is 0.998

Adjusted Goodness of Fit Index is 0.995.

Root Mean Square Residual is 0.018

Table 10. T-values of LISREL Estimates for the Extended Model of Status Attainment

SIBNO -13.099 0.000 0.000
0.000
0.000
***
MEDVE
MEDYRS
13.824
0.000
-32.924
MEDYRS
0.000
SIBNO
93.734

**Table 11.** Modification Indices of LISREL Estimates for the Extended Model of Status Attainment

I.	BETA:		EDYRS	SES	SIBNO
		EDYRS	0.000	0.821	0.000
		SES	0.000	0.000	0.064
		SIBNO	104.973	2.519	0.000
II.	GAMMA:	,	FEDYRS	FSES	MEDYRS
		EDYRS	0.000	0.000	0.000
		SES	0.000	0.000	2.578
		SIBNO	118.630	27.122	0.000
III.	PSI:		EDYRS	SES	SIBNO
			0.000	0.000	0.000

Secondly, the measures of goodness of fit for the extended model reveal that the model does not fit that well with the data. Though both the adjusted goodness of fit index (= 0.995) and the root mean square residual (= 0.018) suggest that the model fit the data well, the  $\chi^2$  (=128.36) suggests otherwise. In comparison with its degree of freedom (=4), the magnitude of the  $\chi^2$  is unacceptably large. Therefore, we may have to modify the original model to decrease the magnitude of the  $\chi^2$ .

According to the modification indices recorded in Table 11, we may modify the extended model by freeing Gamma(3,1), which is not only the largest index in the Table but also seems to be congruent with the theory that the educational levels of the wife and husband would affect the number of offspring that a family will raise. Thus, Gamma(3,1) is free and the model is re-estimated accordingly. The result of the modified model shows that the LISREL estimate of Gamma(3,1) reads -0.093 and the corresponding t-value equals -10.928. Furthermore, the magnitude of the  $\chi^2$  reads 9.33 with 3 degrees of freedom. The decrease in the magnitude of  $\chi^2$  from 128.36 to 9.33 significantly improves the model's goodness of fit. However, the magnitude of the  $\chi^2$  is still unacceptably large when related to its degree of freedom. Therefore, another modification seems necessary.

According to the modification indices of the modified model, the next parameter qualified to be adjusted seems to be Gamma(3,2). Its modification index reads 6.497. Furthermore, it also complies with the theoretical proposition that socioeconomic status and the family income are essential factors determining the number of children a family will raise. Subsequently, Gamma(3,2) is freed and the model is estimated once again. The results of this further modified model are presented in Tables 12 to 14.

First of all, the LISREL estimate of the newly added parameter reads -0.020, and its t-value equals -2.549. Thus, it is a statistically significant parameter. However, our main concern is whether the modification has made any improvement to the measures of goodness of fit for the model. Reading from Table 12, section VI, we can see that the magnitude of the  $\chi^2$  has dropped to 2.83, which

is relatively small in relation to its degree of freedom (=2). It suggests that the modified model fits the data well. Furthermore, the readings of both the adjusted goodness of fit index (=1.000) and the root mean square residual (=0.002) also signify a similar conclusion. Therefore, we contend that the modified model fits the data well.

Table 12. LISREL Estimates (Maximum Likelihood) for the Modified Extended Model of Status Attainment

	BETA:		EDYRS	SES	SIBNO
		EDYRS	0.000	0.000	-0.095
		SES	0.557	0.000	0.000
		SIBNO	0.000	0.000	0.000
II.	GAMMA:		FEDYRS	FSES	MEDYRS
		EDYRS	0.166	0.145	0.117
		SES	0.015	0.078	0.000
		SIBNO	-0.087	-0.020	-0.190
III.	PHI:		FEDYRS	FSES	MEDYRS
		FEDYRS	1.000		
		FSES	0.371	1.000	
		MEDYRS	0.512	0.323	1.000
IV.	PSI:		EDYRS	SES	SIBNO
			0.865	0.655	0.935
V.	Squared Mu	Itiple Correlation	is for Structural E	Equations:	***************************************
			EDYRS	SES	SIBNO
			0.135	0.345	0.065
	Total Coeffic	cient of Determin	nation for Structi	ral Equations	is 0.174

VI. Measures of Goodness of Fit for the Whole Model:

Goodness of Fit Index is 1.000

Adjusted Goodness of Fit Index is 1.000

Root Mean Square Residual is 0.002

Table 13. T-value of LISREL Estimates for the Modified Extended Model of Status Attainment

ī.	BETA:		EDYRS	SES	SIBNO
		EDYRS	0.000	0.000	-13.052
		SES	85.929	0.000	0.000
		SIBNO	0.000	0.000	0.000
II.	GAMMA:		FEDYRS	FSES	MEDYRS
		EDYRS	19.644	18.893	13.935
		SES	2.281	11.773	0.000
		SIBNO	-9.932	-2.549	-22.046
III.	PHI:		FEDYRS	FSES	MEDYRS
		FEDYRS	0.000		
		FSES	0.000	0.000	
		MEDYRS	0.000	0.000	0.000
IV	. PSI:		EDYRS	SES	SIBNO
			93.734	93.734	93.734

As for the explanatory power of this extended model, it has been able to account for 34.5 percent of the variance in socioeconomic status. In comparison with the performance of the modified basic model, we notice that there is no improvement on this aspect. Furthermore, this model has only accounted for 6.5 percent of the variance in the number of siblings. Nevertheless, the model has been able to explain 13.5 percent of the variance in educational attainment, that is 2.2 percent more than that of the basic model. Taken together, we can see that, in comparison with the basic model, the extended model has not improved much on the total variance explained. However, if we look at the change in the magnitudes of individual parameters, we are then able to notice the contribution of the extended model to the understanding of the attainment process. In fact, the extended model has provided

 $<sup>\</sup>chi^2$  with 2 Degrees of Freedom is 2.83 (prob. level = 0.243)

us with a fuller and more detailed picture of how family background influences the chances of status attainment among young men and women in Hong Kong in the early 1980s.

Table 14. Total Effects for the Modified Extended Model of Status
Attainment

I.	Total effects of X on Y:		FEDYRS	FSE	S	MEDYRS
		EDYRS	0.175	0.14	7	0.135
		SES	0.113	0.160	)	0.075
		SIBNO	-0.087	-0.02	0	-0.190
II.	Total effects of Y on Y:		EDYRS	SES	•	SIBNO
		EDYRS	0.000	0.00	0	-0.095
		SES	0.557	0.00	0	-0.053
		SIBNO	0.000	0.00	0	0.000
III.	Decomposition of effects on EDYRS:					
		By FEDYRS	By FSES	By MEDYRS	By SIBNO	
	Total effect	0.175	0.147	0.135	-0.095	
	Direct effect	0.166	0.145	0.117	-0.095	
	Indirect effect	0.009	0.002	0.018	0.000	
IV.	Decomposition of effects on SES:					
		By FEDYRS	By FSES	By MEDYRS	By SIBNO	By EDYRS
	Total effect	0.113	0.160	0.075	-0.053	0.557
	Direct effect	0.015	0.078	0.000	0.000	0.000
	Indirect effect	0.098	0.082	0.075	-0.053	0.000

From section III in Table 14, we can see that all four family-background variables, i.e. FEDYRS, FSES, MEDYRS, and SIBNO, have significant effects on EDYRS. Furthermore, it is evident that they are mainly direct effects, which read 0.166, 0.145, 0.135, and -0.095 respectively. Thirdly, there are differences among the direction of the effects. The effect of SIBNO is negative, while the others are positive. The former signifies that the larger the number of siblings the less years of education are attained, while the latter suggests that educated parents and fathers of high socioeconomic status enhance the educational achievement of the sons and daughters. Hence, we can contend that one's family background affects his or her educational opportunities and outcomes.

As for the effect on SES, we can see from section IV in Table 14, that EDYRS still has the largest total effect on SES (=0.557). On the other hand, the four family-background variables have also asserted considerable influence on SES. The total effects of the family background, however, are mainly made up of indirect effects. For instance, the indirect effects of FEDYRS and FSES are relatively larger than their direct effects; while the effects of MEDYRS and SIBNO are solely indirect. Therefore, we can postulate that the family-background variables indirectly affect SES via an intervening variable, namely EDYRS. Again, these effects take on two different values; the indirect effect of SIBNO on SES is negative, while the others are positive. To summarize, we have revealed that an individual's family background constrains his or her educational opportunities and outcomes, and this, in turn, conditions his or her chances of status attainment.

However, it is worth emphasizing that in comparison with the basic model, the magnitudes of the effect of each family-background variable on both educational and status attainment has changed significantly. On one hand, the total effects of FEDYRS and FSES on EDYRS have dropped respectively from 0.236 and 0.168 in the basic model to 0.175 and 0.147 in the extended model. On the other hand, the total effects of FEDYRS and FSES on SES have also dropped from 0.147 to 0.113 and from 0.172 to 0.160 respectively. But these drops are by no means indiscern-

ible. They are mainly due to the fact that two more family-back-ground variables are added into the extended model. In fact, multicollinearity among these family-background variables has already been evident by their correlation coefficients, which have been recorded in Table 8. Thus the drops of the total effect of FEDYRS and FSES on EDYRS and SES in the extended model can be viewed as a re-allocation of the effects among the family-background variables on educational and status attainment. As a result, the extended model can be regarded as presenting a fuller and more genuine picture of how different family-background variables affected educational and status attainment of young men and women in Hong Kong in the early 1980s.

# 5. Structural Constraints and Status Attainment: A Test of the Structuralist Model

The attainment models which we have analyzed so far constitute only individuals' characteristics that affect their educational and status attainment. As explicated in Section 1, within the status attainment study, such models belong to the so called "socialization model" tradition, which discerns attainment as an outcome of socialization and tends to explain such outcome in terms of the individuals' characteristics. Such a research approach has been criticized for treating the attainment process as if it is taking place in a socioeconomic vacuum and neglecting the structural constraints which affect the individuals' attainment opportunities. As a result of this criticism, a new research approach has been developed, which is known as the structuralist model. The objective of this research approach is to explore structural constraints which bear upon individuals and their attainment opportunities. The structural constraints revealed by the model include sex, race, structure of the labor market, and organization of work.

In the present study, I will analyze one of these structural constraints which affect the attainment opportunities of young men and women in Hong Kong. It is sex difference. It must be admitted that confining our analysis only to sex difference limits our understanding of the overall effect of structural constraints on attainment opportunity in Hong Kong. However, due to the structure of the census data under study, it seems that we have to tolerate such a limitation for the time being.

To explore the effect of sex difference on attainment opportunities in Hong Kong, the sample used in the previous section is divided into two sub-samples, one of which consists only of men and the other women. Based upon the modified extended model established in the previous section, separate LISREL models are then constructed for each sub-sample. By comparing the parameters of the two models, we may be able to reveal the extent to which sex difference constrains the attainment opportunities of young men and women in Hong Kong (cf. Sewell *et al.*, 1980; and Treiman and Terrel, 1975). The simple correlation matrices of the two sub-samples, upon which the LISREL models are based, are recorded in Tables 15 and 16, and the results of the two LISREL models are contrasted in Tables 17 to 19.

Table 15. Pearson Correlation Coefficients for the Constituent Variables in the Status Attainment Model, Men (N = 9.342)

			Vari	ables		
Variables	EDYRS	SES	SIBNO	FEDYRS	FSES	MEDYRS
EDYRS (y <sub>1</sub> )	1.00000					·····
SES (y <sub>2</sub> )	0.49446	1.00000				
SIBNO (y <sub>3</sub> )	-0.16419	-0.07546	1.00000			
FEDYRS (x1)	0.27630	0.18107	-0.20586	1.00000		
FSES (x <sub>2</sub> )	0.24161	0.19955	-0.12382	0.35326	1.00000	
MEDYRS (x3)	0.26307	0.16232	-0.25705	0.51583	0.30818	1.00000

All coefficients are significant at 0.0001 level.

**Table 16.** Pearson Correlation Coefficients for the Constituent Variables in the Status Attainment Model, Women (N = 8,235)

			Vari	ables		
Variables	EDYRS	SES	SIBNO	FEDYRS	FSES	MEDYRS
EDYRS (y <sub>1</sub> )	1.00000					
SES (y <sub>2)</sub>	0.66936	1.00000				
SIBNO (y <sub>3)</sub>	-0.17904	-0.13316	1.00000			
FEDYRS (x1)	0.32284	0.24325	-0.17832	1.00000		
FSES (x2)	0.27008	0.25510	-0.10382	0.38977	1.00000	
MEDYRS (x3)	0.28183	0.22583	-0.22543	0.50696	0.33884	1.00000

All coefficients are significant at 0.0001 level.

Before we make any comparison between the models, we must first of all examine their overall performance. According to the measures of goodness of fit statistics, we may say that both models fit the data well. As recorded in section VI of Table 17, the adjusted goodness of fit indices (=1.000) and root mean square residuals (=0.004) of both models indicate that the models fit the data well. As for the  $\chi^2$ s of both models, they also support that the models fit the data well. Furthermore, from Table 18, we can recognize that most of the LISREL estimates are statistically significant. However, two of the estimates in the women-model, i.e. Gamma(2,2) and Gamma(3,2), are proved to be insignificant because their t-values are much smaller than 2. Thus, we must take these into account in the following comparison.

First, let us begin the comparison by looking at the overall performance of the three structural equations in the two models. From observing section V of Table 17, we notice that there are considerable differences between the squared multiple correlations for the respective structural equations in the two models. In

LISREL Estimates for the Modified Extended Model of Status Attainment, by Sex

•				Men	***************************************	NA THE SERVEY PRESENCE AND THE SERVE OF THE SERVEY OF THE	Women	- PROPERTY OF THE PARTY OF THE PROPERTY OF THE
<b>,</b>	BETA:		FDYRS	SES	STBNO	FDYRS	SES	STRNO
i	: : :	EDYRS	0000	0.00	-0.085	0.000	0000	-0.105
		SES	0.469	0.000	0.000	0.647	0.000	0.000
		SIBNO	0.000	0.000	0.000	0.000	0.000	0.000
ij	GAMMA:	**************************************	FEDYRS	FSES	MEDYRS	FEDYRS	FSES	MEDYRS
		EDYRS	0.145	0.142	0.122	0.190	0.147	0.112
		SES	0.024	0.078	0.000	0.004	0.079	0.000
		SIBNO	-0.092	-0.030	-0.200	-0.083	-0.011	-0.180
Ħ	PHI:		FEDYRS	FSES	MEDYRS	FEDYRS	FSES	MEDYRS
		FEDYRS	1.000			1.000		
		FSES	0.353	1.000	,	0.390	1.000	
		MEDYRS	0.516	0.308	1.000	0.507	0.339	1.000
IV.	PSI:		EDYRS	SES	SIBNO	EDYRS	SES	SIBNO
			0.879	0.748	0.926	0.849	0.546	0.944
>	Squared Multi	iple Correlations	Squared Multiple Correlations for Structural Equations:	uations:				
			EDYRS	SES	SIBNO	EDYRS	SES	SIBNO
			0.121	0.252	0.074	0.151	0.454	0.056
	Total Coeffici	ent of Determina	Total Coefficient of Determination for Structural Equations is:	al Equations is	**			
				0.171			0.182	
Τ.	Measures of C	Joodness of Fit fe	Measures of Goodness of Fit for the Whole Model:	del:				
	$\chi^2$ with 2 Deg	$\chi^2$ with 2 Degrees of Freedom is:	is:					
	•	3.87 (prot	3.87 (prob. level = $0.145$ )			5.33 (prob. level = $0.070$ )	d = 0.070	
	Goodness of Fit Index is:	it Index is:						
		1.000				1.000		
	Adjusted Goo	Adjusted Goodness of Fit Index is:	x is:					
		1.000				1.000		
	Root Mean Sq	Root Mean Square Residual is:	••					
		0.004				0.004		
***************************************		***************************************			***************************************		***************************************	

T-value for the Modified Extended Model of Status Attainment, by Sex Table 18.

			Managamanan managaman	Men		and the state of t	Women	
ij	BETA:		EDYRS	SES	SIBNO	EDYRS	SES	SIBNO
		EDYRS	0.000	0.000	-8.449	0.000	0.000	-10.008
		SES	49.709	0.000	0.000	74.133	0.000	0.000
		SIBNO	0.000	0.000	0.000	0.000	0.000	0.000
ㅂ	GAMMA:		FEDYRS	FSES	MEDYRS	FEDYRS	FSES	MEDYRS
		EDYRS	12.435	13.510	10.507	15.498	13.136	9.247
		SES	2.453	8.020	0.000	0.398	8.807	0.000
		SIBNO	-7.688	-2.740	-17.035	-6.444	-0.891	-14.239
Ħ	PHI:		FEDYRS	FSES	MEDYRS	FEDYRS	FSES	MEDYRS
		FEDYRS	0.000			0.000		
		FSES	0.000	0.000		0.000	0.000	
		MEDYRS	0.000	0.000	0.000	0.000	0.000	0.000
Σ.	PSI:	<b>:</b>	EDYRS	SES	SIBNO	EDYRS	SES	SIBNO
			68.330	68.330	68.330	64.152	64.152	64.152
							***************************************	

Total Effects for the Modified Extended Model of Status Attainment, by Sex Table 19.

		Men						Women		
I. Total effects of X on Y:										
	FEDYRS		FSES MEDYRS			FEDYRS	FSES	MEDYRS		
EDYRS	0.153	0.144	0.139			0.199	0.148	0.131		
SES	0.096	0.146	0.065			0.132	0.175	0.085		
SIBNO	-0.092	-0.030	-0.200			-0.083	-0.011	-0.180		
II. Total effects of Y on Y:									***************************************	***************************************
	EDYRS	SES	SIBNO			EDYRS	SES	SIBNO		
EDYRS	0.000	0.000	-0.085			0.000	0.000	-0.105		
SES	0.469	0.000	-0.040			0.647	0.000	-0.068		
SIBNO	0.000	0.000	0.000			0.000	0.000	0.000		
III. Decomposition of effect:	ict									
A. Effects on EDYRS by.										
	<b>FEDYRS</b>		FSES MEDYRS SIBNO	SIBNO		<b>FEDYRS</b>	FSES	MEDYRS	SIBNO	
Total effect	0.153	0.144	0.139	-0.085		0.199	0.148	0.131	-0.105	
Direct effect	0.145	0.142	0.122	-0.085		0.190	0.147	0.112	-0.105	
Indirect effect	0.008	0.002	0.017	0.000		0.009	0.001	0.019	0.000	
B. Effects on SES by:										
	FEDYRS		FSES MEDYRS SIBNO	SIBNO	EDYRS	FEDYRS	FSES	MEDYRS	SIBNO	EDYRS
Total effect	0.096	0.146	0.065	0.040	0.469	0.132	0.175	0.085	-0.068	0,647
Direct effect	0.024	0.078	0.000	0.000	0.469	0.00	0.079	0.000	0.000	0.647
Indirect effect	0.072	0.068	0.065	0.040	0.000	0.128	960.0	0.085	-0.068	0.000

the structural equations for educational attainment, the squared multiple correlations read 0.121 in the men-model and 0.151 in the women-model. They indicate that the women-model can account for a much larger proportion of variance in educational attainment than the men-model. In fact, the squared multiple correlation of the women-model is about 20 percent larger than its counterpart. It suggests that the educational attainment of young women in Hong Kong is to a greater extent conditioned by the women's family background than by their male contemporaries'. Furthermore, a more salient difference can also be detected between squared multiple correlations for the structural equations of status attainment. In fact, the squared multiple correlation of the women-model (=0.454) is more than 40 percent larger than that of the men-model (=0.252). This signifies that in their status attainment process, young women in Hong Kong experience greater constraints from their family background and educational qualifications than men.

To further our understanding of the discrepancy on attainment opportunities between young men and women in Hong Kong, we can look into the effect of each family-background variable on educational and status attainment. From observing section III(A) of Table 19, we notice that the direct effect of father's education on educational attainment is more than 20 percent larger among daughters than among sons. Furthermore, the direct effect of number of siblings on educational attainment is also about 20 percent larger among women than among men. Thirdly, the direct effect of father's socioeconomic status on educational attainment is also slightly larger among women than among men. This signifies that the educational attainment of young women is much more likely to be constrained by their fathers' education and socioeconomic status. This also signifies that the negative effect of number of siblings on educational attainment is also greater among women than among men. Finally, the direct effect of mother's education on educational attainment is slightly larger among sons than among daughters. Taken together, among the four direct effects of family background on educational attainment, three

of them are larger among women than among men. This further confirms that, along their educational attainment path, young women in Hong Kong are confronted with greater constraint from their ascribed family background than their male contemporaries.

As for the effect on status attainment, education stands out to be the most prominent determining factor in both models. The direct effect of education on men's socioeconomic status is 0.469 and that on women's is 0.647, which are the largest parameters in both models. At the same time, we notice that there is a salient discrepancy between men and women on these effects. In fact, the effect of education on status attainment is more than 25 percent larger among women than men. It indicates that, on the status attainment path, women rely more heavily on educational qualifications in order to achieve higher socioeconomic statuses than men. In other words, men are less constrained by their educational qualifications as they move along the socioeconomic hierarchy. Furthermore, as for the effects of family background on status attainment, they are mainly indirect effects which act upon status attainment via education. From section III(B) of Table 19, we can see that the indirect and total effects of all four family-background variables are larger among women than men. This signifies once again that social backgrounds impose greater constraints on women on their status attainment paths than their male contemporaries.

To summarize the analyses in this section, we have revealed that both men and women share a similar attainment pattern, that is, family background asserts considerable impact on an individual's educational attainment, which in turn makes a significant difference in one's achievement on socioeconomic status. However, we have been able to prove that there are substantial differences in the effect of family background on educational and status attainment between men and women. First, we have revealed that most of the effects of family background on educational attainment are greater among women than among men. Secondly, we have found that educational qualifications impose a much greater effect on status attainment among women than

among men. Thirdly, we have also confirmed that the total effects of family background on status attainment, which are mainly indirect effect via education, are greater among women than among men. Taken as a whole, the analyses have confirmed that young women in Hong Kong are confronted with much greater constraints from their ascribed family background in both the educational and status attainment processes than their male contemporaries.

These findings, in fact, are congruent with the structuralists' findings and contentions that females are structurally constrained in both educational and status attainments.

First of all, in educational attainment, our findings can find supporting evidence from a number of studies. First, in the Wisconsin study in 1965, Sewell and Shah found that family socioeconomic status had greater effects on female's educational aspiration and attainment than male's (Sewell and Shah, 1973:209, Figure 1; see also Sewell and Shah, 1968a and b). Secondly, in the 1975 follow-up study on the Wisconsin sample, Sewell and his colleagues again found four of the family-background variables in the model accounting for educational attainment, i.e. parents' income, mother's education, mother's employment, and number of siblings, asserted greater effects on women than on men (Sewell et al., 1980:565-568). Thirdly, Alexander and Eckland in their Explorations in Equality of Opportunity Study found that "female educational attainment is much more influenced by status origins and much less affected by tested ability than men's. While the reasons for this remain obscure, the differences are substantial" (Alexander and Eckland, 1980:44; see also Alexander and Eckland, 1974). Fourthly, Treiman and Terrel found that among the three familybackground variables in their model accounting for educational attainment, two of them, i.e. mother's education and father's occupational prestige had greater effects on female than on male (Treiman and Terrel, 1975:181, Table 2). Fifthly, Hauser and Featherman in a study on a sample of married couples in 1973 found that father's socioeconomic status score weighed more heavily on the educational attainment of wives and husbands

(Featherman and Hauser 1976:470, Table 4). Sixthly, in a study in France, Robinson and Garnier found that fathers' education had greater effect on women's educational attainment than on men's. In the same regression equation, among the fathers' class categories included in the model, i.e. capitalist, manager, other supervisory role, and petty bourgeoisie, three of them, at the exclusion of manager, had greater effects on women's educational attainment than on men's (Robinson and Garnier, 1985:265, Table 3). Finally, a study on the 1976 Hong Kong census data also revealed that fathers' occupational status and employment status, mothers' education, number of siblings, and birth order all had greater effects on women's educational attainment than on men's (Tang, 1981:198, Table 8).

From these studies, two explanations of the differential in the effects of family-background variables on women's and men's educational attainment have emerged. One is the social psychological explanation. It suggests that in the socialization process boys and girls may experience different expectations and treatments which in turn may help the development of differentiated personality traits and aspirations. As a result, they may contribute to the differential in men's and women's educational attainment. The Wisconsin study is of particular importance in the development of this thesis. The findings of the Wisconsin study revealed that parental encouragement, teachers' encouragement, and peers' influence, i.e. significant others' influence, had positive and significant effects on one's educational aspiration, which in turn asserted positive and significant effect on one's educational attainment (Sewell et al., 1969; Sewell and Hauser, 1975, Chapter 4; and Sewell et al., 1980). Furthermore, the study also found that the significant others' encouragement, i.e. parental and teachers' encouragement, that boys received and the educational aspiration that they subsequently developed were less likely affected by parents' educational levels, or what some theorists (cf. Halsey et al., 1980, Chapter 5) called the cultural capital of the family (Sewell et al., 1980:565-568, Tables 6 and 7). In other words, boys are more likely to be encouraged by their parents and teachers to get ahead

and to have high educational and occupational aspirations regardless of their family background, while the significant others' encouragement to girls and the aspiration they subsequently developed are more in line with the cultural capital of their families. Therefore, it explains why family-background variables have greater effect on women's educational attainment than on men's. However, due to the structure of the data set under study, the present study is unable to verify the validity of this social psychological thesis. Thus, for the time being all I can say is that it is one plausible explanation of our findings that is worth investigating in the future.

The second explanation of the differential in the effect of family background on women's and men's educational attainment is the economic explanation or the thesis of human capital investment. It suggests to view family as an economic unit investing in human capital, that is to construe the offspring's educational attainment of a family as the result of a rational and deliberate act of investment in the human capital of the family (Schultz, 1974). Basically, an investment involves two factors. One is the economic capital available or the cost of making this capital available for investment and the other is the anticipated rate of return from the investment. The thesis helps to explain why family background has positive and significant effect on the offspring's educational attainment. Because in the families of the upper and middle classes the economic capital is available or the cost of making this capital available does not affect much the well being of the family. Furthermore, the thesis also gives an explanation of the differential effect of family background on women's and men's educational attainment. When a family is confronted with the problem of scarcity of economic capital and is forced to make a choice on investment among its offspring, commonly it is the daughter's educational attainment that has to be sacrificed (Treiman and Terrel, 1975:177). That explains why among men and women of the same origin, men are less constrained by their family background than women. Once again, because of the structure of the data set under study, the present study is unable to

offer a verification of this thesis in the Hong Kong context. However, we contend that it is another plausible explanation of the differential effect of family background on women's and men's educational attainment.

As for status attainment process, the finding of the present study can also find supporting evidence from a number of studies. However, it must be admitted that the evidence is not as conclusive as that of the educational attainment studies. First, for the differential in the effect of educational achievement on men's and women's status attainment, Hauser and Featherman's findings offer supporting evidence for ours. They found that, in both the 1962 and 1973 samples of married couples in the United States, educational attainment asserted greater effect on women's socioeconomic status scores than on men's (Featherman and Hauser, 1976:472-473, Tables 5 and 6). Secondly, as for the differential in the effect of family background on status attainment between men and women, Sewell and his colleagues' findings also provide some supporting evidence for ours. They found that parents' income, fathers' and mothers' education had greater positive effect on women's status of first occupation than on men's. Furthermore, they also found that the negative effect of number of siblings on women's first occupational status was greater than on that of men's (Sewell et al., 1980:565-568).

A plausible explanation emerging from these studies is that the differential effect is due to the sex segregation among occupations in the labor market. In the United States, Sewell and his colleagues found that "whether we look at major occupational groups or at occupational status, women have marked different occupational distributions than men... regardless of marriage and childbearing, women are excluded from the highest- and the lowest-status occupations" (Sewell et al., 1980:563). In Britain, Marshall and his colleagues also found that women were under-represented in high-status occupations, such as professionals, managers and proprietors, and in low-status occupations such as manual workers. Women were, on the other hand, highly concentrated on mid-rank occupations such as routine non-man-

ual, clerical and personal service occupations (Marshall *et al.*, 1988:74). In light of such a differentiated occupational distribution between sexes, we may explain why educational attainment bears more weight on women's status attainment than on men's in two different directions.

From the upper end of the occupational hierarchy, it was found in Britain that men relied less on educational credentials to gain admission into high-status occupations than women. Marshall and his colleagues revealed that within the high-status occupational categories, 16.3 percent of the male incumbents were of low educational qualifications, while only 10.4 percent of the female incumbents with equivalent educational qualifications were allowed to enter. Within the same occupational categories, 54.4 percent of the female incumbents were of high educational qualifications, while only 48.9 percent of the male incumbents have the same qualifications. It was shown in the same study that among men and women with high educational qualifications, women's chances of being admitted into high-status occupations were much lower than men's. Only 61.8 percent of women with high educational credentials were in the high-status occupational categories, while the respective percentage for men was 91.2 percent (Marshall et al., 1988:80-81). Taken together, these findings have provided a plausible explanation of the differential effect of educational qualification on men's and women's status attainment. At the upper end of the occupational hierarchy, women have to depend more on their educational attainment to gain admission, while male incumbents are less constrained by their educational credentials. Thus, it explains why the association between educational qualification and status attainment is stronger for women than for men.

On the other hand, it was also shown in the same study that in comparison with occupations at the lower end of the occupational hierarchy, which are over-represented by male incumbents, the mid-rank occupations, which demand relatively high educational qualifications and training, are packed with female incumbents, (cf. Marshall *et al.*, 1988:81, Table 4.11). Therefore, women who

enter the labor force are more likely to be allocated into mid-rank occupations which require at least some forms of educational qualification or training, while men can participate in the labor force by entering into low-status occupations which demand less education and training. Thus, it explains why educational qualification bears more weight on women's occupational status than men's.

In the foregoing discussion we have reviewed studies which can offer supporting evidence to our findings on the differentials in educational and status attainment of young men and women in Hong Kong. We have also proposed some explanations of these differentials. However, it must be underlined that these explanations are only plausible and they are worth and need further exploration.

# 6. Achievement or Ascription? A Concluding Remark

In the foregoing analyses, we have been able to establish some salient features of the ladder of success confronting young men and women in Hong Kong in the 1970s. These features are:

- 1. Family backgrounds impose considerable constraints upon the educational attainment opportunities of both men and women in Hong Kong. Parents' educational levels and father's socioeconomic status have positive and significant effects on one's educational attainment. That is, young men and women whose parents are more educated and whose fathers command higher socioeconomic statuses are more likely to be able to attain a higher educational level than their contemporaries. Furthermore, it is also shown that the number of siblings asserts a negative effect on educational attainment, in other words, the fewer sisters and/or brothers one has, the greater the chance for one to attain a higher educational level.
- 2. Among the determinants of socioeconomic status attainment,

- educational qualifications assert the greatest effect on status attainment opportunities for men and women in Hong Kong.
- Taking the above two points together, family background has considerable effect on socioeconomic status attainment, mainly indirectly through educational qualifications.
- 4. Although men and women are facing similar status attainment patterns, women are confronted with much greater constraints from family background and educational qualifications than men in their attainment paths.

In light of these findings, we can now try to verify the research problem that this study has set out to investigate, that is, whether status attainment opportunities are allocated according to individuals' achievement or ascription in Hong Kong. As explained in Section 2, this research problem is generated by both theoretical and empirical concerns. According to the neo-classical and functionalist thesis of meritocracy, as a society modernizes, individual's achievement replaces ascription as the principal criterion for social selection and stratification. By individual achievement, it refers to individual's efforts and abilities, both inborn and/or acquired, while ascription refers to the individual's family background, race, sex, and any other attributes which are beyond the control of one's ability and effort. Empirically, this thesis of meritocracy has been confirmed by a stream of studies conducted in Hong Kong in the last two decades. They consensually conclude that there is a firm and common belief among Hong Kong Chinese that individuals' abilities and efforts are the primary determinant of individuals' socioeconomic success.

In light of the findings revealed in this study, we may conclude first that the social stratification system in Hong Kong is not as achievement-oriented as her residents perceive, in other words, the status attainment process in Hong Kong in no way corresponds to the functionalist thesis of meritocracy.

However, this conclusion requires a number of qualifications. It must be underlined that the findings of this study clearly suggest that ascription and achievement are by no means two mutu-

ally exclusive forces at work on the ladder of success in Hong Kong. It is shown that both achievement and ascription have considerable effects on the processes of socioeconomic status attainment of young men and women in Hong Kong in the 1970s. On one hand, if we take individual's educational attainment as indicator of achievement (Halsey, 1977:184), we have to accept the fact that individuals' educational achievement is the most important factor determining the status attainment chances of young men and women in Hong Kong. Taken alone this point implies that achievement is the major force at work in the process of individual socioeconomic status attainment. However, on the other hand, as we trace further back onto the attainment path, we see that ascribed attributes, such as sex and family background, assert significant influence on individual educational achievement. This suggests that, though the Hong Kong schooling system expanded significantly in the 1970s, young men and women, who went through it, relied not only on their abilities and efforts but also on their ascribed attributes to gain their educational achievement. Taken together these two points suggest that ascription and achievement have joined forces in an amazing way to determine the attainment opportunities of young men and women in Hong Kong. At the center of this ascription-achievement partnership is the educational system which acts as a mediator between social origins and destinations. As Hong Kong society and its economy have developed, education credentials have become a major, if not the primary, criterion of job recruitments. This piece of evidence, which has been verified in the above analysis, would be interpreted by the functionalist as the coming of the achievement-oriented society. However, behind this veil of meritocracy hides the social machinery of ascription. This ascription mechanism worked silently through the educational system and imposed its grip on the allocation of social opportunities among young men and women in Hong Kong in the 1970s. In other words, as Halsey has put it so well, "what has happened is the weighting of the dice of social opportunity according to class, and 'the game' is increasingly played through strategies of child rearing refereed by schools

through their certifying arrangements" (Halsey, 1977:184).

In conclusion, this study has substantiated the thesis that Hong Kong is neither a society of meritocracy nor of aristocracy. That is, the achievement forces are by no means the sole criteria for the allocation of social opportunities as most of Hong Kong residents perceive. The ascription forces also find their way to assert themselves in the attainment process mainly through the schooling system.

#### Notes

- 1. The ascription-achievement dichotomy used throughout this study is adopted from one of Parsons' pattern variables which specifies the value-orientation and criterion for social allocation and stratification in a given social system. Ascription-orientation refers to a social stratification system using "status by birth" as the major allocative criterion. These ascriptive attributes include sex, family background, kinship unit membership, "which presumably cannot be changed" (Parsons, 1951:117). As for achievement-orientation, it refers to a social stratification system which has undergone "the process of 'emancipation' from ascriptive ties" (Parsons, 1961). As a result, the allocative criterion in this stratification system is based on individual abilities and efforts (cf. Parsons 1951:117-119 and 1940; Davis and Moore, 1945; and Bell, 1973).
- 2. For contingency-table analysis of social mobility in Hong Kong, please refer to Tsang, 1990, Chapter 4.
- 3. For further exposition of the theoretical aspect of mobility-table tradition, please refer to Tsang, 1990, Chapters 1, 3 and 4.
- 4. For a thorough deliberation on the Marxist stance on class analysis, one can refer to Wright *et al.*, 1989. For the comparison and evaluation of the validity of the Marxist conception over the Weberian approach, please refer to Marshall *et al.*, 1988.
- For explication of the relationship between Weber's theory of class and the study of status attainment, please refer to Tsang, 1990, Chapter 2, Section 1.
- 6. Numbers of cases found in the sequent attainment models are, however, smaller than those reported here. The difference is

- mainly due to missing values in the variables incorporated in these attainment models (cf. Tables 3.1, 4.1, 5.2 and 5.3).
- 7. Reviews on approaches to the construction of the socioeconomic index can be found in Haug, 1977; Nam and Powers, 1983; Powers, 1982; and Tsang, 1990, Chapter 1.
- 8. A detailed discussion of this calculation and its result can be found in Tsang, 1990, Chapter 3.
- 9. The method of coding of the variables FEDYRS and EDYRS can be found in Tsang, 1990, Chapter 3, Note 1.

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### 香港的教育及早期社經地位的達成

### 曾榮光著

### (中文摘要)

香港居民相信他們是生活在一個成就取向的社會中,即在香 港的社會結構中,社會地位是依據個人的成就來分配,而並非倚 仗於社會世襲;過去二十年在香港進行的社會心理研究均明顯地 證實上述的結論。本研究的目的就是用宏觀的地位達成資料去驗 證這個結論。本研究所採用的資料是整理自一九八一年人口統計 資料;而本研究分析的指導模式則是鄧肯的基本模式、威斯康辛 模式、和結構模式。本研究發現:世襲特質(如家庭背景和性 十年代青年人的地位達成過程,是具有顯著的影 世襲特質的社會效果主要是通過它對教育成就的影響而顯示 出來,繼而教育成就又對職業地位的達成產生着顯著的作用。簡 言之,世襲與成就是結合成一種獨特的力量,以決定香港年青人 —成就」的合伙關係中,關鍵就 地位達成的機會。在這個「世襲-在於教育制度,它在社會出身與終點之間正擔當着調停人的角 色。總言之,本研究顯示了,成就並非如香港市民想像那般,是 社會機會分配的唯一標準,世襲亦透過教育制度,對地位達成過 程產生着影響。