# Deviant Fertility in China

by

Li Li

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John A. Ballweg, Chairman
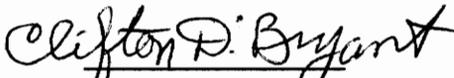
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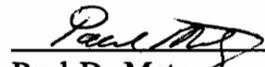
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(ABSTRACT)

While most Western and Chinese scholars emphasize the success of Chinese family planning programs, this dissertation focuses on fertility behavior which violates family planning regulations in China. The study contributes to a better understanding of the Chinese "deviant" fertility by conceptualizing the phenomenon in a theoretical framework and conducting an empirical investigation of the issue.

In this dissertation, the concept of "deviant fertility" is defined as reproductive behavior that violates current family size norms in terms of having more than the accepted number of children. An approach that bridges the sociology of fertility and the sociology of deviance is established. Specifically, the theoretical framework is based on the cultural conflict perspective of deviance, developed by Thorsten Sellin. The normative conflict concerning fertility in general and the confrontation between the traditional Chinese large family norms and current family planning rules are explicated.

Three major data sets are used: the Chinese In-Depth Fertility Survey, with a sample of 6,654 Chinese ever married women aged 49 or younger, the Old-Age Security Survey of 220 married Chinese couples, and the Records of County Family Planning Commissions. More than 50 variables and a number of measurement scales are defined

and measured. Descriptive statistics, Pearson's r and analysis of variance, multiple regression, and path analysis are employed in the analysis.

Findings from multivariate analyses indicate that a number of factors are significantly related to deviant fertility in China. They are: (1) ideal of large family size, (2) son preference, (3) socioeconomic development, (4) type of employment, (5) area of residence, (6) failed pregnancy, and (7) fertility discussions between a husband and a wife. In addition, the analyses reveal different patterns between rural and urban samples in terms of the impact of individual variables on deviant fertility and different explanatory power of the models. Path analysis further enriches the knowledge of deviant fertility by identifying a number of particular paths through which deviant fertility is influenced by the selected factors.

Several relevant issues drawn from the findings are addressed, including relationships between deviant fertility and Chinese women's status, prevalence of son preference, rural-urban differences, and normative conflicts of fertility in China. Policy implications are also indicated.

ACKNOWLEDGEMENTS

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CHAPTER I. INTRODUCTION

The People's Republic of China, the most populous nation in the world, has witnessed an extraordinary fertility decline during the last two decades, with its total fertility rate (TFR) falling from 5.81 in 1970 to 2.25 in 1989 (Greenhalgh, 1989; People's Daily, 1991). This fertility decline is unprecedented not only in the history of China, but also among all large-size populations ever in human history (Wang, 1987; Lavely, 1986). The Chinese government estimates that approximately 200 million births have been avoided since 1971 (People's Daily, 1990).

This remarkable achievement has stimulated a heated debate on the factors contributing to such a rapid fertility decline. Given that China is a predominantly agricultural developing country, the role of socioeconomic development in this fertility transition remains controversial (Kaufman, 1983; Tien, 1984; Poston and Gu, 1987; Wang, 1988). There is little doubt among scholars, however, that the family planning programs initiated and organized by the Chinese government, i.e. the "Later-Longer-Fewer" campaign of the 1970s and the "One-Child" campaign of the 1980s, are the major factors responsible for the fertility transition in China (Mauldin, 1982; Qian, 1983).

While many Western and Chinese scholars highly regard the success of the Chinese family planning programs, some recently released data are revealing. According to the 1990 Population Census of China, the overall proportion of first-child births in 1989 was slightly less than one-half (49.51%) of all births of that year. About 31.7% of the total births in 1989 were second-child births, and some 19.32% of children born in 1989 were third or even higher order births in their families (People's Daily, 1991; Population Census Office, 1991). Several other studies also uncovered similar results. For example, it was found that high parity births, including second and higher parities, accounted for 34.19% of the total births in 1986. In 1988 only about 10% of women in the childbearing age received one child certificates[1] (Ye, 1991). Peng Peiyun, Minister-in-Charge of the State Family Planning Commission, admitted that the national population growth would surpass the targets of the family planning program, as the "out-of-plan"[2] births in the next five years would reach approximately 14 million (People's Daily, 1989). In fact, many Chinese couples have more children than the number their government "plans" for them, despite the fact that they are facing various normative pressures and punishments.

Sociologically speaking, those couples who have more children than "planned" apparently deviate from current reproductive norms, which have been enforced through

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[1] One child certificates are issued by the government to those couples who have only one child and promise not to have any more in the future.

[2] "Out-of-plan birth" or "out-of-plan fertility" is the term used by the Chinese government and public, referring to the births that exceed the number planned by the government, although these births are "planned" by parents.

the family planning campaigns and conformed to by many Chinese couples. This deviation, or "deviant fertility", is an unique social phenomenon existing in contemporary China and is a significant topic of sociological inquiry, not only for the future implementation of population policy, but also for fully understanding Chinese reproductive behavior in general. Yet few studies, if any, have been done in this regard.

This dissertation contributes to a better understanding of "deviant fertility" in China. In doing so, this study attempts to pursue the following objectives:

(1) to conceptualize the Chinese "out-of-plan" fertility in a theoretical framework which incorporates sociology of fertility with deviant behavior perspectives.

(2) to establish research models based upon the conceptual framework developed to identify relevant variables and to illustrate behavior patterns in their social contexts.

(3) to understand the "out-of-plan" fertility by examining its determinants with comparison to its "planned" counterpart.

CHAPTER II. LITERATURE REVIEW

"Deviant fertility" is surely a new issue in population studies. Yet the inquiry into this topic cannot be accomplished by totally deviating from previous studies in the area of fertility, especially the previous studies on demand for children. In fact, it seems logical to assume that those couples who want to have their "out-of-plan" children in China essentially have a strong demand for children, which constitutes a precondition of deviant fertility. In this regard, previous studies of demand for children will be the central focus in this literature review.

2.1. Major Theoretical Schools of Demand for Children

In the past few decades, the topic of demand for children has attracted hundreds, if not thousands, of scientific studies. This academic interest is primarily stimulated by the threats of population growth to mankind's welfare, in developed and developing countries. The abundant theories and schools of thought in this field are classified into three basic categories: economic, psychological, and sociological theories, though overlaps among them may exist. The main purpose of this section is to review writings that fall into these three traditions.

2.1.1 Economic Perspectives

Generally speaking, a economic theory starts with the postulate that rational self-interested people choose to consume the goods that give them the greatest satisfaction. Individual fertility behavior, therefore, has its rationale which tends to maximize the utility function through fertility decision making as a response to economic resource constraints. Based on this assumption, a number of economists examined demand for children in terms of family production and consumption, the cost and quality of children, the allocation of human time and capital, and household utility functions (Becker, 1960, 1965, 1988; Turchi, 1975; Easterlin, 1975, 1978; Jones, 1982; Leibenstein, 1957, 1973, 1980; Schultz, 1974; Willis, 1973).

In 1957, Harvey Leibenstein, in his book Economic Backwardness and Economic Growth, made an initial attempt to examine how couples want to have children from a micro-economic perspective (Leibenstein, 1957). Three years later, Gary Becker applied traditional consumer-decision theory to analyze demand for children (Becker, 1960). Since these two pioneering studies, economic research on the topic of fertility has mushroomed. Basically, the economic studies fall into two major schools of thoughts: the Chicago School (the new household economics or demand theory) approach and the socio-economic approach (Jones, 1982; Sanderson, 1976). The former is largely identified with Becker and his colleagues at the University of Chicago and Columbia (Becker, 1965, 1988; Schultz, 1974), while the latter is primarily represented by the studies of Leibenstein (1957, 1975, 1980) and Easterlin (1975, 1978).

The Chicago school rests on its micro-economic premise that, for a married couple, children are durable goods as any other commodity, yielding utility to the parents and requiring inputs to produce. Thus, fertility behavior is regarded as both a consuming and producing behavior. A family is a decision-making unit that, according to the Chicago school, maximizes its utility in consumption as well as in allocating time and goods in production activities. Since childbearing and childrearing are very time-consuming, if a couple chooses to have children, they must weigh the rewards from bearing and rearing children against the rewards from other activities. Accordingly, an increase in the cost used for raising children or an increase in the opportunity cost, such as employment opportunities for women, will reduce the number of children desired by parents. Furthermore, demand for children involves not only the quantity of children but the "quality" of children as well. In this regard, couples with higher income might not desire larger family size but higher quality of children instead (Becker, 1960, 1965, 1988; Jones, 1982; Schultz, 1974; Willis, 1974).

The socio-economic approach attempts to build an economic theory of fertility by taking social status, tastes, supply, and demographic transition into account. Starting with the de-emphasis of tastes by the Chicago school, the socio-economic explanation focuses on the relation between social status and tastes, and its effect on demand for children. According to Leibenstein, the tastes of an individual are directly determined by his or her socio-economic status including education, occupation, and other characteristics. As a consequence of economic changes, the tastes for children, for goods that compete with children, and for goods and services involved in rearing children, also

change. Because economic changes bring about a great increase in expenditure on status identification and a rise in the cost of children, the demand for children will decline (Leibenstein, 1974, 1975). Easterlin (1975, 1978) further argued that not only tastes but also "supply" factors should be emphasized. In societies where most of the population are subject to natural fertility, differences in achieved fertility may just reflect natural fecundity rather than desired family size. This mechanism, however, may not be applicable for groups who deliberately regulate their fertility (Easterlin, 1975, 1978). From this starting point, the supply-demand framework is developed, which integrates the three components, demand for children, supply of children, and fertility regulation cost, into a single analysis (Bulatao and Lee, 1983; Easterlin, 1985).

Both the Chicago school and the socio-economic approach place their main emphasis on the economic considerations of costs and benefits of fertility. Their similarities as well as differences are summarized by Jones (1982) as follows:

> the two main schools in the economics of fertility differ mainly with regard to how narrowly economic is the focus of their model. The Chicago School hews to a rigorously economic, income-and-prices framework with the couple as the unit of analysis, and it stands or falls on the "quality of children" argument in explaining the declining demand for children as income rise. By allowing an explanatory role for shift in tastes, the socio-economic school is more open to the insights of sociology and psychology and has greater potential for explaining the forces making for high fertility in many developing countries and the timing of the onset of fertility decline. Its model, however, becomes more complex and less readily testable (Jones, 1982: 285).

2.1.2 Psychological (Socio-psychological) Perspectives

Similar to the economic perspective, the psychological approach also assumes behavioral rationality and utility maximation. However, while micro-economists simply assume a process of rational maximation of utility, psychological theorists go further to fully describe the process and to capture more complexity in reproductive behavior. Although several variants of the theory can be discerned in the literature, they basically share some similar assumptions. They assume that it is individual couples who produce children, so their reproductive behaviors largely depend on their individual behavioral tendencies. In this theme, psychological studies focus on individual motivations, attitudes, perceptions, personalities, and decisions, which make important contributions to understanding human fertility (Fawcett, 1970; Rosenstiel, et al., 1980).

Among the contributions of psychological perspectives to the knowledge of demand for children, the first is a systematic examination of individual motives for and against childbearing with respect to the value of children. According to Hoffman and Hoffman (1973), the value of children refers to the functions they serve or the needs they fulfill for parents. They assert that the motivation to have a child depends on the value of the child to the individual. The value of children is further conceptualized in the following categories (Hoffman and Hoffman, 1973: 46-47):

1. Adult status and social identity
2. Expansion of the self-tie to a larger entity, "immortality"
3. Morality: religion; altruism; good of the group; norms regarding sexuality, impulsivity, virtue
4. Primary group ties, affiliation
5. Stimulation, novelty, fun
6. Creativity, accomplishment, competence

7. Power, influence, effectance
8. Social comparison, competition
9. Economic utility.

In this way, Hoffman's model classifies various ways in which children may be valued by their parents. Differentiated from economic models mainly by quantified costs and benefits of children from economic data, psychologists deal with the value of children with respect to the ways parents perceive children. Following this tradition, considerable research on the value of children has been conducted across many countries and cultures (Bulatao, 1982; Bulatao and Arnold, 1977; Buripakdi, 1977; Hoffman and Manis, 1979; Iritani, 1979; Lee and Kim, 1977; Wu, 1977).

Another contribution from the psychological perspective consists of theories of attitudes, proposed by Fishbein and his colleagues (Fishbein 1967, 1972; Fishbein and Jaccard, 1973). According to Fishbein's model, fertility, like other human behaviors, is determined by intention by an individual to perform that behavior. The individual's intention to perform fertility behavior is determined, or can be predicted, by (1) one's attitude toward the fertility behavior and (2) one's normative beliefs regarding the behavior obtained from others. An individual's attitude toward performing fertility behavior is a function of his or her beliefs about the consequences of the behavior and the evaluation of those consequences (Fishbein and Jaccard, 1973; Pagel and Davidson, 1984). In this model an individual's personal attitudes and societal normative constraints are the joint factors of the fertility behavior. Yet norms may be important or unimportant depending upon the personal attitudes and intentions (Fishbein, 1972). For many years the Fishbein model has been widely used in fertility studies and has received

a great deal of empirical support (Jaccard and Davidson, 1972; Pagel and Davidson, 1984; Vinokur-Kaplan, 1978; Werner, et al., 1975).

Theories of decision making also make contributions in studying human fertility. Various models in this area share a general assumption that individuals' choices are determined by their beliefs about the consequences that could result from making any given choice. In theory, individuals should perform the behavior if the expected value for engaging in the behavior exceeds the expected value of not doing so. In this regard the probability of having children is seen as a function of the ratio of perceived advantages and disadvantages of the behavior (Adler, 1979; Pagel and Davidson, 1984). The subjective expected utility is one of the models which is used frequently in fertility studies. This model explicitly views fertility choice as a decision between having a child and not having a child. The choice involves an overall evaluation of the many consequences (positive/negative; pleasant/unpleasant, good/bad) of each option (Burch, 1980). As Adler writes,

> decision makers behave as though they compared the outcomes of various alternatives, choosing the one with the highest subjective expected utility (Adler, 1979: 188).

Some direct applications of the model are provided by the studies of Beach et al (1976), Townes et al (1977, 1980), and Thomson (1984).

2.1.3 Sociological Perspective

In broad terms, sociological perspectives of fertility attempt to identify the social determinants of demand for children. Differentiated from the economic and the

psychological perspectives which use individuals as the unit of analysis, sociologists focus on the whole society or groups within the society. In Freedman's words:

> the problem is not why one couple rather than another is at a particular place in the frequency distribution of births in a society, but why the society as a whole has the particular frequency distribution that distinguishes it from another (Freedman, 1975: 10).

Another feature of the sociological perspective lies in its stress on social institutions, social norms, or culture, which are believed to govern individual fertility expectations and behaviors (Davis, 1959; Freedman, 1975; Hawthorn, 1970). In addition, for sociologists, fertility trends in a society are not divorced from the level of socioeconomic development, or modernization, in that society. In other words, changes in demand for children are associated with the process of modernization. According to their distinct features described above, sociological theories concerning demand for children can be further grouped into three categories: demographic transition theory, social institution theory, and normative theory.

2.1.3.1 Demographic Transition Theory

Demographic Transition Theory was first proposed by Warren Thompson in 1929, and a full formulation of the theory was put forward by Frank Notestein in 1945 (Thompson, 1929; Notestein, 1945). In its "classic" form the theory is a descriptive interpretation of demographic changes that took place in 19th-century Europe. Specifically, it describes the transition from high birth rates and death rates to low birth and death rates, and viewed the transformation as a result of a decline in mortality,

particularly infant mortality, and an improvement in social and economic conditions (Notestein, 1945; van de Walle and Knodel, 1980). For many years Demographic Transition Theory has been widely studied both from a theoretical point of view and also as an ideal pattern which might be expected to be found in other places including developing countries. At the World Population Conference in Bucharest in 1974, demographic transition theory was perhaps best expressed by the attractive sentiments "development is the best contraceptive" or "take care of the people and population will take care of itself" (Teitelbaum, 1975).

Yet demographic transition theory has been challenged in a number of ways. Throughout most of the 1970s, a debate took place on whether socioeconomic developments were solely responsible for fertility declines. Parallel to this debate, there has been a reexamination of demographic transition theory. Studies by the European Fertility Project under the direction of Ansley Coale revealed that the historical fertility decline in European countries occurred in a broad range of socioeconomic settings. In fact many European areas differed widely in the degree of industrialization but followed similar patterns of fertility changes (Coale, 1973, 1984; Knodel and van de Walle, 1979; van de Walle and Knodel, 1980).

The reexamination of demographic transition theory also involves problems associated with the theory's application to developing countries. In an influential article published in <u>Science</u> in 1975 Teitelbaum discussed in much detail the irrelevance of Demographic Transition Theory for understanding population change in developing countries (Teitelbaum, 1975). The most obvious reason is that conditions in developing

countries will never parallel those of Europe in the 19th century in terms of either their economic or social developments. Even if demographic changes do reflect trends of socioeconomic development, experiences in developing countries will differ from those of Europe, not only in timing and speed but also in character (Findlay and Findlay, 1987; Freedman, 1979, 1986; Hess, 1988; Teitelbaum, 1975).

Another criticism lies in the complaint that the demographic transition theory is merely descriptive, thereby offering little to understand why or how socioeconomic changes have brought about the fertility transition (Handwerker, 1986). A study by Davis and Blake (1956) presented some "intermediate variables" between fertility transitions and socioeconomic developments. Fertility is seen as being directly influenced by a set of "intermediate variables", and modernization, in turn, operates only indirectly on fertility through these determinants (Davis and Blake, 1956). Bongaarts (1978) further quantified these variables and isolated the effect of each factor on fertility. In an influential work published in 1963, Davis proposed his theory of demographic change and response as an adjunct to the demographic transition theory. In order to examine the mechanism through which a mortality decline leads to a fertility decline, Davis focused on how people responded to demographic changes. According to Davis, with more survival of children through adulthood, there is a great pressure on family resources so people have to reorganize their lives to relieve the pressure. In this regard people respond to the demographic change in terms of personal goals rather than national goals. The individual responses are determined by the means available to them. If there are

opportunities for social and economic improvements, people will take the chances and avoid large families that may cause the pressure (Davis, 1963; Weeks, 1989).

In spite of various criticisms, demographic transition theory has been very influential in fertility studies. Other sociological perspectives, including the emphasis on social institutions or social norms can find their starting points here.

2.1.3.2 Social Institutional Theory

The social institutional approach attempts to work on the linkage between modernization and fertility as suggested by the demographic transition theory. With the assumption that "demographic behavior ... is governed in important respects by underlying patterns of social and administrative organization" (McNicoll, 1978: 50), the social institutional approach focuses on the institutional contexts in a society. It is postulated that, because fertility takes place in a particular institutional environment and responds to changes in that environment, institutional settings may function as an immediate determinant of fertility decline (McNicoll, 1982). As Potter (1983) summarized, an institution may influence fertility

1. by changing the economic costs and benefits of children;
2. by changing internalized values concerning the family, marriage and fertility; and
3. by changing the social and administrative pressures bearing on the reproductive behavior of individuals and couples (Potter, 1983: 628)

A number of institutions have been studied with relation to fertility. They are classified into three categories: 1) institutions that determine the economic contributions children can make, including family and institutions providing old-age security and

welfare; 2) institutions that create tastes for or against children, such as education, religion, mass media, or advertising; and 3) institutions with political power in defining population goals and mobilizing the resources to meet them (Bulatao and Lee, 1982).

Among the various social institutions, family has been frequently mentioned since a family provides a structured environment in which demand for children is formulated and realized. Research on this aspect centers on economic relationships, division of labor, and power structure within the family, represented by the two influential studies: Caldwell's wealth flow theory (Caldwell, 1982a, 1982b, 1987) and Davis' study of sex roles within the family (1984).

According to Caldwell, a fundamental issue in the demographic transition

> ... is the *direction and magnitude of intergeneration wealth flows* or the net balance of the two flows - one from parents to children and the other from children to parents ... (Caldwell, 1987: 55-56).

In traditional societies, children are a source of income and support for parents, and produce far more than they cost in such societies. The flow of wealth is from children to parents. However, the process of modernization changes not only family structures (from large, extended family to small, nuclear family), but also family economy and relations. Children begin to cost parents more than their parents get from them. As the wealth flow reverses, the value of children, and thereby the demand for children, declines (Caldwell, 1982a, 1982b).

Caldwell (1982a) pays special attention to the role that mass education plays in changing the flow of wealth. Education facilitates the rapid spread of new ideas and information, which promotes the process of modernization; education also reduces the

chance of a child working inside and outside the home, not only because of certain hours needed in school attendance, but also the fact that the child may want to distance from the tradition of work. On the one hand, children learn a new morality from school and challenge the old morals governing traditional families. Educated parents, on the other hand, tend to recognize that the demands of educated children are legitimate. In this way, both family and education, as institutional settings within which fertility decision are made and related, alter individuals' fertility desires (Caldwell, 1982a).

The sex-role study by Davis (1984) examines the relationship between industrialization and fertility in terms of the spousal division of labor (Davis, 1984). Davis (1984) describes three different types of division of labor between husband and wife: 1) a household economic system which is characterized by the dominance of the husband and the fact that both the husband and the wife work; 2) a breadwinner system in which the husband is a "breadwinner" while the wife becomes a "homemaker"; and 3) an egalitarian system which is distinguished by its equalization of rights and obligations of the spouses in both workplace and the home. Both the first two forms are conductive to producing many children while the third form typically leads to low fertility. According to Davis, it is industrialization that changes the spousal division of labor within family from the household system to the breadwinner system, and finally to the egalitarian system. The shift results in a decline in demand for children (Davis, 1984; Davis and van den Oever, 1986).

Some other social institutions have also been investigated with respect to their influences on fertility. For instance, Adnan (1982) develops the thesis that the

stratification system in a country may conserve high fertility. Based on his analyses of three broad classes in Bangladesh, Alnan (1982) implies that if the stratification system is such that there is a dominant class which exercises tight control over most economic opportunities, then the dominant class will shape the fertility orientations of all classes in the society (Adnan, 1982; Namboodiri, 1986). Another example of the institutional approach is provided by a study of village and family life in Guangdong province, China, conducted by Parish and Whyte (1978). With particular reference to the Chinese land reform and agricultural collectivization, Parish and Whyte observe how the new rural economic structures and organizations can have a more or less direct impact on reproductive behavior (Parish and Whyte, 1978).

In short, the institutional studies emphasize such "intermediate" factors as social, economic, political, and administrative structures. It is believed that these studies provide bridges to overcome the divorce between "macro" socioeconomic development and "micro" fertility behavior (Potter, 1983).

2.1.3.3 Normative Theory

Despite its close relation with the institutional perspective, a normative approach to the study of fertility is distinct with respect to its emphasis on the importance of social constraints on individuals' reproductive behavior. This approach assumes that, within a society, norms about family size are developed in response to changes in socioeconomic and demographic conditions, which, in turn, influence the reproductive behavior of the members in that society. Therefore, the concept of normative structure

or norm is often used to explain, interpret, and predict variations and trends of fertility behavior and family planning (Freedman, 1963, 1975; Fried, 1980; Hawthorn, 1970; Mason, 1983; Ory, 1978; Raina, 1969; Ryder, 1980; Udry, 1982).

One of the basic arguments in this perspective is to consider social norms of fertility as a collectively rational reaction to a common problem. Freedman (1963) stated that

> ... when many members of a society face a recurrent common problem with important social consequences they tend to develop a normative solution for it. This solution, a set of rules for behavior in a particular situation, becomes part of the culture, and the society indoctrinates its members to conform more or less closely to the norms by implicit or explicit rewards and punishments (Freedman, 1963: 222).

Like other social norms, norms about family size in a society are developed as a social control mechanism to achieve socially valued goals (Raina, 1969).

Another major aspect of the normative approach involves the question of how individuals' reproductive behaviors can be normatively constrained (Mason, 1983). Generally speaking, family size desires can be normatively controlled by direct prescription of the number of children that a couple should bear (Mason, 1983). A society or a group imposes a set of coercive constraints upon its members in order to protect its interests. Norms about family size are likely to be in terms of a range in numbers of children that are permissible and desirable. The individuals acquire these norms through a process of indoctrination. The norms are not only external rules, but also frequently internalized as part of personality. Thus a couple may choose a

normatively acceptable family size over another because it would be wrong to select the other (Mason, 1983; Ory, 1978; Ryder, 1980).

Fertility behaviors can also be constrained indirectly by the prescription of such related matters as marriage, timing of intercourse, and family planning (Freedman, 1963). For example, studies show that fertility was only moderately high in many areas of pre-industrial Europe. One explanation is that the moderate level was kept by particular cultural norms such as late marriage and prolonged breastfeeding. Although these norms or customs did not directly relate to the number of children already born, they do relate to the number of children that couple would have (Coale, 1984; Freedman, 1963). Social norms about contraception are obviously an important area of inquiry. In addition to data from pre-industrial Europe, the studies of the demographic transition in contemporary developing countries have provided further evidence in this regard. New reproductive norms, consistent with government population policies and implemented through family planning programs, have successfully altered individuals' attitudes toward birth control measures and their fertility behavior (Kaufman, 1983; Mauldin, 1982).

Furthermore, reproductive behavior by individuals may be constrained indirectly through the normative pressures on particular social, economic, political obligations between parents and children, husbands and wives, or individuals and the community (Mason, 1983). Norms governing social relations and institutions may not directly relate to fertility or family size, but they may indirectly do so. For instance, changes of obligations between parents and children, resulting from social and economic developments, may affect the value of children to parents in a given society. The decline

in the value of children further decreases demand for children and the number of children. This relationship has been revealed by a number of studies on values of children, as mentioned earlier.

Still other research tends to observe the mechanism through which normative pressures constrain fertility behavior in terms of demographic characteristics. Studies reveal that the impact of normative pressures on family planning and pregnancy varies with parity (Fried and Udry, 1980; Udry, 1982). In addition, a study by Clay and Zuiches (1980) uncovers the gender variation between husbands and wives with regard to their norm formation of ideal family sizes.

The normative explanation of demand for children, with its focus on social norms, customs, or culture, should not be isolated from the other sociological perspectives. On the one hand, family size norms are deeply embedded in particular social institutions in a given society; the norms, on the other hand, also change corresponding to socioeconomic and demographic developments in that society. In fact Freedman's framework emphasizes the importance of societal norms about family size and about the "intermediate variables" for explaining levels of fertility in a society, while taking into account the environmental, socioeconomic, and demographic structures in that society (Freedman, 1975).

2.2 Evaluation

All theoretical schools and perspectives sketched above, while emphasizing different factors, tend to explore one, or some, aspect of fertility determinants. The

enormous complexity of fertility determinants is ascribed to the intricate nature of the subject. Fertility is a complex social phenomenon. It is both a biological behavior with physiological constraints and a social behavior that attaches to its socioeconomic and cultural settings. Demand for children by couples may exhibit both particular attributes within a family and collective properties in a given society. Having children or not having children may be the result of a couple's free decision, and may be caused by societal pressures. Given these complicated features, the theoretical perspectives mentioned earlier are complementary rather substitutive to each other.

Indeed, different perspectives have made their distinct contributions to the understandings of human fertility and demand for children. My intent here, however, is not to provide an extensive evaluation on this broad regard. Instead, the focus will be their relevance to the central issue of this study - deviant fertility.

In the light of the present concern, the normative perspective proposed by sociologists appears most relevant. With the assumption that a society or a group regulates reproductive behavior by norms, the normative approach tends to explain fertility behavior in a given society in terms of group survival and societal goals and interests. Thus, fertility behavior, either normal or deviant, can be understood not merely as free choice by an individual but as a result of social control, socialization, and normative constraints. In order to understand the violation of reproductive norms in a society, it is logical to ask "Why does a society develop relevant norms for regulating its members' fertility intentions and behavior?" and "How do these normative constraints

operate?" Having answered the questions, the normative perspective demonstrates its main virtue.

Normative influences on fertility are not independent from social institutions. According to the institutional perspective, various institutions in a society constitute the social contexts in which reproductive norms are formulated and implemented. With regard to the formation of reproductive norms, family orientation and family planning programs are especially crucial. Furthermore, the indoctrination of a new social norm about family size is often accompanied by changing old institutions or by establishing new organizations. The institutional approach has provided detailed analyses to explicate how institutional changes, such as changes in family structure, improvements in education, reorganizations of economic systems, and establishment of family planning organizations, lead to declines in fertility and demand for children. In this way the institutional approach has contributed considerably.

Demographic Transition Theory, including its modified forms, is by no means able to specify all relevant determinants relating to fertility decline, nor can it be used directly to predict individual fertility behavior. The theory, however, does guide us to look at broad social contexts and to examine the fertility patterns in terms of reproductive responses to large-scale social and economic developments. Despite various critics, studies have continued to show evidence of the relationship between socioeconomic condition and fertility, at both societal and individual levels. Yet, it may be true that the relationship is neither as simple as expected, nor as direct as anticipated. The search for "intermediate" factors becomes necessary and important.

Overall, the sociological studies have indeed identified some structural factors that are relevant for understanding deviant fertility. Nevertheless, their most valuable advantage to the present study is to examine fertility behavior of individuals in its social and institutional context. For sociologists, reproductive behavior does not occur in a vacuum but in a social setting. To fully understand this behavior, one has to take its social configurations into account.

It is often the case that the strength of one perspective is also its weakness as well. A framework broad, or macro, enough to encompass all the structural factors on fertility necessarily loses specificities for micro processes. This happens with sociological studies of fertility. It may be true that individuals are not free agents and their behaviors are determined by their socialization and social constraints; it is also factual that individuals are not mere cogs in a machine and they make decisions based on their interpretations of the environmental conditions. Even under societal constraints, individuals still can adjust their fertility behavior in order to maximize their interests. However, many sociologists do not explicate the interpersonal process of fertility decision making and behavior. As a result, it is impossible to explain why people under the same social controls and constraints, in fact, behave differently. What is neglected in the sociological studies, however, becomes a focus in the psychological and economic perspectives on fertility.

The major contribution of the psychological perspective consists in its exploration of individual behavioral tendencies on which fertility behavior largely depends. Although individuals live in the same social environments, they may demonstrate different fertility

motives and behaviors. The psychological approach of fertility establishes a linkage between makeup of individuals and their environments, and regards the demand for children as an interactive product of personal dispositions and situational properties. In this way psychologists shift the attention from a societal level to an individual level, examining individual motivations, attitudes and preferences in predicting fertility behaviors. In this present study, with the assumption that individual behavior including deviant behavior, is guided by their motives, intentions, and attitudes, the psychological approach will retain its important position.

With a similar micro orientation, the economic perspective holds that individuals as consumers are rational in their decision-making and will allocate their limited resources in ways that maximize total satisfaction. In light of this study, the most valuable endowment from this perspective is to examine demand for children with relation to the demand of other items. In many parts of the world, especially in developing countries, parents still find children an important source of wealth, prestige, and security. However, social and economic developments are accompanied by changes not only in rewards from children but also the rewards deriving from other opportunities. The economic approach will be useful to examine fertility decision making and behavior in terms of individual calculus of cost and benefits from fertility.

Ideally, fertility behavior, either normal or deviant, should be examined within a single framework that account for the determinants at both societal and individual levels. However, the existing literature does show the potential for studying fertility determination by bringing different perspectives together.

Yet another problem remains. To what extent can the previous studies in fertility and demand for children be applied to study "deviant" fertility in China? Previous researchers have revealed various determinants, but they inspect fertility in a similar fashion. Fertility has been observed either quantitatively or demographically. In the former, the number of children is examined, while, in the latter, the parity and sex of the births are highlighted. However, "deviant" fertility is not a simple matter of quantitative increase in birth. Demand for children, even very strong, does not necessarily lead to the violation of productive norms. Individual couples who desire more children may tend to conform to nationally valued standards of a small family. The reasons for having children are not sufficient, although related, to explain fertility in a "deviant" manner. In short, fertility can be divided into two kinds: normal and deviant. The former refers to those within socially approved ranges, while the later involves those in opposition to socially valued expectations. This distinction has been overlooked in previous fertility studies, but it appears very significant in the present project. A new dimension and related theoretical framework thus are needed.

CHAPTER III. THEORETICAL FORMATION

3.1 Toward A "Deviant" Fertility Approach

More than thirty years ago, Kingsley Davis (1959) called for a marriage between sociology and demography. For instance, an interest in fertility might be combined with an interest in family structure and a focus in internal migration with a concern with urbanization. It appears that integration of elements from different fields has been going forward with some hesitation and difficulty. The mutual value for the integrated disciplines is undeniably great (Davis, 1959).

Is it possible, then, to develop an approach that bridges the sociology of fertility and the sociology of deviance? In a simplified expression, the sociology of deviance attempts to offer explanations for behaviors that violate social norms, while the sociology of fertility aims to explore determinants of human fertility. Despite diversities, however, there are some reasons for pursuing an integration. First, there are fertility behaviors that violate dominant reproductive norms. Like other social phenomena, this happening deserves a sociological explanation. Secondly, the causes of "deviant" fertility are assumed to be multiple. With both fertility and deviance as focuses in this study, the subject matter goes beyond the scope of previous sociological perspectives on fertility and classic theories of deviant behavior. Thirdly, according to the multiple-cause

assumption, one particular kind of behavior outcome such as "deviant" fertility may result from more than one set of causal conditions. For instance, as mentioned earlier, the determinants of demand for children are necessary but not sufficient to understand "deviant" fertility. Some other mechanisms identified by deviant behavior theories may be relevant. It is anticipated, therefore, that a new approach combining both fields will provide a better explanation in this regard.

The next question is how to link the two different perspectives together. The synthesis can be either a "mixed" model or an "integrated" one. Delbert Elliott (1985) used these two terms to discuss two levels of theoretical integrations in criminology. The distinction is applicable to this present research. A "mixed" model can be developed by simply combining variables identified by two domains, with little regard for the conceptualization of variables in terms of logical reconciliation. An "integrated" model indeed is more desirable for this study, which attempts to reconcile differences in the assumptions and propositions from sociology of fertility and sociology of deviance. It will also provide explanations of how these combined factors are related to each other in a coherent theoretical perspective. This is the "deviant" fertility approach which is used for the research that follows.

3.2. Concepts

3.2.1 Norms, Normative Constraint, Conflicts, and Deviation

Considering the importance of the concept of "norms" to sociology, it is surprising just how little agreement exists on the definition of norm, much less the processes

through which norms constrain individual behavior (Cancian, 1975; Mason, 1983). In an article published in American Journal of Sociology in 1965, Jack Gibbs listed seven different definitions of norms (Gibbs, 1965). After a quarter of a century, the number may be doubled, if not tripled. In spite of the disagreement, however, certain assumptions about the nature of norms are shared by most sociologists. Briefly, first, a social norm is a collective evaluation of behavior with respect to what it ought to be; second, a social norm constitutes a collective expectation in terms of what behavior will be; third, a social norm provides most individuals with incentives to behave in ways they would not otherwise behave; finally, a social norm involves particular reactions to behavior, including applying sanctions (Blake and Davis, 1964; Bryant, 1990; Gibbs, 1965; Mason, 1983). Based on these assumptions, the concept of norms has often been used by sociologists to explain why people think, say, or behave as they do under given circumstances.

No one would doubt that norms can exercise some influence on behavior, but the question of what makes norms effective is debatable. In theory, two channels can be identified: internal constraints and external constraints. On the one hand, norms are societal or group characteristics imposed upon individuals during socialization and reinforced by social controls. On the other hand, norms are internalized by the individual, since it is the individual who decides to behave in a particular way. In reality, however, norms are simultaneously internal characteristics of individuals and an external constraint imposed by the group or society.

Here the most influential perspective is put forward by Parsons (1951). He argues that most individuals have commitment to behave as the norms of their group say they should. This commitment to norms occurs during the process of socialization. In this way norms are lodged within individuals and guide their behavior as blueprints guide the behavior of a builder (Mason, 1983; Parsons, 1951). However, this blueprint theory is not free of problems. Societies, as we know them, are not only dynamic but also diverse, filled with conflicting interests and competing values. These norm conflicts often result in norm violations, since fulfilling the norms of one group may violate the norms of another.

Among others, the cultural conflict theory of deviance is particularly relevant here. In his pamphlet Cultural Conflict and Crime, Thorsten Sellin (1938) maintains that human beings are born into cultures that provide meanings to behaviors and that behavior is normatively oriented. People act in accordance with the rules of the groups in which they are members. However, as a society becomes more and more complex, individuals are exposed to many different sets of conduct norms and values, and their behaviors are governed by conflicting norms. In Sellin's own words:

> The more complex a culture becomes, the more likely it is that the number
> of normative groups which affect a person will be large, and the greater is
> the chance that the norms of these groups will fail to agree, no matter how
> much they may overlap as a result of a common acceptance of certain norms
> (Sellin, 1938: 29).

In this situation, therefore, individuals who take certain kinds of "normative" actions may deviate from the standpoint of other groups. According to Sellin, these processes can account for much of the deviant behavior by the foreign-born in the United States (Sellin,

1938). Since he devotes much of his attention to cultural conflicts among immigrants from different cultural backgrounds, Sellin spends little time to further depict details about other aspects of cultural conflict (McCaghy, 1985).

Cultural conflicts may not necessarily be limited to the diversity of normative traditions brought by different national ethnic groups. Cultural conflicts of conduct norms may exist within a single ethnic group. Modern societies are active and dynamic. Rapid social and economic changes are associated with transformations in attitudes, values, and norms. Certain behavior, such as cigarette smoking, that was considered as "normal" years ago is regarded as "deviant" today (Bryant, 1990). As long as norms change, what constitutes a deviant act is not constant.

Facing normative changes, individuals may find themselves facing a dilemma. On the one hand, they may continue to behave as they used to, regardless of reactions from others. On the other hand, they may deviate from their groups and modify their behavior in order to be accepted by others in the society.

Furthermore, conflicts may also involve a process of decision making. This argument seems highly debatable. According to the Parsonsian and some other approaches, individuals respond to norms unconsciously because norms are internalized (Mason, 1983). In this sense, a calculated decision-making process is out of the question. However, this idealized situation may not fit the fact of norm conflicts. Presumably if individuals can perceive conflicts and know their relevant consequences (punishments or rewards), it sounds logical to posit a conscious calculus of the costs and the benefits of conformity versus deviance.

3.2.2 Reproductive Norms, Pressures, Conflicts and Fertility Deviation

Reproductive norms here refer to those that explicitly govern family size. Such family size norms are expressed in terms of a range in number of children that are optimum or desirable. In other words, reproductive norms define how many children married couples ought to have. The norms are developed as a means for regulating reproductive behavior in a given society. Different societies or groups establish different reproductive norms according their own interests and problems. The norm for a particular culture or group may be 'two or three children', while the norm of 'as many as possible' may be prevalent in other societies.

Normative pressures with regard to family size, like other norms, influence reproductive behavior in many different ways. One mechanism identified is an early internalization of family size norms. Many youngsters begin to formulate thoughts on how many children they would like to have for themselves (Westoff and Potvin, 1966). The demographic structure of a family conditions its norms, which are accepted by its children and further influence their own family size (Gustavus, 1973; Gustavus and Nam, 1970; Hendershot, 1969). Accordingly, the family of origin acts as one mechanism for transmitting family size norms from one generation to another. In addition, normative pressures also come from intimate groups of an individual, including friends, relatives, and his or her spouse. Given that the topic of family size is generally of a confidential nature in the U.S., the norm enforcement is likely to occur within intimate groupings (Clay and Zuiches, 1980).

Official normative pressures are often imposed on individuals through family planning programs. The main focus of family planning programs in many developing countries is to establish a norm of the small family and to bring about a behavioral change so as to reduce fertility. It is evident that, under the pressure of the program, many married couples in these countries are planning their families in accordance with the nationally valued goals. China is one of the success stories (Kaufman, 1983; Mauldin, 1982).

Normative change is gradual rather than sudden. On the one hand, a new official norm about family sizes may be established by a government to alter individual fertility desires and behavior. At the same time, traditional or old reproductive norms may continue to govern individual fertility intentions and actions. As a result, the new norms of small family may exist side by side with the traditional large family ideals. The modern norms of small family size conflict with the traditional ideal, but they exist simultaneously and determine people's fertility desires and behavior jointly. There are at least three reasons for this coexistence. First, the transformation of norms should be accompanied with appropriate institutional changes. Institutional changes, however, may not be available in some cases. Second, norms regarding family size are related to the norms governing other aspects of individual behavior. It is unrealistic to expect a change of the family size norms alone. Third, the traditional norms of family size are rooted so deeply in cultural heritage and have such powerful sanctions that old behavior patterns tend to continue even during the process of social change.

The conflict between traditional and modern norms regarding family size presents a state of ambivalence. Under this circumstance, individual couples may conform to the new small family norm even though they may not be completely convinced, or they may keep the heritage of a large family. Considering the costs and benefits of the alternatives, most couples rationally make their choices. Demographic characteristics of the couples, especially educational attainment and age, influence the choices. In any case, if a married couple has a greater number of children than the number that is officially valued, they violate present family size norms. Their reproductive behavior is considered deviant. In this strict usage, *deviant fertility refers to the reproductive behavior that violates official family size norms in terms of having more than the accepted number of children.*

3.3 Deviant Fertility in China

Deviant fertility, like other deviant behavior, does not occur in a social vacuum but in certain social contexts and conditions. Thus, a better understanding of deviant fertility in China must include an appreciation of Chinese culture and tradition, political systems, and social conditions. The establishment of current reproductive norms, the conflicts between the state-established family planning norms and traditional large-family norms, and the violations of the current official family planning norms all have their foundations in the structure and organization of social institutions in China.

3.3.1 Family Planning Policies and Reproductive Norms in China

Chinese current reproductive norms are developed by government-sponsored family planning programs. In the process of the demographic transition experienced by many developed and developing countries, small family size norms have been externally introduced or dispersed through either spontaneous process of diffusion without the support of institutional agencies or a deliberate process enforced by governments and social institutions. While many developed countries experienced the former process in their demographic transition, most developing nations today are experiencing the later one. In spite of influences of Western ideas regarding small family sizes through education and mass media, the development of current reproductive norms in China largely results from efforts by family planning programs (Knodel and van de Walle, 1979; Mauldin, 1982; Wang, 1990).

Since the establishment of the communist government in 1949, there have been four family planing campaigns: The First Campaign, 1956-1958, The Second Campaign, 1962-1966, The Later-Longer-Fewer Campaign, 1971-1979, and The One-Child Campaign, 1979-present. However, the last two programs are much more effective and well documented (Banister, 1984; 1987; Chen, 1982; U.S. Congress, 1982; Croll et al., 1985; Kane, 1987; Platte, 1984; Tien, 1980; 1983; Yu, 1979).

In 1971, the Chinese government launched its third, the so-called "Later-Longer-Fewer" campaign. Married couples were required to obey three reproductive norms: to marry later (Wan), to extend the interval between births (Xi), and to have fewer children (Shao). In rural areas men were encouraged to postpone marriage until 25 and women

until 23; and in cities, for additional two years. The government urged that births should be spaced three or four years apart. Urban couples were to limit themselves to having two children and rural couples to having three. In spite of the notable successes of the "Later-Longer-Fewer" campaign in reducing fertility rates, in 1979 the Chinese leadership decided to achieve further decreases of fertility in order to reach the goal of "Four Modernizations".[3] Thus China's fourth family planning campaign, known as the "One-Child" campaign, was initiated. In 1980 the goals of the campaign was stated in quantitative terms,

> ... that 95 percent of married couples in the cities and 90 percent in the countryside will have only one child in due course, so that the total population of China will be controlled at about 1.2 billion by the end of the century (Chen, 1980).

The family planning policies in China are implemented in a highly organized social structure with strong ideological controls. The Chinese political system can effectively transmit and enforce the family planning policies of the central government to lower levels. Local grassroots units, such as residence committees in cities and communes and production brigades in rural areas, carry the policies to every individual. The Communist Party, existing in every large and small organization within the country, acts as the leader in the implementation of the family planning policies. In addition, there are many civic associations such as the women's federations and trade unions supplementary to the formal governmental apparatus for the policy implementation. The network of the family planning program is complex but well organized. This system makes it possible

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[3] The modernization of agriculture, industry, defense, and science/technology.

for family planning policies and new ideas about small family size to reach and influence every family and its members.

In addition to providing birth control information and services, Chinese family planning programs aim to introduce and enforce new reproductive norms through various channels. Slogans, posters, mass media, speeches, and public exhibits in the park all carry the family planning messages. Songs and plays are used for propagating new family planning norms. Numerous study group meetings on family planning for men and women are organized, in which the benefits and importance of planned childbirth are discussed. If people fail to attend study group meetings, they are visited by family planning officers in their home. These persuasive efforts are very effective in terms of introducing new norms of fertility and mobilizing married couples to conform to the new reproductive norms.

3.3.2 Constraints of New Reproductive Norms in China

To better understand normative constraints of fertility in China, one has to examine a bigger picture - normative structures in China. Since 1949 Chinese people have been accustomed to following what the government wants them to do. This general behavior pattern is the key to understanding the normative constraints in general and the constraints of reproductive behavior in particular in China. Here, communist ideology and social controls in terms of rewards and punishments deserve consideration.

According to communist ideology, the current Chinese government by definition represents the interests of the people. Thus, whatever the government appeals to is

always for the benefit of the people and the society. Individuals are required to be loyal to the government and to sacrifice their own interests for social obligations (Wilson, 1981). This "collectivism" or "state loyalty" becomes a normative pattern of thinking, feeling, and acting of Chinese ordinary citizens. This general normative pattern of behavior effectively facilitates the implementation of government projects, including family planning programs.

Chinese family planning campaigns have always relied heavily upon ideological efforts to gain acceptance of the new fertility norms. In doing so, the interest of an individual is often linked with that of the state and society. It has been emphasized by the government that family planning and control of population growth are not only for the well-being of individuals and their families, but more importantly for the prosperity of the nation and the happiness of generations to come (Liang, 1989; Wasserstrom, 1987). While implementing the one-child policy, the Chinese government is aware of the sacrifice that the policy demands of the young generation (Croll, 1985). However, individuals ought to accept the new norms and limit their family sizes for the long-term interest of the nation and for the benefit of the whole society even if it directly counters their own family interests. Muhua Chen, Vice Premier and Director of the State Council Birth Planning Leading Group, asserts it clearly:

> To the extent that the interests of individuals come into conflict with those of the state and the collective, the former should voluntarily be subordinated to the latter (Chen, 1981: 76).

Given the general behavior pattern of obeying government commands and its implications in family planning campaigns, it is not surprising that some people, especially those who

are in leadership positions and those with strong political orientations, voluntarily and consciously take the government requests as their behavior rules.

Yet, for the majority, they are very much coerced to follow government family planning policies. For those people, rewards and punishments are often calculated. In China, the government controls most social resources and thereby many aspects of an individual's life. It is easy for the government to apply sanctions on individual behavior. Rewards and punishments are often well defined.

In the case of family planning, economic incentives and constraints constitute a part of the campaign. For example, for an urban family with a one-child certificate, parents receive a monthly stipend (about 5 to 8 percent of the average worker's wage) until the child reaches age 14. The couple will also be entitled to have housing space equal to that given to a two-children family. Their child will be given priority in admission to nurseries, kindergartens, school programs, and even in job assignments. However, if a couple breaks their pledges by having two or more children, they have to pay for the hospital, children's medical care, and the extra children's grain rations. Their monthly wages may be reduced by 10 percent or more and they may be ineligible for job promotions for three years (Chen, 1982; David, 1982; Kane, 1985; Ma, 1989). One-child couples residing in rural areas are supposed to receive additional monthly work points each year until the child reaches age 14, an adult grain ration for the child, the same size of private plot of land as other families with more children. Penalties for having children outside the plan include withholding of grain allocation and charging for

school and medical care. In addition, the couple's work points are reduced for all the years the children are growing up (Banister, 1984; David, 1982; Davin, 1985).

In sum, the Chinese family planning programs are both voluntary and coercive in nature. On the one hand, ideological education functions in terms of persuading individual couples to conform to the new fertility norms. On the other hand, the economic and administrative incentives for one-child families and penalties for "out-of-plan" births push married couples toward the conformity of the new family planning norms. The normative constraints from these two channels are particularly relevant to the implementation of the family planning policies. The Chinese experience of establishing new norms of fertility behavior, as Croll states, "reflects the quite central belief in China that ideology and organization can introduce and maintain momentum in social change" (Croll, 1985: 32).

3.3.3 Fertility norm violations in China

In spite of the success of Chinese family planning programs, fertility behavior which violates the planning regulations and norms exists in China. Its quantitative dimension can be examined by the population census and other surveys. It is also important, however, to explore the qualitative components of the known acts. Here five examples of recent fertility deviance are described.

Case one. A "rich" farmer couple of Gansu province had two daughters but insisted on having a third birth. It was a boy. Although they had to pay ¥2,000 ($400),

they were very happy and named their new-born son "*bugui*" - "inexpensive" (Feng, 1989).

Case two. A party cadre of a village in Shanxi province used his power to obtain "defect" certificates for his new-born infants. Eventually, he had eight children without any penalty (Mo, 1990).

Case three. A farmer of Guangdong province received a one-child certificate after the first birth of a baby girl. However, he reported that the girl "died" and his wife had a boy in the next year. The "dead" girl then returned home from her aunt's residence in another village (World Journal, 1991).

Case four. There was an "unplanned birth" village in the Xinjiang autonomous region. All residents were temporary and came from different parts of the country but they had the common goal - to escape from family planning. Living in poor conditions and having two to five children on average, they vowed not to go back home until they had a son (Mo, 1990).

Case five. A farmer and his wife had two daughters and wanted to have a son. In order to avoid the local family planning personnel, he built a narrow space between two walls to hide his wife. After seven years of physical and mental torment, his wife finally gave birth to a son. The tragic result was that, due to the inhuman living situation, the mother became paralytic and the infant suffered from serious diseases (World Journal, 1992).

The selected cases by no means represent all instances of fertility deviance in China. Yet they do illustrate some characteristics of the phenomenon. First, deviant

fertility is closely related to son preference. Many couples have "out-of-plan" births because they only have female offspring. Second, those deviants employ every means to reach their desires. They use money or power, and they hide or run away in order to escape from the punishments of their behaviors. Third, fertility deviance occurs with greater frequency in rural areas than in urban regions. Rural farmers are not only more likely to benefit from their children but also less controlled by the government. Finally, Chinese women are participants and also victims of the deviant fertility. Actors of fertility deviance include both husbands and wives. Yet Chinese women, including those "unwanted" baby girls and their mothers, suffer more than their male counterparts.

In short, deviant fertility in China is a complex phenomenon, which is a reflection of both Chinese traditions and current social structures. Strong messages from current family planning programs have successfully reached individual families and created conflicts with the traditional constraints of fertility behavior. These conflicts are a key to better understanding deviant fertility in China.

3.4 Model Specification and Hypotheses

Based on the concepts discussed above and the relevant previous studies summarized, a theoretical model is presented in Figure 3.1. A fundamental assumption underlying the model is that deviant fertility is the product of normative conflicts between pressures from traditional reproductive norms and constraints of current family planning policy norms. It is also assumed that the degrees of constraints by the traditional and the current fertility norms depend on a wide range of factors. These factors are expected to
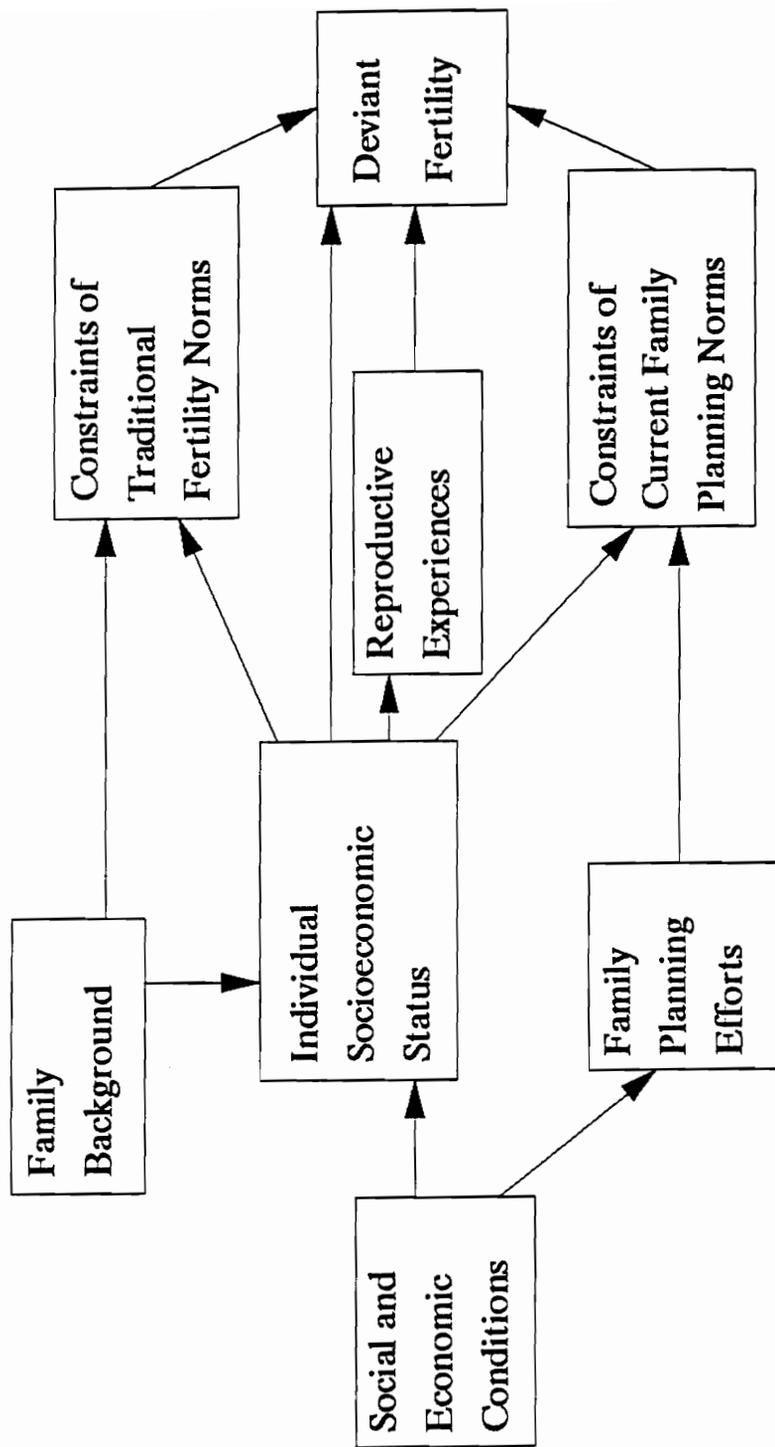
Figure 3.1 Diagram of Theoretical Model Predicting Deviant Fertility

exist at societal, family, and individual levels, such as family background, family relations, previous reproductive experiences, socioeconomic development, and family planning efforts. Moreover, the influences of socioeconomic development, family background, family relations, family planning efforts, and individual reproductive experiences on deviant fertility are assumed to be indirect through the normative constraints. Using the relationships as a foundation, a number of hypotheses are generated.

Constraints of Traditional Fertility Norms. The model assumes a direct link between deviant fertility and the traditional norm constraints. This relationship is derived from the cultural conflict perspective of deviance. It is speculated that, on the one hand, deviant fertility in China is immediately determined by the extent to which individual couples are constrained by traditional fertility norms. On the other hand, influences of traditional norms are affected directly by family background, socioeconomic characteristics, family relations, and reproductive experiences and indirectly by social and economic conditions.

Hypothesis 1: Chinese couples who have strong traditional norm constraints of fertility are more likely to have deviant fertility than those couples who do not have the strong traditional pressures.

Constraints of Current Family Planning Norms. The assumption that normative conflicts lead to deviant fertility underlies the causal relation between deviant fertility and

constraints of current family planning norms. Different from the traditional norm pressure, the degree of the constraints largely depends on family planning efforts. In addition, individual socioeconomic characteristics and reproductive experiences are also directly related to the extent to which individuals are compelled by family planning restrictions.

Hypothesis 2: Chinese couples who are constrained by new family planning norms are less likely to have deviant fertility than those couples who are not significantly limited by the new fertility norms.

Individual Reproductive Experiences. Individual reproductive experiences refer particularly to previous births in terms of sex, infant survival, and pregnancy experiences. These experiences are believed to influence fertility attitudes and behaviors. It is also assumed that reproductive experiences are not only the product of individuals' biological factors, but also the outcome of one's social and economic status. It is particularly true with respect to infant care and survival. Those couples with high educational attainments and incomes may provide more appropriate infant care. Moreover, given that the son preference tradition is prevalent and strong, it is likely that couples who have only female offspring want to have more, even at the cost of violating current reproductive norms.

Hypothesis 3: Chinese couples who have unfortunate reproductive experiences are more likely to be involved with deviant fertility than those who have not such experience.

Hypothesis 4: Chinese couples who have only female children are more likely to commit fertility deviance than those couples who have previous male offspring.

Family Relations. Family relations mainly refer to relationships between a married couple and their parents. Specifically, whether or not a married couple is living with their parents after their marriage and how frequently they visit their parents if they do not live together are related to influences of the traditional norms. The assumption underlying this relation is that older generations are more likely to be concerned about carrying on family lines and firmly hold traditional fertility ideals. Living in an extended family, therefore, tends to encourage the impact of traditional fertility norms on the married couple, and then lead to the violation of current fertility regulations.

Hypothesis 5: Chinese couples who live with their parents, especially parents on the husband's side, are more likely to have deviant fertility than others.

Individual Socioeconomic Characteristics. Individual social and economic attributes, especially educational attainments, occupational status, and family income, are assumed to be the crucial factors relating to deviant fertility. Also, individual

socioeconomic status may affect the magnitude of normative pressures from both traditional and current family planning directions. Among the socioeconomic characteristics, place of residence is also an important factor. Whether individual couples living in rural or urban areas determines their lifestyles and opportunities, which will influence the degree of exposure of modern ideas and the control imposed by the government. Moreover, the proposed model also depicts two additional linkages in which socioeconomic features by an individual are influenced by large-scale social and economic conditions and family background.

Hypothesis 6: Chinese couples who enjoy higher socioeconomic status are more likely to be constrained by current family planning norms than those couples with lower socioeconomic status.

Hypothesis 7: Chinese couples who reside in rural areas are more likely than those couples living in cities to accept traditional fertility ideals and commit fertility deviance.

Family Background. Family background such as educational levels of parents is used as a proxy to measure family influences on fertility ideals held by an individual. Based on the assumption that fertility norms may be transmitted from one generation to another, family background is assumed to influence the degree of constraints from

traditional norms about family sizes. This influence may, in turn, lead to deviant fertility outcomes.

Hypothesis 8: Chinese couples who grew up in families with low socioeconomic status are more likely to be influenced by traditional family ideals than those couples who came from better-off families.

Family Planning Efforts. Family planning efforts are assumed to impose normative controls directly on individual couples. This relation in fact reflects a major objective of the family planning program in China. Constraints of family planning deter fertility norm violations in China. The family planning efforts, however, are conditioned upon macro-level social and economic conditions.

Hypothesis 9: Chinese couples who are personally contacted by family planning personnel are more likely to follow the new reproductive regulations than those couples who are not strongly approached by family planning programs.

Social and Economic Conditions. Identified by many studies following the demographic transition perspective, social and economic developments serve as background factors in the proposed model. Social and economic conditions at a macro level are supposed to influence family planning efforts in a given community. The model

also assumes a direct link between macro-level socioeconomic developments and individual social and economic characteristics.

CHAPTER IV. METHODOLOGY

The present chapter covers three sections. The first section touches on data information, with data assessments and sample descriptions. The second section presents a brief depiction on the site of this study - Guangdong province, China. Finally, the third section deals with variable measurements.

4.1 Data and Samples

4.1.1 Data Sources

This study uses data from five different sources, which are listed as follows:

1) 1987 In-Depth Fertility Survey, Guangdong;

2) 1987 Old-Age Security Survey, Panyu county, Guangdong;

3) Official Records of Panyu family planning commission, 1988-1990;

4) Supplementary data on the family planning efforts, 1987;

5) Supplementary data from the Third Population Census of China, 1982.

4.1.1.1 In-Depth Fertility Survey (IDFS)

The In-Depth Fertility Survey was the first probability sampling survey on detailed fertility information ever done in China (Guo, 1990). The survey was conducted by the

State Statistical Bureau and related statistical bureaus in several provinces and municipalities of China. The main purpose of the survey, as stated by the designers and organizers, was

> to get knowledge of the fertility level and trend of the Chinese population, analyze the factors determining women's fertility, learn the advanced experiences of WFS to improve the capability in research of fertility and demographic aspects, and provide rich scientific data for the formulation of the country's population policy (China's State Statistical Bureau, 1987: 1).

The survey was divided into two phases. The first phase began in April, 1985 in two provinces and one municipality: Hebei, Shanxi, and Shanghai. The second phase was carried out two years later in Beijing, Liaoning, Shangdong, Guangdong, Guizhou, and Gansu. The survey was administered by personal interviews and conducted at three different levels: community, household, and individual woman.[4] Household-level data, including 28 variables, were collected among population residing in each selected household and its demographic characteristics such as age, sex, marital status, and some economic indicators. In these households, ever-married women aged under 50 were eligible for detailed personal interviews. Individual questionnaires with more than 100 items were used to gather detailed information about eligible women's backgrounds, marriage and pregnancy histories, child care, knowledge and uses of contraception, fertility preferences, and other factors related to fertility (China's State Statistical Bureau, 1987).

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[4] The community-level data are not available for this present study.

The In-Depth Fertility Survey of Guangdong was a part of the nation-wide survey. A mixture of stratified, multistage, systematic, and proportional probability sampling techniques was applied to identify a representative sample. Consequently, seven cities and 30 counties in Guangdong were selected. The survey eventually investigated 989 households with information on 42,510 household members and interviewed about 6,654 ever-married women aged 49 or younger.

4.1.1.2 Old-Age Security Survey (OASS)

The Old-Age Security Survey was conducted by the Department of Social Problems, Academy of Social Science in Guangzhou. This survey started in March, 1987 and ended in April, 1988. The survey was carried out within one county of Guangdong - Panyu. Four xiang (communes) were randomly selected first. Within each commune, four productive teams were further chosen. Finally, within each productive team, 26 households were selected. This gave a total of 416 households. Of the selected households, 231 were eligible with the presence of both a husband and a wife (He et al., 1987).

The survey was administered by personal interviews with questionnaires. The questionnaires were divided into husband forms and wife forms, including about 300 questions in family background, relations with parents, current family structures, expectations for children, and economic and living conditions. Of the 231 selected households, some 220 completed both the husband and wife questionnaires, resulting in a 95% response rate (Department of Social Problems, 1988).

4.1.1.3 Records of the County Family Planning Commission (RCFPC)

The documents were obtained by the author for the present study, with the help of the Academy of Social Sciences in Guangzhou, China. Panyu county was selected because of the availability of data and the research site identical with the old-age security survey. Within Chinese bureaucracy, the family planning commission in each county or city is responsible to report its family planning situations to the provincial commission. The formal written reports, annually or semi-annually, are attached to relevant statistical forms that provide overall family planning information of a given county or city. Annual statistical reports of 1988 and 1989 and the semi-annual one of 1990 from the family planning commission of Panyu county were obtained through "informal" channels for this dissertation.

The unit of the family planning records was xiang (communes). There were 24 units in the Panyu family planning reports. The reports contained 35 items, including birth control operations (abortion, sterilization, and IUD), unplanned pregnancies, unplanned births, family planning rates,[5] and information about population growth and marriage.

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[5] Family planning rates are calculated, by family planning personnel, based on the following formula:

$$FPR = [(\text{first birth-premarital birth} + \text{planned second births})/(\text{total births})]*100.$$

4.1.1.4 Supplementary Data

There were two supplementary data sources, one describing socioeconomic conditions and the other on family planning efforts. Both data assortments were corresponding to the counties and cities included in the In-Depth Fertility Survey. The supplementary data were merged into the fertility data set.

The list of selected counties and cities in the fertility survey was obtained from China Statistical Information & Consultancy Service Center in March, 1991. According to identified counties and cities, sociologists at the Academy of Social Science in Guangzhou called the family planning commission in each selected county or city and required them to provide information about monetary expenses of family planning in 1987 and the amount per capita. The data collection was finished in May, 1991.

Another source of the supplementary data came from published results of the 1982 Third Population Census of China. The data included county- or city-level information in population distribution, industrialization, and educational achievements (Population Census Office, 1987). The variables were used to measure macro-level social and economic conditions of selected counties and cities included in the fertility survey.

4.1.2 Data Assessments

Data used in this study are secondary, supplemented by primary analysis of RCFPC data. Since deviant fertility is a new topic of inquiry, little effort has been made in this direction, not to mention existing data sets on this focus. Given this situation, it becomes important to admit the difficulty of hypothesis tests, to discuss the direction of

possible biases, and to suggest specific ways for further studies. In doing so, the secondary data in this study, with their strengths and weaknesses, can be used scientifically and honestly.

The In-Depth Fertility Survey is developed on the basis of experiences of the World Fertility Survey (WFS) in many developing countries. The survey enriches fertility knowledge in terms of histories of marriage, pregnancy, and contraceptive practices as well as reproductive experiences. In addition, the survey includes questions on individual socioeconomic characteristics and some questions about fertility desires and preferences. Thus, in combining with some macro-level indicators, the survey data can be used to test most relationships identified in the theoretical model in a proximate fashion. In addition to its rich information on fertility, the data set also has the advantage of large sample size. The sample size is particularly important for this study because it enables us to break the sample into various subgroups. The major limitation, however, is that the data are thin on information about the size of family of origin and expectations for children.

The Old-Age Security Survey has two desirable features. The first is the fact that both husbands and wives in the selected families are included. This feature makes the data set particularly valuable in that the husbands and the wives can be examined separately to reveal possible gender differences. For example, their families of origin and relationships with their own parents can be inspected separately, and related to their current family sizes. The second desirable feature of this survey lies in its inquiries into both husbands' and wives' perceptions of children's responsibilities to parents and

parents' expectations from their children. These variables are critical for revealing the traditional ideal of family size and demand for children. The major disadvantage of the survey for the present study is its lack of information about family planning and previous reproductive experiences. In addition, the sample was drawn from only one county in Guangdong and the sample size is relatively small.

The family planning records of Panyu county provides an opportunity to examine the prevalence of unplanned fertility and pregnancy, based on official accounts. Since these family planning data are over three successive years, it becomes possible to inspect trends and patterns of unplanned fertility and birth control measures taken in a dynamic fashion. The data, however, have to be used with caution. The reliability of the data is a major concern. First, the family planning records only include the cases reported to, or known by, family planning personnel. In fact, many instances are not reported and therefore do not become part of the official records. Furthermore, local family planning agencies may conceal unplanned fertility cases in order to impress authorities with their "achievements". In either case, deviant fertility cases tend to be underestimated. Accordingly, there is little doubt that the data are biased toward "good news" for family planning agencies.

Each data set has its desirable and undesirable traits related to the present research focus. Given that these data sets have their distinct samples and units of analysis, it is impossible to combine them into a single format. The current study attempts to use a range of data sources. The data sets are used individually with different focuses. The In-Depth Fertility Survey is used to provide an overall picture of predicting deviant

fertility. The Old-Age Security Survey is employed to detect in detail how married couples' families of orientation, family relations and expectations for children influence their family sizes. The record of family planning agencies is used to examine patterns and trends of deviant fertility longitudinally. Combining results from the different data sources enrich our knowledge of deviant fertility in China from different angles.

4.1.3 Sample Description

4.1.3.1 Sample Description of IDFS Data

As indicated earlier, the IDFS sample included 6,654 ever-married Chinese women aged 49 or younger. The demographic profile of these women is shown in Table 4.1. Slightly more than one-third of the respondents were aged under 30 and about 42 percent were in their 30s. Approximately one in four respondents were 40 to 49 years old. The median age of the sample was 33.6.

Chinese women as a group were less educated than their male counterparts. Only one percent of the respondents obtained education beyond high school. Yet slightly less than 23 percent of them were illiterate compared to 4.5 percent of their husbands. The average years of education was 4.6 for the female respondents and 7.1 for their husbands.

Residence, rural or urban, is an important aspect for understanding Chinese society and individual behavior, partially because of the limited geographic mobility and partially because of a huge gap between rural and urban lifestyles in China. In this regard, as demonstrated in the table, the majority (78.7 percent) of the respondents in the survey

Table 4.1 Sample Descriptions on Demographic Characteristics, IDFS Data

Demographic Characteristics	Number	Percentage
Age		
17 to 29 years old	2235	33.6
30 to 39 years old	2778	41.7
40 to 49 years old	1641	24.7
Education		
No schooling	1511	22.7
1 to 6 years	3180	47.8
7 to 12 years	1898	28.5
13 or more years	65	1.0
Husband's Education		
No schooling	296	4.5
1 to 6 years	2790	42.6
7 to 12 years	3285	50.1
13 or more years	182	2.8
Residence		
Rural	5238	78.7
Urban	1416	21.3
Nationality		
Han (majority)	6018	97.5
Other (minority)	154	2.5
Occupation		
Farmers	4703	70.7
Production workers	1099	16.5
Commercial/service workers	448	6.7
Administrators/office-related workers	80	1.2
Scientisits/Technicians	324	4.9
Family Annual Income (yuan)		
Less than 1000	1139	18.5
1000 to 1999	1929	31.3
2000 to 2999	1189	19.3
3000 to 3999	866	14.0
4000 or more	1049	17.0

Total percentage may not be 100% due to rounding errors, and total numbers of cases may vary because of missing cases.

were rural residents. This distribution was somewhat consistent with the results from the Population Censuses. The percentage of rural residents in China was 73.8 in the 1982 Census and 26.2 in the 1990 Census (The State Statistical Bureau, 1990).

China has more than 55 minority nationalities, and they are different from Han majority in terms of demographic and socioeconomic compositions (Poston and Shu, 1987). As anticipated, the overwhelming majority (97.5 percent) of the respondents in the IDFS sample were Han women. This distinction is particularly crucial because minority ethnic groups in China are not subject to the strict family planning policies (Park and Han, 1990).

In terms of occupation, over 70 percent of the respondents were farmers. About 16.5 percent worked in factories as production workers, and 6.7 percent worked in commercial or service sectors. Only slightly over one percent of the respondents were administrators or office-related workers. Slightly less than five percent were scientists or technicians. In addition, nearly one-half of the respondents reported an annual income of less than 2,000 yuan (about $400). Some 17 percent of the families surveyed lived with an income of 4000 yuan or more.

Sample distributions regarding marriage and fertility are listed in Table 4.2. More than 98 percent of the women responding to the survey were currently married and 96.4 percent of them were still in their first marriage. Yet the ages at first marriage varied, ranging from 11 to 37 years old. Somewhat more than 30 percent of the responding women married before their 20 year birthday. The majority of the women married in

their earlier 20s (20-24 years old), and less than 15 percent were married at age 25 or older.

Year of marriage is grouped according to the several periods of family planning campaigns in China. As shown in the table, more than one-third of the respondents married before the "Later-Longer-Fewer" campaign of 1971. Slightly more than 30 percent married during the "Later-Longer-Fewer" period. Another one-third respondents married after the application of the "One-Child" family planning policy, while a half of them married after the policy modification in 1982.

Regarding the living arrangement after marriage, married couples were likely to live with the husband's families. More than three-fourths of the respondents had lived with their parents-in-laws after their marriage, compared to only about six percent ever living with the wife's families. This distribution reflects the general pattern of living arrangements after marriage in China.

As Table 4.2 shows, 94 percent of the respondents reported having children. Approximately one-fifth of the respondents had only one child and slightly more than one-fourth, or 26.7 percent, had two children. About 23 percent indicated that they had three children, and another 13.9 percent reported four living children. Slightly less than 10 percent of the respondents had five or more children. The average number of living children was 2.5.

Table 4.2 Sample Descriptions on Marriage and Fertility, IDFS Data

Marriage/Fertility Characteristics	Number	Percentage
Marital Status		
Current married	6541	98.3
Divorced/separated/widowed	113	1.7
Still in First Marriage		
Yes	6416	96.4
No	238	3.6
Age at First Marriage		
17 or younger	645	9.7
18 to 19 years old	1392	20.9
20 to 22 years old	2376	35.7
23 to 24 years old	1252	18.8
25 or older	989	14.9
Time of First Marriage		
1971 or earlier (before WXS)	2346	38.0
1972 to 1979 (WXS period)	1917	31.1
1980 to 1982 (1st one-child period)	957	15.5
1983 to 1987 (2nd one-child period)	952	15.4
Living with Husband's Parents		
Never	1636	24.6
Lived with them before	3046	45.8
Living with them now	1972	29.6
Living with Wife's Parents		
Never	6266	94.2
Lived with them before	211	3.2
Living with them now	177	2.7
Number of Living Children		
None	399	6.0
One	1354	20.3
Two	1779	26.7
Three	1545	23.2
Four	927	13.9
Five or more	650	9.8

Total percentage may not be 100% due to rounding errors; Living children include those who are adopted.

4.1.3.2 Sample Description of OASS Data

The Old-Age Security Survey contained 220 rural married couples. As shown in Table 4.3, husbands as a group were older than their wives. Some 47.7 percent of the wives were in their 30s, compared to the same percentage of husbands aged 40 or older. More than 12 percent of the wives were 29 years old or younger, while 8.6 percent of the husbands fell in that category.

Consistent with the IDFS data, there was a big gap in educational attainments between Chinese women and their husbands. Some 15.5 percent of the wives were illiterate, compared to 1.4 percent in the husband sample. About 31.6 percent of the husbands had high school education, while only 6.8 percent of the wives had the same educational level.

Marriage and fertility characteristics of the OASS data are presented in Table 4.4. More than one-half of the wife respondents married between the ages of 20 to 24. Approximately 41 percent of the women had their first marriage when they were 25 or older, and slightly more than four percent married for the first time before their 20 year birthdays. Most women in the survey were still in their first marriage, comprising 81.4 percent of the wife sample.

Of the responding couples, about 41.5 percent married before the "Later-Longer-Fewer" campaign, and approximately 28 percent married during the campaign. More than 30 percent of the respondents married after the implementation of the one-child family planning policy, and less than a half of them married after the policy modification.

Table 4.3 Sample Descriptions on Demographic Characteristics, OASS Data

Demographic Characteristics	Number	Percentage
Wife's Age		
29 years old or younger	27	12.3
30 to 39 years old	105	47.7
40 years old or older	88	40.0
Husband's Age		
29 years old or younger	19	8.6
30 to 39 years old	96	43.6
40 years old or older	105	47.7
Wife's Education		
No schooling	34	15.5
1 to 6 years	171	77.7
7 to 12 years	15	6.8
Husband's Education		
No schooling	3	1.4
1 to 6 years	146	67.0
7 to 12 years	69	31.6

Total percentage may not be 100% due to rounding errors, and total numbers of cases may vary because of missing cases.

Table 4.4 Sample Descriptions on Marriage and Fertility, OASS Data

Marriage/Fertility Characteristics	Number	Percentage
Age at First Marriage		
19 years old or younger	9	4.1
20 to 22 years old	70	31.8
23 to 24 years old	50	22.7
25 to 27 years old	63	28.6
28 years old or older	28	12.7
Still in First Marriage		
Yes	179	81.4
No	41	18.6
Time of First Marriage		
1971 or earlier (before WXS)	90	41.5
1972 to 1979 (WXS period)	61	28.1
1980 to 1982 (1st one-child period)	34	15.7
1983 to 1987 (2nd one-child period)	32	14.7
Living with Husband's Parents Now		
Yes	36	21.3
No	133	78.7
Living with Wife's Parents Now		
Yes	4	2.2
No	177	97.8
Number of Living Children		
None	5	2.3
One	33	15.0
Two	93	42.3
Three	51	23.2
Four	26	11.8
Five or more	12	5.5

Total percentage may not be 100% due to rounding errors, and total numbers of cases may vary because of missing cases; Living children include those who are adopted.

As with the IDFS data, more married couples lived with the husband's parents than with the wife's families. About 21.3 percent of the couples were living with husbands' parents during the time the survey was conducted, while only 2.2 percent of the sample were living with wives families.

In terms of the number of children, only about 2.3 percent of the couples had no children. Some 15 percent of the couples had only one child, while more than 42 percent had two. Slightly over 23 percent reported that they had three children and another 11.8 percent reported four. About 5.5 percent of the couples who responded to the survey had five or more children. The average number of children was 2.4, which paralleled the number reported in the IDFS sample.

4.2 Study Setting

All data sources are from one province in China - Guangdong. In order to understand the background and the representation of the data, it is necessary to briefly examine the research site with respect to its environmental and socioeconomic conditions, fertility trends, and family planning efforts.

4.2.1 Environmental and Socioeconomic Background

Guangdong is located on the southern coast of China (see Figure 4.1), a semitropical province with the size of 212,550 square kilometers and with a population of 62.83 million in 1990. Guangdong is agriculturally very rich and full of a range of minerals, coal, and metals. Because its location is adjacent to Hong Kong, the province

CHINA, ADMINISTRATIVE DIVISIONS
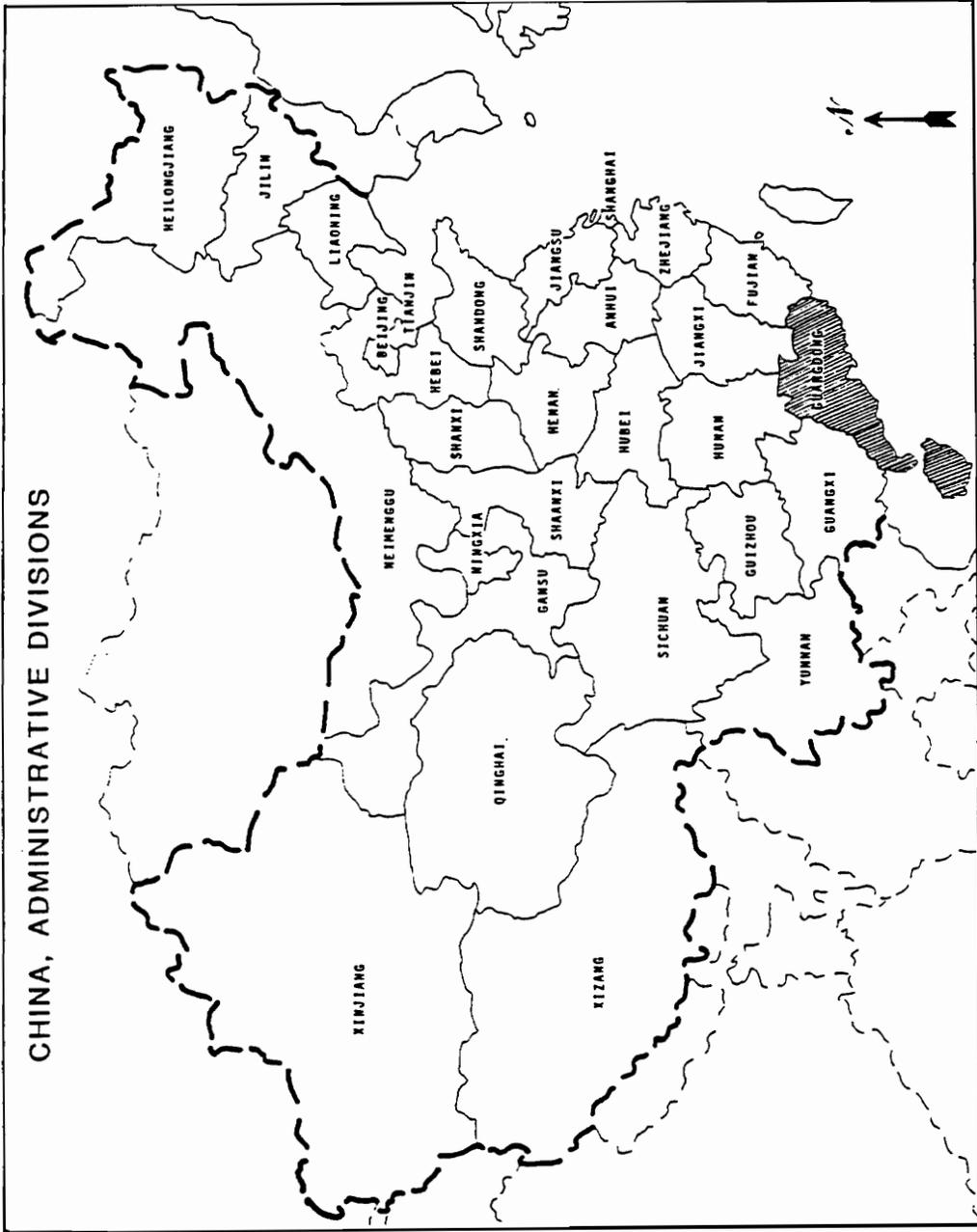
Figure 4.1 Map of People's Republic of China

CHAPTER IV. METHODOLOGY

has always been the forefront of China's relations with the outside world (Vogel, 1989).

Guangdong is divided into eight municipal regions, three prefectures, and one autonomous region, a total of 93 counties and 16 cities (see Figure 4.2). The urban population counts about 36.77 percent of the total population, and approximately 99.4 percent of the population are ethnically from the Han majority (Guangdong Statistical Bureau, 1990).

The economic reforms after 1978 have allowed Guangdong to take advantage of new opportunities and to accelerate changes. In 1991 the economy of Guangdong grew faster than nearly any other in the world - 27.2 percent (Gibney, 1992). The standard of living in Guangdong is ranked as one of the highest in China (McGregor, 1991).

4.2.2 Fertility Trends in Guangdong Province

Generally speaking, the fertility trends of Guangdong and China are quite parallel, as illustrated in Figure 4.3. The fluctuations during the 1950s and 1960s are closely related to political and natural disasters that occurred during that period. Following the general fertility trend of China, Guangdong had achieved a substantial drop in fertility by 1970, and then continue to drop until 1977.

In the late 1970s and early 1980s, however, Guangdong showed resistance to the family planning program. The fertility rates of Guangdong had been consistently higher than the national average until the late 1980s. According to the statistics issued by the National Statistic Bureau of China, Guangdong was one of the few provinces with high "out-of-plan" fertility rates in 1988 (The State Statistical Bureau, 1989). As Judith

GUANGDONG PROVINCE

HUNAN

GUANGXI

JIANGXI

FUJIAN

CONTINENTAL GUANGDONG

HAINAN

FOSHAN MR
A1 Foshan C
A2 Gaoming Co
A3 Nanhai Co
A4 Sanshui Co
A5 Shunde Co
A6 Zhongshan C

GUANGZHOU MR
B1 Conghua Co
B2 Fogang Co
B3 Guangzhou C
B4 Hua Co
B5 Longmen Co
B6 Panyu Co
B7 Qingyuan Co
B8 Xinfeng Co
B9 Zengcheng Co

HUIYANG P
C1 Boluo Co
C2 Dongguan Co
C3 Haifeng Co
C4 Heping Co
C5 Heyuan Co
C6 Huidong Co
C7 Huiyang Co
C8 Huizhou C

C9 Lianping Co
C10 Longchuan Co
C11 Lufeng Co
C12 Zejin Co

JIANGMEN MR
D1 Enping Co
D2 Heshan Co
D3 Jiangmen C
D4 Kaiping Co
D5 Taishan Co
D6 Xinhui Co
D7 Yangchun Co
D8 Yangjiang Co

MAOMING MR
E1 Dianbai Co
E2 Gaozhou Co
E3 Huazhou Co
E4 Maoming C
E5 Xinyi Co

MEIXIAN P
F1 Dapu Co
F2 Fengshun Co
F3 Jiaoling Co
F4 Meixian C

F5 Pingyuan Co
F6 Wuhua Co
F7 Xingning Co

SHANTOU MR
G1 Chaoyang Co
G2 Chaozhou C
G3 Chenghai Co
G4 Huilai Co
G5 Jiexi Co
G6 Jieyang Co
G7 Nanao Co
G8 Puning Co
G9 Raoping Co
G10 Shantou C

SHAOGUAN MR
H1 Lechang Co
H2 Lian Co
H3 Liannan AC
H4 Lianshan AC
H5 Nanxiong Co
H6 Qujiang Co
H7 Renhua Co
H8 Ruyuan AC
H9 Shixing Co
H10 Wengyuan Co
H11 Yangshan Co
H12 Yingde Co

SHENZHEN MR
I1 Baoan Co
I2 Shenzhen SEZ

ZHANJIANG MR
J1 Haikang Co
J2 Lianjiang Co
J3 Suixi Co
J4 Wuchuan Co
J5 Xuwen Co
J6 Zhanjiang C

ZHAOQING P
K1 Deqing Co
K2 Fengkai Co
K3 Gaoyao Co
K4 Guangning Co
K5 Huaiji Co
K6 Luoding Co
K7 Sihui Co
K8 Xinxing Co
K9 Yunan Co
K10 Yuntu Co
K11 Zhaoqing C

ZHUHAI MR
L1 Doumen Co
L2 Zhuhai SEZ

A1 Chengmai Co
A2 Dan Co
A3 Dingan Co
A4 Haikou C
A5 Lingao Co
A6 Qionghai Co
A7 Qiongshan Co
A8 Tunchang Co
A9 Wanning Co
A10 Wenchang Co

AUTONOMOUS REGION
B1 Baisha Co
B2 Baoting Co
B3 Changjiang Co
B4 Dongfang Co
B5 Ledong Co
B6 Lingshui Co
B7 Qiongzhong Co
B8 Sanya C
B9 Tongza C

KEY
AC = Autonomous County
C = City
Co = County
MR = Metropolitan Region
P = Prefecture
SEZ = Special Economic Zone

Figure 4.2 Map of Guangdong Province, China

Figure 4.3 Fertility Trends of Guangdong and China

Banister put it, "Guangdong is the best example so far of a popular backlash against China's increasingly restrictive family planning program" (Banister, 1987: 285).

4.2.3 Family Planning Programs in Guangdong Province

The family planning programs of Guangdong had been effective since the 1960s. Yet, it is not until the provincial family planning meeting in 1970 that family planning efforts became more institutionalized and wide-spread. By 1978 there were 2,000 family planning technicians at the county-level, about 8,000 trained family planning personnel at commune-level, and about 50,000 at brigade-level. In 1983 family planning expenditure for the province was approximately one billion yuan (Zhu, 1986).

Guangdong's family planning programs follow the general patterns of national policies. During the "Later-Longer-Fewer" campaign initiated in 1971, married couples in Guangdong were limited to having two children in cities and three in rural areas. At the time when the one-child policy was announced nationwide in 1979, Guangdong also applied the "one couple, one child" regulation. Nevertheless, at the end of 1982 the Guangdong family planning commission modified its one-child policies by being more permissive toward second children among rural couples whose first child was a daughter and families with "real difficulties". In 1984 this lenient policy was adopted at a national level, written in Central Document 7 (Bongaarts and Greenhalgh, 1985; Greenhalgh, 1986; Zhu, 1986).

4.2.4 Significance of Guangdong Setting

Guangdong somewhat "deviates" from the rest of the country in terms of its rapid economic developments and the poor family planning performances. This phenomenon appears contradictory to Demographic Transition Theory, which assumes a negative relationship between socioeconomic development and fertility.

In spite of the variations, however, the representation of Guangdong remains significant. First, fertility trends over the past four decades in the province have followed the trends of the whole country. Second, "out-of-plan" fertility in Guangdong has been better documented than in other parts of China (Banister, 1987). Third, in terms of policy implications, Guangdong appears important for further implementations of the family planning program. Guangdong has been set up as a model province for the remainder of the country in terms of economic development. The more permissive family planning policies of Guangdong were expanded into other provinces in 1984. In this sense, the "out-of-plan" fertility study of Guangdong will have implications for the whole country in the future.

4.3 Operational Definitions

4.3.1 Deviant Fertility

As a major dependent variable, deviant fertility was measured in terms of the discrepancies between the actual number of children a couple has and the number allowed by the family planning policies. As a general rule, if the birth of a particular couple

surpasses the number that the family policy permits, the birth was considered as deviant fertility.

Given the fact that the Chinese family planning policies change over different periods and are applied to rural and urban areas differently, the time frame and the residence, therefore, must be taken into account in measuring deviant fertility. In addition, since the family planning policies were different from Han majority than for minority groups, and differed from those who remarried than those did not remarry, deviant fertility here only pertains to those respondents who were Han people and still in their first marriage.

Taking these components into account, deviant fertility is measured with the following formula:

$$DF = 1, \text{ IF } F > Fp_{[t,r]}$$

$$DF = 0, \text{ IF } F \leqslant Fp_{[t,r]}$$

Where

DF	Deviant fertility
F	Actual number of births
Fp	Number of planned births
Fp$_{[t,r]}$	Number planned subject to time and residence

4.3.2 Independent Variables in the OASS Data

In addition to deviant fertility, a number of variables were defined and measured in the Old-Age Security Survey data. The detailed measurements are listed in Table 4.5 and described as follows.

Table 4.5 Variable Descriptions, OASS Data

Variables	Descriptions	Mean	Std.Dev.
Expectation of benefits from Children (BENEFIT)	10 point scale ranged from 0 to 9	6.96	1.73
Living standard (LIVING)	11 point scale ranged from 3 to 13	7.67	1.71
Family size of origin (SIZE)	11 point scale ranged from 1 to 11	5.59	2.16
Relation with parents (CLOSE)	10 point scale ranged from 2 to 11	6.52	2.73
Perious female births (ALLGIRL)	Dummy variable 1 = All female births 0 = Otherwise	0.28	0.45
Educational attainment (EDUC)	7 point scale ranged from 1 to 7	2.74	1.01
Number of children (CHILD)	6 point sclae ranged from 0 to 5	2.43	1.12
Number of sons (SON)	6 point sclae ranged from 0 to 5	1.30	0.96
Number of daughters (GIRL)	6 point sclae ranged from 0 to 5	1.14	1.03

Expectation of Benefits from Children (BENEFIT). Measuring the norm constraints on individuals is extremely difficult because of the deficiency of direct indicators. However, as a latent variable, norm constraints can be measured by relevant indicators. By using the OASS data, the traditional fertility norm constraints were measured by the expectation of benefits from children when parents get old. The expectation was defined as perceptions by parents of children's responsibilities for the older generation. It is reasonable to anticipate that the high expectation of benefits from children reflects the traditional fertility ideal.

Specifically, the expectation of benefits from children was measured by a scale (BENEFIT) including nine questions. The respondents, both the wives and the husbands, were asked to reply whether they required their children to do the following: 1) send money to parents; 2) visit parents frequently; 3) live with parents; 4) uphold parents' "faces"; 5) be successful at work; 6) let parents enjoy luxury; 7) provide parents enough living support; 8) visit when parents are ill; and 9) respect parents. Some other relevant items were deleted in this study because they were closely related to the gender of children, such as "give births of grandsons" and "help with housework". Each item in the scale had the same weight and was added together, resulting in a scale of 10 points ranged from zero to nine. The higher the number, the higher expectation of benefits from children. The reliability of the scale was test by Cronbach's alpha. The test for this nine-item scale showed an overall alpha reliability coefficient of .63.

Living Standard (LIVING). Living standard was defined as a combination of both economic and living conditions. The scale included three questions. First, the

respondents were asked to evaluate their overall economic situations. The replies were: "Upper", "Middle upper", "Middle", "Lower middle", and "Low". The second question came from the observations and evaluations by interviewers on interviewees' living conditions. The same responses categories from "Upper" to "Low" were applied. Finally, a question on the types of houses was also included in the scale, and the responses ranged from "One story house" to "Four story house". After adding the three questions, the scale ranged from 3 to 13. A higher scores suggest a better living condition. The reliability coefficient of this three-item scale is .69.

Family Size of Origin (SIZE). Family size of origin was defined as number of children in the family of orientation. The variable was summarized from the census type questions in the old-age security survey. Among those 220 married couples who responded to the survey, the average number of children in their families of origin was 5.6, ranging from one to 11.

Relation with Parents (CLOSE). The relationship between the respondents and their parents was defined as the frequency the respondents kept in touch with their parents at the time the survey was conducted. The respondents were asked to reply whether they visited their parents "At least once a week", "Once a week", "Once a month", "Occasionally", or "Never". Another similar question was requested on how often their parents visited them, with the same responses categories. A ten-point scale was computed after the two questions were added. The higher the score, the more frequent the interactions with parents. For those who lived with parents in the same household, the score of 11 was assigned.

Previous Female Births (ALLGIRL). A dummy variable was used to measure whether all previous births were females. Here, previous births refer to those living children prior to the last one up to the survey in 1987. Regardless of the number of children, the dummy variable was one if all previous births were females. For example, if a couple had five children and the previous four were all females, ALLGIRL was specified as one. If one of the previous four children was a son, however, a zero was assigned.

Educational Attainments (EDUC). Educational attainments were recorded into seven categories: "Illiterate", "Primary school", "Secondary school", "Junior high school", "Senior high school", and "Technical school". Here the educational levels included both formal and informal education.

Age at Marriage (MAGE). Age at first marriage was ascertained by exact age. The average age at the first marriage in the sample of 440 husbands and wives was 24.7 years old.

4.3.3 Independent Variables in the IDFS Data

Variables used for analyses of the IDFS data are illustrated in Table 4.6 and 4.7. Table 4.6 presents descriptions of structural variables at county-level and individual-level on socioeconomic and demographic characteristics. The county-level variables on socioeconomic developments were derived from the 1982 Census, and the data of monetary input on family planning were collected only for this dissertation. As background variables, the county-level indicators were merged with individual

Table 4.6   Descriptions of County-Level and Individual-level Variables on Socioeconomic Characteristics, IDFS Data

Variables	Descriptions	Mean	Std.Dev
Per capita gross values of output (Y) (PRODCTY)	A scale ranged from 225 to 4082	878.8	964.9
Levels of industrialization (INDUSTRY)	A scale ranged from 5.65 to 64.70	22.99	18.12
Educational levels (EDUCLVL)	A scale ranged from 35.81 to 58.04	48.53	5.52
Macro socioeconomic conditions (MACROSEC)	A scale ranged from -3.62 to 6.84	0.00	2.64
Monetary input on family planning (¥) (MONEY)	A scale ranged from 0.46 to 2.78	1.07	0.46
Educational attainments (years) (EDUC)	A scale ranged from 0 to 17	4.61	3.73
Husbands' educational attainments (HEDUC)	A scale ranged from 0 to 18	7.08	3.47
Occupational prestige (OCCUP)	A scale ranged from 22 to 78	26.99	10.53
Husbands' occupational prestige (HOCCUP)	A scale ranged from 22 to 78	31.29	13.30
Annual family income (Y) (INCOME)	A scale ranged from 60 to 84000	2611	2523
Individual socioeconomic status (SES)	A scale ranged from -5.40 to 32.51	0.09	3.41
Types of employment (EMPLOYER)	A dummy variable 1=State owned; 0=Others	0.22	0.42
Parents' educational attainments (PAMAEDUC)	9 point sclae ranged from 1 to 5	1.51	0.53
Residence (RURAL)	A dummy variable 1=Rural; 0=Urban	0.78	0.41

Table 4.7 Descriptions of Marriage, Reproductive Experiences, and Other Deviant Fertility Related Variables, IDFS Data

Variables	Descriptions	Mean	Std.Dev
Age at first marriage (years) (MAGE)	A scale ranged from 11 to 37	21.36	3.17
Living with parents after marriage (LIVEWITH)	A dummy variable 1=Yes; 0=No	0.70	0.46
Number of Children died (DEADCHD)	A scale ranged from 0 to 5	0.15	0.45
Terminated pregnancies not due to family planning (FAILPREG)	A scale ranged from 0 to 5	0.27	0.60
Previous female births (ALLGIRL)	A dummy variable 1=Yes; 0=No	0.18	0.39
Knowledge on birth control (KNOW)	A scale ranged from 0 to 18	8.29	3.61
Number of abortions because of family planning (ABORT)	A scale ranged from 0 to 6	0.25	0.60
Contacted by family planning personnel (CONTACT)	A dummy variable 1=Yes; 0=No	0.43	0.49
Discussing with husbands (DISCUSS)	A dummy variable 1=Yes; 0=No	0.26	0.44
Arranged marriage by parents or others (ARRANGE)	A dummy variable 1=Yes; 0=No	0.10	0.30
Ideal of large family size (LARGE)	A scale ranged from 0 to 9	1.29	1.07
Early marriage ideal (EARLY)	A scale ranged from 0 to 7	0.80	1.13
Son preference for next child (SONPREF)	A dummy variable 1=Yes; 0=No	0.63	0.49

respondents in the IDFS data. Table 4.7 describes indicators in marriage, previous reproductive experiences, and family planning.

Differentiated from the OASS data which included both husbands and wives as separate respondents, the IDFS data involved only ever-married women. In addition, the questions of the IDFS data were much more comprehensive and far-reaching than those of the OASS data.

4.3.3.1 County-Level Variables

Per Capita Industrial and Agricultural Output (PRODCTY). Per capita values of industrial and agricultural output were used to assess the levels of productivity, measured in exact amount of money (yuan). As shown in Table 4.6, the values of per capita industrial and agriculture output produced by each county ranged from ¥225 to ¥4,082, reflecting the fact that productivity varied tremendously over different counties.

Levels of Industrialization (INDUSTRY). An industrialization scale was created by combining the percentages of industrial and non-agricultural employment population. The higher the score, the higher the level of industrialization. Again, Cronbach's alpha was used to test its reliability, resulting in a high alpha value of .97.

Levels of Education (EDUCLVL). Two indicators were combined and used to measure educational levels for various counties. The first item was the percentage of illiterate/semi-illiterate for persons aged 12 or older, while the second involved the number of persons with junior/middle school education per 10,000 population. The two

variables were converted into the same direction and measurement unit, and, then, combined into a single scale. The alpha reliability of this scale was .84.

Macro Socioeconomic Conditions (MACROSEC). The macro socioeconomic condition was a summarized index that included three individual scales: per capita gross values of industrial and agricultural output (PRODCTY), levels of industrialization (INDUSTRY), and levels of education (EDUCLVL). Specifically, the index was computed as follows:

MACROSEC = Zscore(PRODUCTY) + Zscore(INDUSTRY) + Zscore(EDUCLVL)

A factor analysis was performed on these three variables. The procedure extracted only one factor for the scale, and 47.5 percent of the variations in the scale can be explained by this factor. The Cronbach's alpha coefficient for this index was placed at .85.

Monetary Input in Family Planning (MONEY). Monetary input in family planning, defined as the amount of money per person in family planning uses in 1987, was used to measure family planning efforts made by various counties. The scale ranged from .46 to 2.78 yuan per person, with a mean value of 1.07 yuan per person/year spending on family planning.

4.3.3.2 Variables on Demographic and Socioeconomic Characteristics

Educational Attainments (EDUC/HEDUC). Educational attainments for both the respondents and their husbands were measured in exact years completed. As presented in Table 4.6, the scale ranged from 0 to 17 years for the respondents and 0 to 18 for

their husbands. In addition, the average year of education was 4.6 for the women respondents and about 7 for their husbands.

Occupational Prestige (OCCUP/HOCCUP). Occupational prestige was measured according to Treiman's Standard International Occupational Prestige Scale (Treiman, 1977). In fact, occupational prestige in China had not been investigated in recent years until an article published by Lin and Xie (1988). Comparing the rank ordering of prestige in urban China and other countries, Lin and Xie (1988) reported that the correlation coefficient between the Chinese score and the Treiman scale was .90. Their study further supported the universal applications of the occupational prestige ranking reported by Treiman in other countries, including China (Lin and Xie, 1988).

The Treiman scale was used to measure both the respondents' and their husbands' occupational prestige. As indicated in Table 4.6, the average score for the respondents was lower than that of their husbands.

Annual Family Income (INCOME). Annual family income was used to measure a family's economic well-being, including income gains annually for the whole family. As shown in Tables 4.6, there exists a vast gap between the highest and the lowest incomes in the sample, ranging from Y60 to Y84,000.

Individual Socioeconomic Status (SES). There have been various indicators of socioeconomic status in the literature, including multiple-item approach and single-item indicators. Multiple-item measurements are beneficial in taking into account the different dimensions of socioeconomic conditions (Nam and Powers, 1983). Individual socioeconomic status in this study was a concise measure, including five variables:

respondents' education, husbands' education, respondents' occupational prestige, husbands' occupational prestige, and family income. The indicators were standardized first and added together with the same weight by the following formula:

SES = Zscore(EDUC) + Zscore(HEDUC) + Zscore(OCCUP) +

Zscore(HOCCUP) + Zscore(INCOME)

The reliability level of this five-item scale was placed at the alpha value of .71.

Types of Employment (EMPLOYER). In addition to income, the type of employment is also an indicator of family economic well-being and benefits. Basically, there are three types of employment in China: state-owned, collective, and individual. Additionally, types of employment also relate to the implementation of family planning in China. Those who work in the stated-own sectors such as government officers, school teachers, workers in state-owned factories, for example, bear more severe punishments for the violation of family planning policies than those in collective or individual sectors.

In the statistical analyses, the type of employment was grouped into a dummy variable. Those IDFS respondents who either themselves or their husbands work with state-owned business would be counted as one, and those who identified with collective or individual employments were measured as zero.

Parents' Education (PAMAEDUC). Parents' educational levels were used as a proxy for family backgrounds. In the original questionnaires, fathers' and mothers' educational attainments were requested separately. The choice of answers ranged from 1=No schooling to 5=University/higher. The two questions were added with the same

weight and then divided by two, resulting in a scale measuring educational levels of respondents' parents.

Residence (RURAL). Residence was defined as the type of residing place when the survey was conducted. Administratively, two types of urban place exist in China: the city (*shi*) and the town (*zhen*). A large municipality, however, also administers a number of counties (*xian*). As the boundary between urban and rural is rather confusing, the problem was named as a "demographic mystery" (Chan and Xu, 1985). Nevertheless, in most cases "urban residents" only refers to those non-agricultural people who registered an urban residence as their domicile (Chan and Xu, 1985; Quan, 1991). The variable of residence in this study was dichotomous. A value of one was assigned for rural residents and zero for urban non-agricultural people living in either cities or towns.

4.3.3.3 Variables on Marriage and Reproductive Experiences

Age at First Marriage (MAGE). Age at first marriage was recorded by the exact age when a respondent got married. Since only those still in the first marriage were included in the statistical analyses, the variable represented the marriage age in general. As showed in Table 4.7, the marriage ages ranged from 11 years old to 37 years old.

Living with Parents After Marriage (LIVEWITH). Living with parents after marriage was regarded not only as an indicator of living arrangements by married couples, but, more importantly, as a potential factor related to fertility outcomes in terms of the influence of older generations on the couples. In this dissertation, living with

parents after marriage was defined as those couples who lived with husbands' parents at least a year after marriage and those who were still living together. The dummy variable was given zero to the couples never living with husband's parents or living with them for less than a year.

Children Death (DEADCHD). Unfortunate reproductive experiences may drive couples to have a large number of children in order to secure the desired number of their offspring. In this study, child death was defined as the number of dead children that a respondent ever had prior to the survey. The number of dead children in the sample ranged from zero to five.

Terminated Pregnancy Not Due to Family Planning (FAILPREG). Terminated pregnancy that was not due to family planning was also an indicator measuring unfortunate reproductive experiences. The variable was defined as the number of abortions or ended pregnancies resulting from illnesses, miscarriages, stillbirths, or reasons other rather than family planning. The scale of the variable ranged from zero to five.

Previous Female Births (ALLGIRL). Previous female births were measured in the same way as in the OASS data. Again, previous births referred to those living children prior to the last one up to the survey in 1987. If all the previous children were female, the dummy variable of previous female births was one and zero otherwise.

4.3.3.4 <u>Variables on Family Planning Pressures</u>

Several indicators were used to measure family planning pressures, including variables such as knowledge of contraception, abortion because of family planning policies, whether local family planning personnel contact the couple individually on how many children they should have, and discussion between couples about the number of children. These variables were used individually as proxies for measuring the strength of family planning influences.

<u>Knowledge of Birth Control</u> (KNOW). Knowledge of birth control was defined as the extent of a respondent's awareness of family planning techniques. The respondents were asked if they ever knew of the pill, IUD, female scientific[6], condom, withdrawal, rhythm, injection, female sterilization, or male sterilization as birth control measures. The original responses categories were converted to 0=Don't know, 1=Know after being prompted by interviewers, and 2=Know without being prompted.

A scale of knowledge of birth control was computed by combining all answers on the nine questions. Consequently, the knowledge scale (KNOW) varied from 0 to 18, with a mean of 8.3. The Cronbach's alpha test was conducted to assess the reliability of the scale, resulting in a fairly high coefficient of .78.

<u>Abortion Because of Family Planning</u> (ABORT). Abortion because of family planning was defined as the number of abortions a respondent ever had because of family planning. The variable was measured by two items which read: "Do you ever have

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[6] Female scientific measures include spermicide suppository, films, sponges, cream, foam, and diaphragms.

abortion because of family planning?" "If yes, how many times?" A variable was measured with a range from zero to six.

Contacts by Family Planning Personnel (CONTACT). The pressures from family planning programs on individual couples were, in part, measured by personal contacts of family planning representatives. The variable was defined by using the question: "Did local family planning representatives tell you how many children you should have when you got married?" Again, a dummy variable was used with 1=Yes and 0=No.

Discussions with Husbands on Number of Children (DISCUSS). A woman respondent's participation in fertility discussions was defined as whether or not she discussed with her husband about how many children they wanted. It was surprising to note that the majority of Chinese women in the sample failed to participate in the discussion.

4.3.3.5 Variables on Traditional Family Norm Constraints

Like the case of family planning pressures, constraints from traditional fertility norms were also measured by several indicators. Included were arranged marriage, ideal of large family size, early marriage ideal, and son preference for the next child, which were proxies to measure how strong the traditional family and fertility norms constrain the couple.

Arranged Marriage by Parents or Others (ARRANGE). Whether a respondent's marriage was arranged was utilized as an indicator of the restrictions from traditional family norms. Respondents were asked if their marriages were arranged by their

parents, by themselves and their husbands, by their parents and themselves, or by others. Here, arranged marriages were defined as the marriage that was arranged only by parents and others, coded as one in the dummy variable.

Ideal of Large Family Size (LARGE). The measure of the ideal of large family size was derived from a question read "If the present government policy had not existed, how many children would you personally like to have?" The number of children desired was then compared to the baseline number of two. The number two was selected because this was the tolerable number imposed by the family planning policies. The discrepancy between the two numbers was used as an approximate indicator for the traditional ideal of large family size. With a range from zero to nine, the larger the number, the stronger the ideal of large family size.

Early Marriage Ideal (EARLY). The traditional ideal on early marriage was also an approximate measure of traditional normative constraints. Using the question "What do you think of the best age for women to get married?", the given ideal age was compared to the age of 22. If the desired age was older than 22, the early marriage ideal was zero. If, for example, the given age was 17, the score was five. In this eight point scale, a higher value represented a stronger early marriage ideal.

Son Preference for Next Child (SONPREF). Son preference for the next child was measured by a single question answered only by those respondents who wanted to have another child at the time the survey was conducted. The question was posed: "If you want to have another child in the future, do you prefer to have a boy or a girl?" A dummy variable was used, with the value of one for boy, and zero for girl.

4.4 Statistical Analyses

Descriptive statistics were conducted for briefly describing a population or sample. By using graphs and cross-tabulation, the trends and distributions of the patterns examined were illustrated and explicated.

In order to examine the preliminary zero-order relationships of all the independent and dependent variables, simple bivariate analyses such as Pearson's r and Analysis of Variance (ANOVA) were used. These statistics were used to test the strength and the direction of relationships.

To account for the simultaneous effect of the selected independent variables on the dependent variable, multiple regression analyses were employed. The multiple regression analyses were carried out in terms of various equations, or models. Standardized regression coefficients (ß), tests of significance, and coefficients of determination (R^2) were reported for each independent variable or model. The impact of each independent factor on the dependent variable was assessed by controlling other variables.

Based on the bivariate and multivariate analyses, a path model was established. Path analysis is not a method for uncovering causes, but it offers patterns of interpretation of relationships through testing theoretical assumptions (Duncan, 1966; Wolfle, 1980; 1989). Specifically, path analysis was used in this study to decompose associations into components, to illustrate the direct and indirect effects of selected independent variables on deviant fertility, and to examine possible mediating factors in predicting deviant fertility.

CHAPTER V. RESULTS OF THE STUDY

The present chapter has three sections. The first section provides a demographic description of deviant fertility in China, including information from the fertility survey (IDFS), the old-age security survey (OASS), and the records of family planning commission (RCFPC). The second section presents results of the OASS data, focusing on the effects of family background, expectation of benefits from children, traditional family values as well as demographic characteristics on deviant fertility. Finally, the third section deals with results from the fertility survey data. Through bivariate and multivariate analyses, including path analyses, relationships among identified variables are examined and the hypotheses stated earlier are tested.

5.1 Descriptive Analysis

5.1.1 Results from RCFPC Data

The records of Panyu County Family Planning Commission reveal the official version of fertility trends and the incidence of "out-of-plan" fertility. The materials are summarized and illustrated in terms of several graphics.

Figure 5.1 presents the average birth order distributions over the period from 1988 to 1990. Among the total births in this three years, over one-half (55 percent) were first
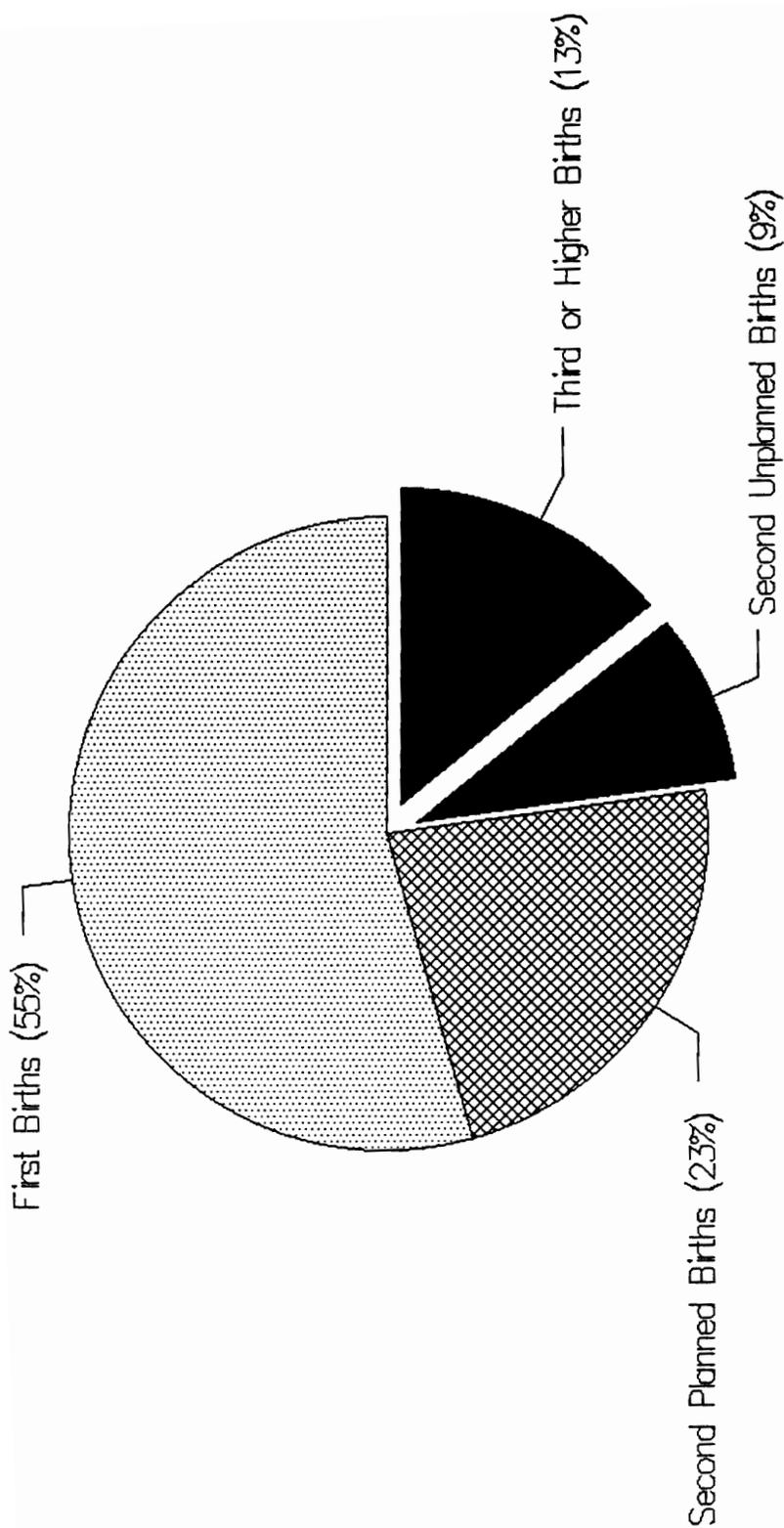
Figure 5.1 Fertility Distribution by Birth Order, RCFPC Data

First Births (55%)

Second Planned Births (23%)

Third or Higher Births (13%)

Second Unplanned Births (9%)

births, slightly less than one-third, or 32 percent, were second order births, and about 13 percent third or higher order births. The distribution is close to the national average of the 1990 census in which the first birth accounted for 49.5 percent of total births, some 31.2 percent for the second order, and 19.3 the third or higher order births in 1989 (Population Census Office, 1991).

Family planning records provide more details on second order births. According to the population policies, the second order births may be either planned or unplanned. As illustrated in Figure 5.1, second planned births made up 23 percent of the total births while second unplanned ones accounted for 9 percent. Adding the "out-of-plan" second births to the births of third or higher order, the total "deviant" fertility, on average, comprise approximately 22 percent of the total births.

In addition to the average pattern over a three-year period, fertility by birth order in each year is further depicted. Shown in Figure 5.2, the proportion of first child births remained relatively stable from 1988 to 1990. Substantial changes were found in the second and the third or higher order births from 1988 to 1989. The second births dropped from 38.3 percent in 1988 to 27.2 percent in 1989, while the third or high order births raised from 5.8 percent in 1988 to 18.4 percent in 1989.

Related to the general fertility trends by birth order, the percentage of total "out-of-plan" births jumped up in 1989. Figure 5.3 presents the proportion of the second births and that of the third or higher order births in making up the total deviant fertility. In 1988 the second births counted for about two-thirds of the total deviant fertility. With the increase of higher order births in 1989, the "out-of-plan" second order births only
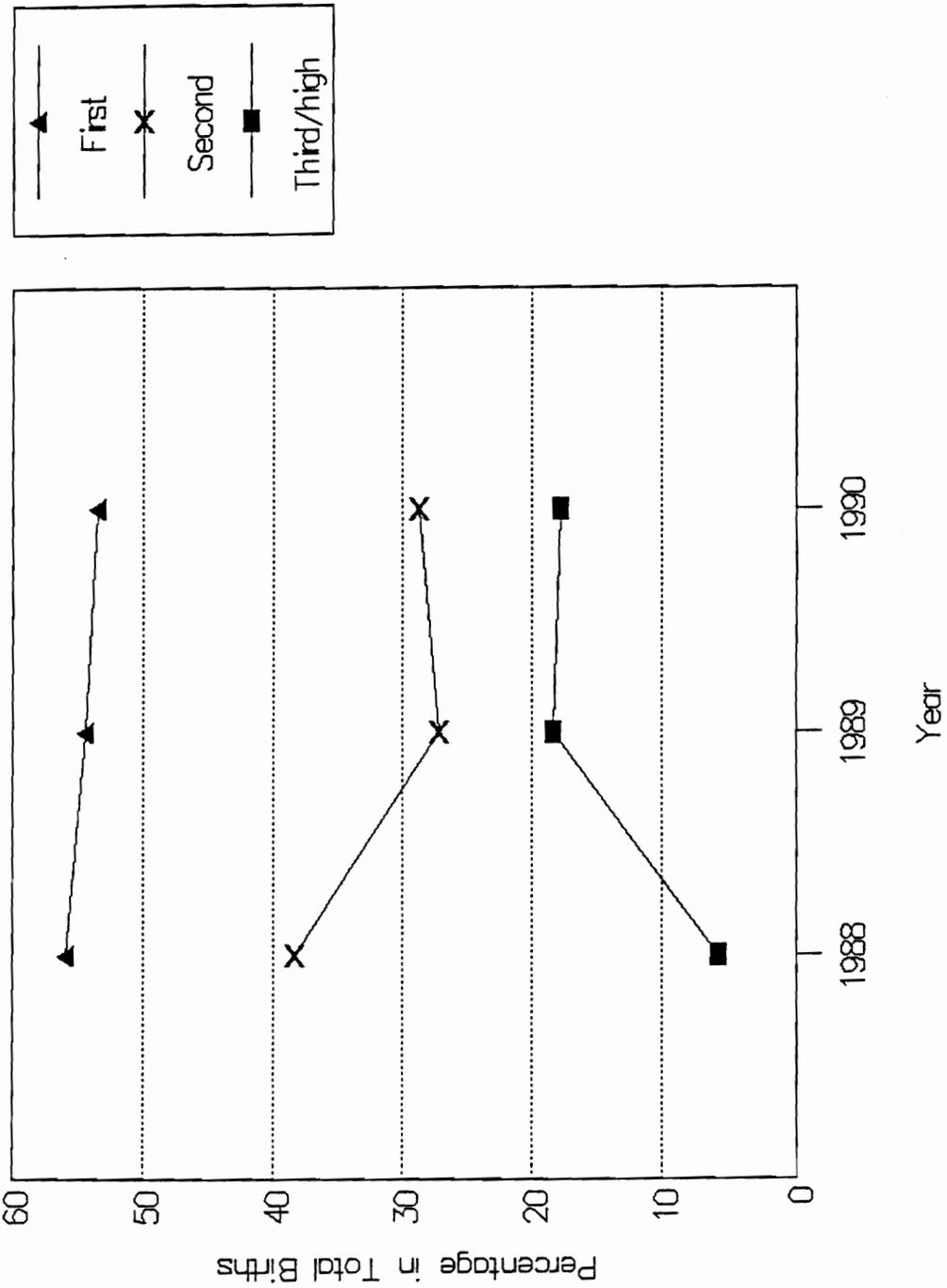
Figure 5.2 Fertility Trends from 1988 to 1990, RCFPC Data
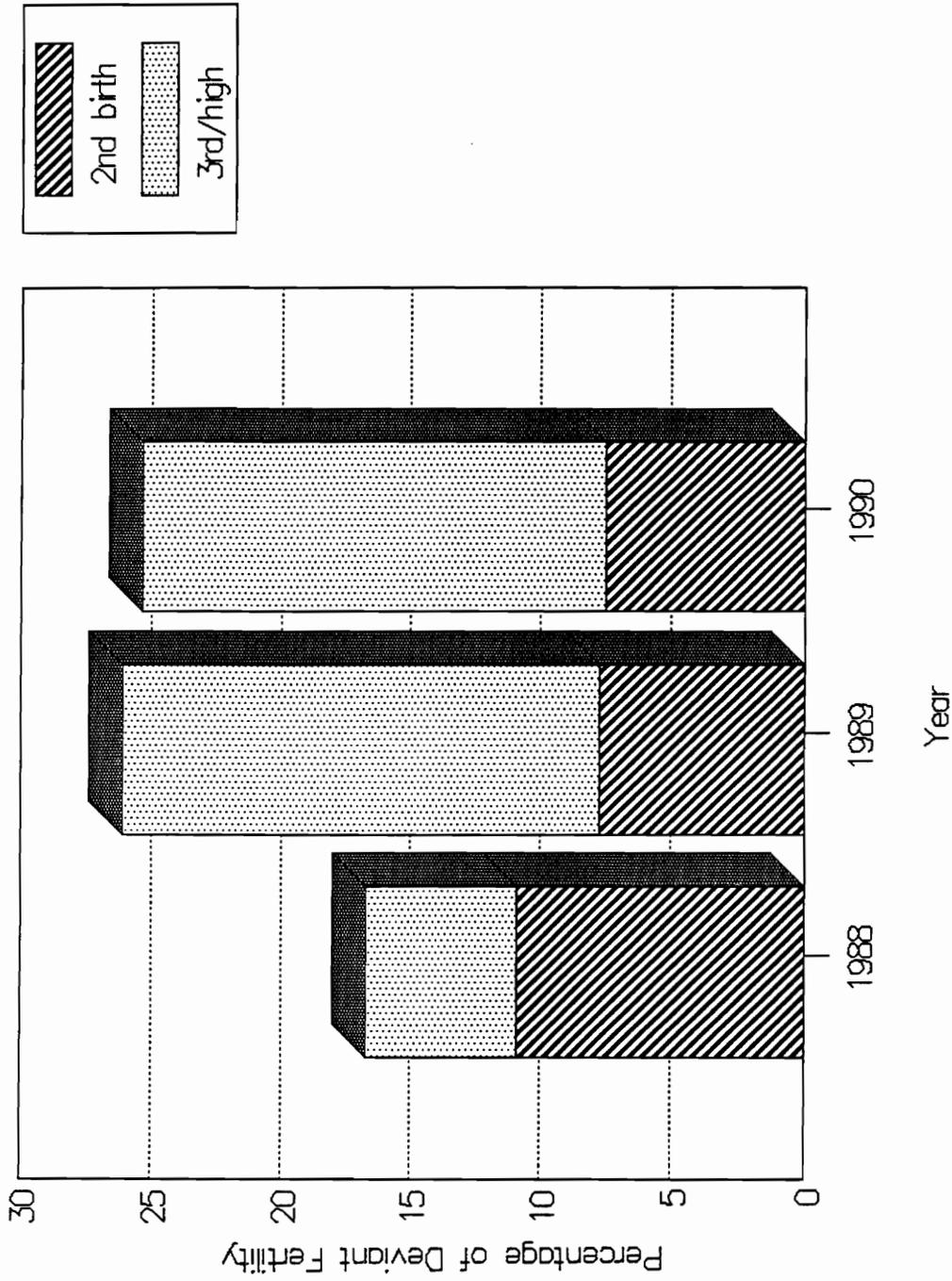
Figure 5.3 Deviant Fertility by Birth Order, RCFPC Data

comprise less than one-third of the total deviant fertility. The majority of "out-of-plan" fertility came from the third and higher order births. The proportion remained about the same for 1990.

"Out-of-plan" fertility results from "out-of-plan" pregnancy. Figure 5.4 shows the percentage distribution in types of pregnancy and outcomes in the three-year period. Pregnancies according with the family planning policies only comprised slightly more than one-half of the total pregnancy. Approximately two-third of the "out-of-plan" pregnancies resulted in abortions, and more than nine percent were terminated in inductions[7]. As a result, about 18 percent of "out-of-plan" pregnancies, or eight percent of the total pregnancy, led to deviant fertility.

5.1.2 Descriptive Results from IDFS Data

In order to understand fertility behavior of those couples with "out-of-plan" births, it is necessary to examine their demographic attributes, compared to their "planned" counterparts. The respondents in the comparison were limited to those Han majority women who married after 1971 and were still in their first marriage at the time the survey was conducted. Of the 3,673 respondents, about one-third were identified with deviant fertility while another two-thirds were not. This number is slightly higher than the official count described earlier.

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[7] An induction in China refers to abortion after three month pregnancy.
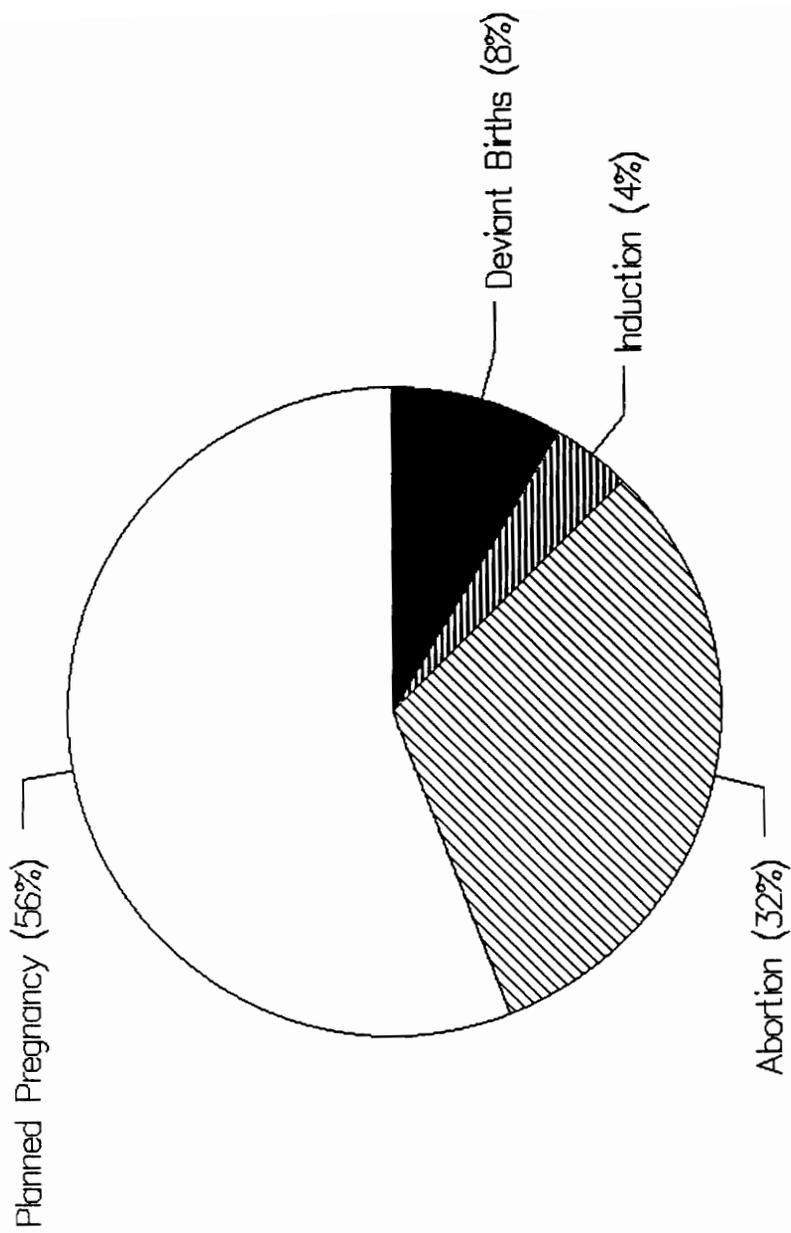
Figure 5.4 Types of Pregnancy and Outcomes, RCFPC Data

Pie chart segments:
- Planned Pregnancy (56%)
- Deviant Births (8%)
- Induction (4%)
- Abortion (32%)

In comparing rural and urban residents descriptively, it is evident that the people living in rural areas were more likely to have deviant fertility than urban ones. Some 35.3 percent of rural respondents, compared to 21.2 percent of urban respondents, were in this category. Regarding age with deviant fertility, it appeared that 44.4 percent of the respondents aged 30 to 39 were associated with deviant fertility. Considering that the family planning regulations had not been strict until the 1970's, it is not surprising that the majority of women with deviant fertility were in their 30s.

The fertility deviants, as a group, were relatively less educated. Nearly half of the illiterate respondents, more than one-third of those with primary school education, and less than 22 percent of those with high school education were involved with deviant fertility. It was true for both the responding women and their husbands that, when the educational attainment increased, the percentage of deviant fertility declined.

The data in Table 5.1 also show how family income is related to deviant fertility. Deviant fertility was more likely to occur in low income families than in high income families. For example, almost 40 percent of the families with less than 1,000 yuan annual income had deviant fertility, while only 22.2 percent of the families with 4,000 or more annual income fell in that category. The finding suggests a negative relationship between economic conditions and deviant fertility.

Since the definition of deviant fertility is closely related to different time periods of family planning policies, Table 5.2 presents results from cross-tabulation of fertility by time of the marriage. Among 1,185 fertility deviants in the sample, 994 married during the "later-longer-fewer" campaign period, comprising 54.2 percent of respondents

Table 5.1 Percentage Distributions of Deviant and Nondeviant Fertility by Demographic Characteristics, IDFS Data

Demographic Characteristics	Deviant	Nondeviant
Total*	1185(100.0)/(32.3)	2488(100.0)/(67.7)
Residence		
Rural	1019 (86.0)/(35.3)	1870 (75.2)/(64.7)
Urban	166 (14.0)/(21.2)	618 (24.8)/(78.8)
Age		
17 to 29 years old	337 (28.4)/(19.4)	1403 (56.4)/(80.6)
30 to 39 years old	837 (70.6)/(44.4)	1047 (42.1)/(55.6)
40 to 49 years old	11 (0.9)/(22.4)	38 (1.5)/(77.6)
Education		
No schooling	287 (24.2)/(47.5)	317 (12.7)/(52.5)
1 to 6 years	611 (51.6)/(35.5)	1112 (44.7)/(64.5)
7 to 12 years	287 (24.2)/(21.9)	1021 (41.0)/(78.1)
13 or more years	0 (0.0)/ (0.0)	38 (1.5)/(100.)
Husband's Education		
No schooling	45 (3.9)/(50.0)	45 (1.8)/(50.0)
1 to 6 years	487 (41.9)/(37.5)	810 (33.0)/(62.5)
7 to 12 years	624 (53.7)/(29.1)	1522 (62.0)/(70.9)
13 or more years	7 (0.6)/ (8.4)	76 (3.1)/(91.6)
Family Annual Income (Yuan)		
Under 1000	288 (24.3)/(39.8)	435 (17.5)/(60.2)
1000 to 1999	428 (36.1)/(36.8)	735 (29.5)/(63.2)
2000 to 2999	216 (18.2)/(31.1)	479 (19.3)/(68.9)
3000 to 3999	123 (10.4)/(24.3)	384 (15.4)/(75.7)
4000 or more	130 (11.0)/(22.2)	455 (18.3)/(77.8)

* The total number included only Han majority people who married after 1971 and were still in their first marriages in 1987; total number of cases may vary because of missing cases.

Table 5.2 Percentage Distributions of Deviant and Nondeviant Fertility by Time of Marriage, Age at Marriage, and Number of Children, IDFS Data

	Deviant	Nondeviant
Time of the Marriage		
1972 to 1979 (WXS period)	994 (83.9)/(45.2)	839 (33.7)/(45.8)
1980 to 1982 (1st one-child period)	176 (14.9)/(19.3)	737 (29.6)/(80.7)
1983 to 1987 (2nd one-child period)	15 (1.3)/ (1.6)	912 (36.7)/(98.4)
Age at First Marriage		
17 or younger	64 (5.4)/(37.4)	107 (4.3)/(62.6)
18 to 19 years old	195 (16.5)/(37.1)	331 (13.3)/(62.9)
20 to 22 years old	494 (41.7)/(37.5)	822 (33.0)/(62.5)
23 to 24 years old	269 (22.7)/(30.6)	609 (24.5)/(69.4)
25 or older	163 (13.8)/(20.8)	619 (24.9)/(79.2)
Number of Living Children		
None or one	0 (0.0)/ (0.0)	1310 (52.6)/(100.)
Two	292 (24.6)/(22.6)	1002 (40.3)/(77.4)
Three	589 (49.7)/(77.0)	176 (7.1)/(23.0)
Four or more	304 (25.7)/(100.)	0 (0.0)/ (0.0)
Total*	1185(100.0)	2488(100.0)

* The total number included only Han majority people who married after 1971 and were still in their first marriages in 1987.

who married during that time. Only a minority of the respondents marrying after 1980 had deviant fertility. This is perhaps due to the relatively short period of time before the survey was conducted.

Regarding the age at marriage, it was found that, of those who married at ages 22 or younger, some 37 percent were identified as fertility deviants. The percentage dropped to 30.6 percent for those who married at ages of 23 to 24, and to 20.8 percent for those who married when they were 25 years old or even older.

Considering that the number of children is closely related, but not identical, to deviant fertility, it is informative to describe deviant fertility by the number of children. As indicated in Table 5.2, of those who had two children, some 22.6 percent had deviant fertility.

5.1.3 Descriptive Results from OASS Data

Of 220 couples in the OASS data, 130 or 58.5 percent who married after 1971 were included in the descriptive analysis. As shown in Table 5.3, some 20.7 percent of the couples were involved with deviant fertility. Compared to the results from the IDFS data, the percentage of fertility deviancy in the OASS data was relatively low. It was consistent to the IDFS data, however, that the vast majority of fertility deviants were more than thirty years of age. The same trend was found for both the husbands and the wives in terms of age structure and deviant fertility.

With respect to educational attainment, more than 21 percent of the wives with primary school education were related to deviant fertility, the same proportion for those

Table 5.3 Percentage Distribution of Deviant and Nondeviant Fertility by Demographic Characteristics, OASS Data

Demographic Characteristics	Deviant	Nondeviant
Total*	24(100.0)/(20.7)	92(100.0)/(79.3)
Wife's Age		
29 years old or younger	1 (4.2)/ (4.2)	23 (24.7)/(95.8)
30 to 39 years old	21 (87.5)/(26.9)	57 (61.3)/(73.1)
40 years old or older	2 (8.3)/(13.3)	13 (14.0)/(86.7)
Husband's Age		
29 years old or younger	1 (4.2)/ (5.9)	16 (17.4)/(94.1)
30 to 39 years old	18 (75.0)/(23.7)	58 (63.0)/(76.3)
40 years old or older	5 (20.8)/(21.7)	18 (19.6)/(78.3)
Wife's Education		
No schooling	1 (4.2)/ (9.1)	10 (10.8)/(90.9)
1 to 6 years	20 (83.3)/(21.7)	72 (77.4)/(78.3)
7 to 12 years	3 (12.5)/(21.4)	11 (11.8)/(78.6)
Husband's Education		
No schooling	0 (0.0)/ (0.0)	1 (1.1)/(100.)
1 to 6 years	17 (70.8)/(24.6)	52 (56.5)/(75.4)
7 to 12 years	7 (29.2)/(15.2)	39 (42.4)/(84.8)
Economic Condition		
Upper or upper middle	1 (4.3)/ (7.7)	12 (14.0)/(92.3)
Middle	13 (56.5)/(35.1)	24 (27.9)/(64.9)
Lower middle	7 (30.4)/(16.7)	35 (40.7)/(83.3)
Low	2 (8.7)/(11.8)	15 (17.4)/(88.2)

* The total number included those couples married after 1971 and were still in their first marriages in 1987; total number of cases may vary because of missing cases.

with high school education. However, slightly more than 15 percent of the high-school-educated husbands were associated with fertility deviancy, and the percentage increased for those with elementary school education. In addition, more than a half of fertility deviants reported their economic condition as at middle level. Neither those responding couples in better nor those in worse conditions showed higher percentage of deviant fertility than those with middle range situations. The tendencies found in the IDFS data between deviant fertility and educational attainments as well as family income did not emerge in the OASS data.

Table 5.4 presents data on marriage information by deviant fertility. Approximately 31 percent of the couples who married during the "Later-Longer-Fewer" campaign period were identified with deviant fertility, making up a majority of total fertility deviants. Again, the relatively long period of time after marriage up to the time the survey was conducted might have contributed to this fact. Moreover, parallel to the IDFS data, deviant fertility was evenly distributed across different age groups of the first marriage. The smallest percentage (14.8 percent) was found among those respondents who married at ages of 22 or younger.

Regarding the number of children related to deviant fertility, the majority of the couples with two children, 86.6 percent, were not identified as fertility deviants. However, over two-thirds of those who have three or more children were associated with deviant fertility, which was consistent with the results of the IDFS data.

Table 5.4 Percentage Distributions of Deviant and Nondeviant Fertility by Time of Marriage, Age at Marriage, and Number of Children, OASS Data

	Deviant	Nondeviant
Time of the Marriage		
1972 to 1979 (WXS period)	19 (79.2)/(31.1)	43 (46.3)/(68.9)
1980 to 1982 (1st one-child period)	4 (16.7)/(17.4)	19 (21.5)/(82.6)
1983 to 1987 (2nd one-child period)	1 (4.2)/ (3.1)	30 (32.3)/(96.9)
Age at the First Marriage		
22 years old or younger	4 (16.7)/(14.8)	23 (25.0)/(85.2)
23 to 24 years old	6 (25.0)/(22.2)	21 (22.8)/(77.8)
25 to 27 years old	9 (37.5)/(23.7)	29 (31.5)/(76.3)
28 years or older	5 (20.8)/(20.8)	19 (20.7)/(79.2)
Number of Living Children		
None to one	0 (0.0)/ (0.0)	29 (31.2)/(100.)
Two	9 (37.5)/(13.4)	58 (62.4)/(86.6)
Three or more	15 (62.5)/(71.4)	6 (6.5)/(28.6)
Total*	24(100.0)/(20.7)	92(100.0)/(79.3)

* The total number included those couples married after 1971 and were still in their first marriages in 1987.

5.2 Results of Analyzing OASS Data

5.2.1 Bivariate Findings

The OASS data were further examined using bivariate analyses such as Pearson's r and Analysis of Variance (ANOVA). This was done to identify zero-order interrelationships and associations among the relevant variables.

Differences between the husbands and the wives in fertility-related indicators[8] were inspected first. As presented in Table 5.5, there were significant gender differences in terms of expectation of benefits from children. Comparing the grand mean with group means, it was found that the wives, as a group, had a significantly higher expectation of benefits from children than their husbands.

Also shown in the table, the wives were not significantly different from their husbands in family size of origin. On average, both the husbands and the wives came from families with five to six children. However, the husbands were more likely to have close relationships with their parents than the wives. Given the tradition that women were married out in China, it was not surprising to see the significant difference.

Additionally, as anticipated, differences between the husbands and the wives in educational attainments and in the age at first marriage were significant. The women respondents had an average level of primary school education, while the mean educational level of their male counterparts was about middle school. The average age at first marriage was 24 for the wives and 25.5 for the husbands in the sample.

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[8] Since variables on living standard and previous female birth are shared by a husband and a wife in the family, they are excluded in the comparison.

Table 5.5 Comparison of Group Means between Wives and Husbands, OASS Data

Variables	Group Means		Grand Mean	Significance
	Wives	Husbands		of F
BENEFIT	7.273	6.635	6.954	.000
SIZE	5.532	5.645	5.589	.583
CLOSE	5.609	7.500	6.519	.000
EDUC	2.304	3.188	2.744	.000
MAGE	24.046	25.470	24.758	.000

Total N = 440 individual respondents.

Table 5.6 summarizes relationships among fertility-related variables. In general, these variables were not closely correlated each other, However, several points can be made. First, educational attainment was significantly associated with the expectation of benefits from children (r=-.119). Specifically, those who had higher educational attainment were less likely to have high expectations of benefits from children than those with lower educational levels. Second, the relationship between the expectation of benefits from children and family size of origin was positive and significant (r=.117). The respondents from large families were more likely than those from small families to have a high expectation of benefits from children. This association was expected and suggested by previous studies. Finally, it was discovered that one's relations with his or her parents were significantly related to his or her educational attainments (r=.170). The relations with parents, however, showed little or no relationship with the expectation of benefits from children.

Table 5.7 presents data on relationships among fertility indicators. Differentiated from the tables shown earlier, the unit of analysis here was household rather than individual respondents. It is not surprising to see the close association of deviant fertility and the number of children. However, when the total number of children was broken into the numbers of sons and daughters, some fascinating results emerged. Deviant fertility was significantly associated with the number of girls (r=.382), but not with the number of sons (r=.094). In other words, those families with more female offsprings were more likely to be related to deviant fertility than those households with few or no female children.

Table 5.6 Zero-order Correlation Coefficients Among Ecpectation for Children, Relation with Parents, Family Size of Origin and Demographic Variables, OASS Data

Variables	BENEFIT	EDUC	MAGE	SIZE	CLOSE
BENEFIT	1.000				
EDUC	-.119*	1.000			
MAGE	-.028	.061	1.000		
SIZE	.117*	.005	-.040	1.000	
CLOSE	-.068	.170**	-.104	-.002	1.000

Note:
* P < .05;
** P < .01;
*** P < .001.
Total N = 440 individal respondents.

Table 5.7 Zero-order Correlation Coefficients Among Fertility Indicators, OASS Data

<u>Variables</u>	DEVIANT	CHILD	SON	GIRL	ALLGIRL
DEVIANT	1.000				
CHILD	.529***	1.000			
SON	.094	.523***	1.000		
GIRL	.382***	.590***	-.331***	1.000	
ALLGIRL	.381***	.117	-.355***	.456***	1.000

Note:
* P < .05;
** P < .01;
*** P < .001.
Total N = 220 households.

In a similar manner, deviant fertility was significantly related to families in which all the previous children prior to the last one by 1987 were females. The family with all female previous births was much more likely to be involved with deviant fertility than the family otherwise. The association was strong and significant ($r=.381$). This result indicates a son preference in the issue of deviant fertility, which, of course, needs to be further explored.

Table 5.8 reveals correlations between fertility indicators and fertility-related variables. It was noted that both educational attainment and the age at first marriage exhibited strongly negative relations with the number of children ($r=-.218$ and $r=-.241$, respectively). As suggested by previous studies, the higher the educational level, the less likely a large number of children. Also, those who married at early ages were more likely to have more children than those who had their first marriages at later ages.

Surprisingly, however, no significant association between deviant fertility and selected fertility-related variables was found. It became more interesting to compare relationships between the number of children and the fertility-related variables with the correlations between deviant fertility and the variables. For example, age at first marriage was significantly associated with the number of children ($r=-.241$), but not related to deviant fertility ($r=.023$). This may suggest that correlation patterns of deviant fertility differ from that of the number of children, although the two variables are highly correlated.

Another important finding in Table 5.8 consists in the relationship between the expectation of benefits from children and the number of sons as well as the number of

Table 5.8 Zero-order Correlation Coefficients Among Fertility Indicators and Fertility-related Variables, OASS Data

Variables	CHILD	SON	GIRL	DEVIANT
BENEFIT	.011	.099*	-.074	-.081
EDUC	-.218***	-.146**	-.111*	-.086
LIVING	.059	.067	.018	-.011
MAGE	-.241***	-.174***	-.108*	.023
SIZE	-.072	-.040	-.054	-.082
CLOSE	-.069	.026	-.077	-.009

Note:
* P < .05;
** P < .01;
*** P < .001.
Total N = 440 individual respondents.

daughters. The direction of the expectation of benefits from children relating to the number of sons was in contrast to that of daughters. Specifically, the number of sons was positively and significantly related to parent's expectations of benefits from children ($r=.099$). However, the expectation was negatively but not significantly associated with the number of female children ($r=-.074$). In other words, the more male children, the higher the expectation of benefits from children; the more the female offspring, the lower the parent's expectations of benefits from children.

To further examine and depict this issue, two simple regression equations were established to predict expectation of benefits from children by the number of sons and the number of daughter, respectively. The estimates of regression analyses are illustrated in the following equations:

$$Y^{Expectation} = 6.722 + .179^{Number\ of\ sons}$$

$$Y^{Expectation} = 7.097 - .125^{Number\ of\ daughters}$$

The estimated regression lines are illustrated in Figure 5.5. It became more clear that the expectation of benefits from children was related to the gender of children rather than the number of children.

5.2.2 Multivariate Findings

Multivariate analyses involved different sets of multiple regression estimations. Since the dependent variable, deviant fertility, was not only dichotomous but also
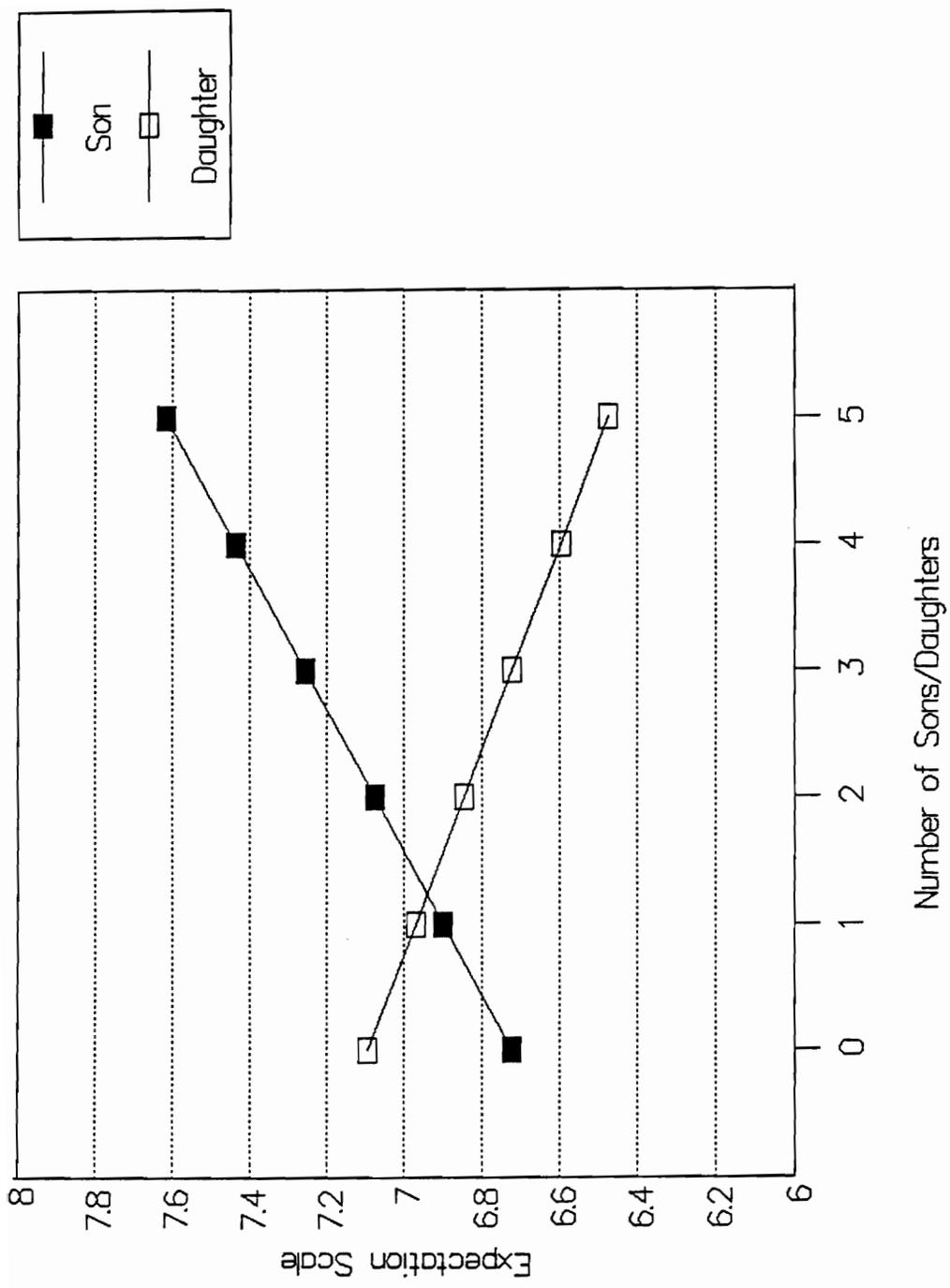
Figure 5.5   Expectation of Benefits From Children, Controlling Gender of Children, OASS Data

skewed, logistic regression techniques appeared appropriate to use[9]. In doing multiple regressions, effects of a predictive factor on deviant fertility could be evaluated independently by controlling other variables.

Table 5.9 presents the results of three regression equations, described as models, for all respondents, wives and husbands, respectively. Because of the purpose of comparison, only variables that were responded separately by husbands and wives were included: expectation, education, age at first marriage, family size of origin, and relation with parents. In Model 1 that included all the respondents, none of the selected variables showed a significant impact on deviant fertility when other variables were controlled. In fact, given the insignificant correlations found in the previous table, the model itself was rather meaningless until it became, as a baseline, compared to Model 2 and 3.

Among the three models, Model 3 containing only husband respondents reveals substantially higher explanatory power than the other two. The five predictors can, overall, explain about 13 percent of variations in fertility deviancy ($R^2 = .131$), 10 percent more than that in the models for wives ($R^2 = .012$) and all respondents ($R^2 = .024$). Stated differently, husbands' educational attainment, expectation of benefits from children, age at first marriage, family size of origin, and relations with their parents, all combined, can better predict deviant fertility than the same determinants for their wives.

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[9] As suggested by Knoke (1975), logistic regression models are superior to ordinary least square (OLS) on a dichotomous dependent variable in meeting the assumptions of the statistical models. This is particularly true for the dependent dummy variable which is extremely skewed (Knoke, 1975).

Table 5.9 Standardized Logistic Regression Coefficients (Beta) of Deviant Fertility by Fertility-related Variables, OASS Data

Variables	Model 1 (All)	Model 2 (Wives)	Model 3 (Husbands)
BENEFIT	-.131	-.023	-.322*
	(-.135)	(-.024)	(-.335)
EDUC	-.147	-.015	-.310*
	(-.267	(-.030)	(-.610)
MAGE	.004	.078	-.253
	(.002)	(.043)	(-.129)
SIZE	-.112	.110	-.410*
	(-.106)	(.117)	(-.353)
CLOSE	-.016	-.052	-.043
	(-.008)	(-.037)	(-.019)
R^2	.024	.012	.131

* $P < .05$.
Unstandardized estimates in parentheses.

In addition to the overall fit of the models, some interesting findings are revealed. The impact of expectation of benefits from children, which was negligible in the models 1 and 2, became significant in Model 3. The expectation factor exhibited negative effects on deviant fertility when the other variables were controlled ($\beta = -.322$). Husband respondents who had high expectation of benefits from children were less likely to involve deviant fertility than those with the low expectations. This tendency was not true for the wife counterparts. In addition, husband's educational attainments were also a significant predictor of deviant fertility ($\beta = -.310$). Those husbands with low educational levels were more likely than those with high educational achievements to be associated with deviant fertility, controlling other related factors. Moreover, the influence of the number of siblings in a husband's family of origin on deviant fertility was also negative and significant ($\beta = -.410$). Those husbands from small families of origin were more likely involved with deviant fertility. Consequently, in controlling other variables, family size of origin was the most important factor predicting deviant fertility among the husbands in the survey.

Table 5.10 presents results from the other two regression models, one with the control for previous female births and the other without. In the comparison of Model 1 to Model 2, it was found that, by including previous female births in the second model, the explanatory power increased dramatically. The impact of previous female children on deviant fertility was significantly positive ($\beta = .514$), suggesting that respondents who had all previous children female were likely to be involved with deviant fertility.

Table 5.10 Logistic Regression Coefficients of Deviant Behavior by Fertility-related Variables, Controlling Previous Female Birhts, OASS Data

Variables	Model 1		Model 2	
	Standardized Estimate	Parameter Estimate	Standardized Estimate	Parameter Estimate
BENEFIT	-.180	-.110	-.068	-.069
EDUC	-.190	-.202	-.109	-.203
LIVING	.005	.005	.011	.011
MAGE	.023	.012	.067	.035
SIZE	-.095	-.091	-.043	-.041
CLOSE	-.005	-.003	.065	.034
ALLGIRL			.514***	1.96***
R^2	.016		.151	

* $P < .05$;
** $P < .01$;
*** $P < .001$.
Total N = 440 individual respondents.

5.3 Results of Analyzing IDFS Data

5.3.1 Bivariate Findings

Zero-order relationships among selected variables of the IDFS data were examined by bivariate analyses. In this section, correlations between deviant fertility and all independent variables were inspected first, followed by the examination of associations among the independent variables.

Table 5.11 presents correlations between deviant fertility and socioeconomic indicators at both individual and county levels. It was evident that all the socioeconomic variables were significantly related to deviant fertility. County-level productivity ($r=-.187$), industrialization ($r=-.217$), and educational levels ($r=-.192$) were negatively associated with deviant fertility, indicating that the respondents living in less developed areas were more likely to have more children. In addition, monetary input into family planning efforts at the county-level also showed a moderate but significant relation with deviant fertility at the individual level ($r=-.046$). Those who lived in the area with high monetary input per person in family planning were less likely to have deviant fertility.

Similarly, individual socioeconomic status was also strongly associated with fertility deviance. As shown in the table, educational attainments of both responding women and their husbands ($r=-.212$ and $r=-.121$, respectively) and occupational prestige ($r=-.196$ and $r=-.161$, respectively) were significantly correlated to deviant fertility. Moreover, family annual income was negatively associated with deviant fertility. The results suggest that married couples with high individual socioeconomic status were less likely than those with low socioeconomic status to exhibit deviant fertility.

Table 5.11 Zero-Order Correlations Between Deviant Fertility and County-Level and Individual-Level Variables on Socioeconomic Status and Family Background, IDFS Data

	Deviant Fertility
Productiviety (PRODCTY)	-.187***
Industrilization (INDUCTRY)	-.217***
Educational Level (EDUCLVL)	-.192***
Monetary Input (MONEY)	-.046***
Education (EDUC)	-.212***
Husband's Education (HEDUC)	-.121***
Occupational Prestige (OCCUP)	-.196***
Husband's occupational Prestige (HOCCUP)	-.161***
Family Income (INCOME)	-.115***
Residence (RURAL)	.124***
Type of Employment (EMPLOYER)	-.214***
Parents' Education (PAMAEDUC)	-.167***

* P < .05;
** P < .01;
*** P < .001.

Significant relationships were also found between deviant fertility and residence (r=.124), type of employment (r=-.214), and parents' educational attainment (r=-.167). Those respondents who resided in urban regions, who worked in state-owned sectors, and whose parents had high educational levels were less likely than others to have deviant fertility.

Correlations between deviant fertility and variables on marriage and reproductive experiences are presented in Table 5.12. Age at first marriage was negatively related to deviant fertility (r=-.129), while the relationship between living with parents after marriage and fertility was positive and significant (r=.112). In other words, fertility deviance was more likely to be related to those who married at an earlier age and those who lived with their parents after the marriage.

Table 5.12 shows that failed pregnancy not due to birth control purpose was associated with deviant fertility positively and significantly (r=.054). The relationship between child death and deviant fertility, however, was not statistically significant. A significant correlation was found between previous female birth and deviant fertility (r=.108), suggesting that respondents who had all female children before the last one by 1987 were likely to have deviant fertility.

As shown in Table 5.13, variables on family planning pressures and traditional influence were related to deviant fertility at expected directions. All indicators of traditional family ideal were associated with deviant fertility positively and significantly. The stronger the traditional family influence on an individual, the more likely the deviant fertility. More specifically, respondents who had arranged marriage by parents or others

Table 5.12   Zero-Order Correlations Between Deviant Fertility and Variables on Marriage and Reproductive Experiences, IDFS Data

	Deviant Fertility
Age at Marriage (MAGE)	-.129***
Living with Parents (LIVEWITH)	.112***
Child Death (DEADCHD)	.024
Failed Pregnancy (FAILPREG)	.054***
Previous Female Births (ALLGIRL)	.108***

* P < .05;
** P < .01;
*** P < .001.

Table 5.13 Zero-Order Correlations Between Deviant Fertility and Variables on Family Planning Pressures and Traditional Family Influences, IDFS Data

	Deviant Fertility
Knowledge on Birth Control (KNOW)	-.129***
Abortion Because of Family Planning (ABORT)	-.114***
Discuss with Husbands (DISCUSS)	-.135***
Personal Contact by FP Personnel (CONTACT)	-.025
Arranged Marriage (ARRANGE)	.045**
Ideal of Large Family Size (LARGE)	.317***
Early Marriage Ideal (EARLY)	.069***
Son Preference for Next Child (SONPREF)	.155***

* P < .05;
** P < .01;
*** P < .001.

(r=.045), who shared the traditional ideal of large family size (r=.317) and early marriage ideal (r=.069), and who preferred a son for the next child (r=.155) were more likely to have deviant fertility.

Data in Table 5.13 also reveal that the knowledge of birth control (r=-.129) and the number of abortions due to family planning (r=-.114) were correlated with deviant fertility significantly, implying that the more a respondent knew about birth control measures and the more she had abortions because of family planning, the less likely she was to have deviant fertility. Additionally, a significant relationship was found between fertility deviance and discussions with husbands (r=-.135). Those respondents who discussed with their husbands the number of children they wanted were less likely to exhibit deviant fertility than those who failed to participate in fertility discussions. Surprisingly, the relationship between personal contacts by local family planning representatives and deviant fertility was negligible.

Correlations among independent variables were further examined. Table 5.14 demonstrates significant associations between the indicators of county-level socioeconomic developments and individual socioeconomic status (r=.380, .386, and .360 respectively) as well as monetary input in family planning (r=.285, .192, and .264 respectively). The respondents living in better socioeconomic conditions were likely to enjoy higher individual socioeconomic status. Moreover, macro social and economic developments were significantly related to monetary input in family planning of the areas. The higher the level of socioeconomic developments, the more money allocated per person for family planning.

Table 5.14 Zero-Order Correlations Between Structural Variables on Socioeconomic Development and Individual Socioeconomic Status as well as Monetary Input in Family Planning, IDFS Data

	Socioeconomic Status (SES)	Monetary Input (MONEY)
Productiviety (PRODCTY)	.380***	.285***
Industrilization (INDUCTRY)	.386***	.192***
Educational Leverl (EDUCLVL)	.360***	.264***

* P < .05;
** P < .01;
*** P < .001.

Socioeconomic development was also associated with variables on marriage and reproductive experiences, as shown in Table 5.15. Age at first marriage was significantly correlated with both individual socioeconomic status (r=.283) and macro socioeconomic conditions (r=.289). In other words, early marriage was strongly associated with lower levels of social and economic developments. People with lower socioeconomic development not only married earlier, but also tended to live with their parents after the marriage. This was true for both the individual status (r=-.219) and socioeconomic conditions at county-level (r=-.195).

Again in Table 5.15, indicators of unfortunate reproductive experiences significantly correlate with socioeconomic developments, but in a contradictory manner. Terminated pregnancy not due to family planning (r=.042 and .052, respectively) exhibited positive relations with socioeconomic developments, while child death was negatively correlated with social and economic status (r=-.144 and -.058, respectively). The results suggest that the respondents with low socioeconomic status were more likely to experience children death and less likely to experience failed pregnancies caused by illness or other reasons than family planning.

Table 5.16 presents relationships between traditional influence indicators and related factors. There are several findings that must be noted. First, socioeconomic development variables were negatively related to traditional influences. The respondents with low socioeconomic status were likely to have an arranged marriage (r=-.170), to have the traditional ideal of large family size (r=-.402) and early marriage ideal (r=-.144), and to prefer a son for the next child (r=-.249).

Table 5.15 Zero-Order Correlations Between Socioeconomic Indicators and Variables in Marriage and Reproductive experiences, IDFS Data

	Individual-level Socioeconomic Status (SES)	County-level Socioeconomic Condition (MACROSEC)
Age at Marriage (MAGE)	.283***	.289***
Living with Parents (LIVEWITH)	-.219***	-.195***
Child Death (DEADCHD)	-.144***	-.058***
Failed Pregnancy (FAILPREG)	.042***	.052***

* P < .05;
** P < .01;
*** P < .001.

Table 5.16 Zero-Order Correlations Between Traditional Ideal Variables and Related Facotrs, IDFS Data

	Arranged Marriage (ARRANGE)	Large Size Family (LARGE)	Early Marriage (EARLY)	Son Preference (SONPREF)
Socioeconomic Condition (MACROSEC)	-.117***	-.323***	-.171***	-.236***
Socioeconomic Status (SES)	-.170***	-.402***	-.144***	-.249***
Residence (RURAL)	.104***	.364***	.156***	.231***
Type of Employment (EMPLOYER)	-.081***	-.316***	-.103***	-.231***
Parents' Education (PAMAEDUC)	-.075***	-.223***	-.047***	-.150***
Age at Marriage (MAGE)	-.075***	-.328***	-.230***	-.113***
Living with Parents (LIVEWITH)	.032**	.183***	.045***	.141***
Child Death (DEADCHD)	.046***	.127***	.071***	.037
Failed Pregnancy (FAILPREG)	.003	.057***	.039***	-.025

* P < .05;
** P < .01;
*** P < .001.

Second, rural residents were significantly associated with arranged marriage (r=.104), ideal of large family size (r=.364), early marriage ideal (r=.156), and son preference (r=.231). The same patterns were also found for those who were employed outside the state-owned sector and those whose parents had lower levels of educational attainments.

Third, those respondents who married at early ages were also likely to have arranged marriage (r=-.075), ideal of large family size (r=-.328), son preference (r=-.113), and, of course, early marriage ideal (r=-.230). Similarly, living with parents after marriage was significantly related to the traditional pressures in terms of arranged marriage (r=-.032), ideal of large family size (r=.183), early marriage ideal (r=.045), and son preference (r=.141).

Finally, reproductive experiences in terms of child death and failed pregnancy were positively related to arranged marriage (r=.046), ideal of large family size (r=.127), and early marriage ideal (r=.071). Failed pregnancy not due to family planning was associated with ideal of large family size (r=.057) as well as early marriage ideal (r=.039).

In summarizing the data in Table 5.16, it was evident that those respondents living in rural areas, with low socioeconomic status and less educated parents, working outside the state-owned sectors, marrying at early ages, living with parents after marriage, and experiencing child death and failed pregnancy were likely to be influenced by the traditional fertility and family constraints.

Indicators of family planning pressures were further examined with relation to the same factors. As shown in Table 5.17, knowledge of contraception was positively associated with socioeconomic developments at both individual (r=.516) and county-levels (r=.323). Moreover, urban residence (r=-.443) and state-owned employment (r=.406) were also strongly correlated with the knowledge of birth control. Parents' educational levels were related to the knowledge of birth control in a positive direction (r=.222). In addition, the respondents who married at later ages (r=.177) and did not live with parents-in-law after marriage (r=-.212) knew more about family planning methods than their counterparts. It was also found that child death was negatively related to the knowledge on family planning (r=-.060), while failed pregnancy correlated with the knowledge positively (r=.081).

Similarly, abortion because of family planning was found to correlate with socioeconomic developments at both individual and county levels (r=.212 and 203, respectively), residence (r=-.237), type of employment (r=.206), parents' education (r=.094), age at marriage (r=.177), living with parents (r=-.128), and failed pregnancy (r=-.039). In other words, the respondents in the survey who resided in urban regions, who had a high socioeconomic status, whose parents were more educated, who worked in state-owned sector, who married at later ages and did not live with their parents-in-law after marriage, and who experienced terminated pregnancy not due to family planning were likely to have a abortion for birth control purpose.

Data presented in Table 5.17 further exhibited significant relationships between fertility discussions with husbands and the related variables. Socioeconomic

Table 5.17 Zero-Order Correlations Between Family Planning Pressure Variables and Related Facotrs, IDFS Data

	Knowledge On Brith Control (KNOW)	Abortion Due to Birth Control (ABORT)	Discuss With Husbands (DISCUSS)	Contact by Birth Control Personnel (CONTACT)
Socioeconomic Condition (MACROSEC)	.323***	.203***	.112***	-.007
Socioeconomic Status (SES)	.516***	.212***	.228***	.035**
Residence (RURAL)	-.443***	-.237***	-.160***	-.007
Type of Employment (EMPLOYER)	.406***	.206***	.169***	-.024*
Parents' Education (PAMAEDUC)	.222***	.094***	.109***	-.002
Age at Marriage (MAGE)	.177***	.055***	.144***	.135***
Living with Parents (LIVEWITH)	-.212***	-.128***	-.088***	.007
Child Death (DEADCHD)	-.060***	-.011	-.091***	-.074***
Failed Pregnancy (FAILPREG)	.081***	-.039***	-.011	-.053***

* P < .05;
** P < .01;
*** P < .001.

developments were positively associated with discussions on fertility between a husband and a wife at both the individual level (r=.228) and the county level (r=.112). Also, the table shows that urban residents were more likely to participate in fertility discussions within families (r=-.160) than rural ones. Also, state-owned employment (r=.169), parents' education (r=.109), and age at first marriage (r=.144) were all positively correlated with fertility discussions. Living with parents after marriage (r=-.088) and child death (r=-.091) were negatively related to fertility discussions.

Unlike other indicators in family planning, contacts by local birth control personnel were only significantly associated with individual socioeconomic status at a moderate magnitude (r=.035). The relationship between age at first marriage and the contact of family planning personnel was positive and significant (r=.135). Furthermore, unfortunate reproductive experiences in terms of child death (r=-.074) and failed pregnancy (r=-.053) were negatively related to contacts by family planning representatives, indicating that the respondents who were pursued individually by family planning agents after their marriage were less likely to experience child death and failed pregnancy not due to birth control.

Results in Table 5.17 can be summarized as that the respondents living in urban areas, with high socioeconomic status and more educated parents, working in the state-owned sector, marrying at later ages, and not living with parents after marriage were likely to be related to the influence of family planning.

5.3.2 Multivariate Findings

Based on the bivariate findings, multivariate analyses were conducted. The ordinary least squares (OLS) regression technique was performed in this section[10]. Deviant fertility was first regressed by the separate groups of variables and, then, all the variables combined. Followed by models from urban and rural samples were compared. Finally, predictions for deviant fertility and the number of children were presented.

Model 1 in Table 5.18 displayed the effects of the structural factors of socioeconomic conditions, monetary input in family planning, and parents' education on deviant fertility. By controlling the other two variables, macro socioeconomic conditions had a strong negative impact on deviant fertility ($\beta=-.201$), followed by parents' educational attainments ($\beta=-.128$). Those respondents who lived under poor socioeconomic conditions and came from families with less educated parents were likely to be fertility deviants. However, the impact of monetary input on deviant fertility, found in the bivariate analyses, was insignificant and negligible after the other two variables were controlled. The coefficient of determinant (R^2) of .066 indicates that about 6.6 percent of the variation in deviant fertility was explained by the three predictors in the model.

The second model demonstrated the effects of individual socioeconomic status, residence, and type of employment on deviant fertility. Consistent with the results of the

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[10] It is suggested by a growing body of research that the results of OLS are comparable to those from logistic analysis when the range of the dependent dichotomy is between .25 and .75 and the samples are large (Knoke, 1975; Miethe, 1987).

Table 5.18 Standardized Regression Coefficients of Deviant Fertility by Fertility Related Factors in Six Models, IDFS Data

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
MACROSEC	-.201***					-.104***
MONEY	.023					.018
PAMAEDUC	-.128***					-.062***
SES		-.193***				-.091***
RURAL		-.040				-.121***
EMPLOYER		-.131***				-.091***
MAGE			-.111***			-.015
LIVEWITH			.092***			.017
DEADCHD			.014			-.008
FAILPREG			.056***			.061***
ALLGIRL			.099***			.078***
KNOW				-.091***		.043*
ABORT				-.082***		-.025
DISCUSS				-.118***		-.054***
CONTACT				.005		-.010
ARRANGE					.024	.005
LARGE					.314***	.227***
EARLY					.008	-.005
R^2	.066	.070	.039	.038	.100	.150

* P < .05;
** P < .01;
*** P < .001.

bivariate analyses, low socioeconomic status was significantly associated with deviant fertility (β=-.193). Furthermore, state-owned employment had a significantly negative effect on deviant fertility (β=-.131) after the other two variables were taken into account. Overall, these three variables explained seven percent of the variation in deviant fertility.

Indicators of marriage and reproductive experiences were included in Model 3. Age at first marriage exhibited a negative effect on deviant fertility (β=-.111), while living with parents after marriage (β=.092), failed pregnancy (β=.056), and previous female births (β=.099) had significantly positive influences on deviant fertility. As a whole, explained variations of deviant fertility by the five predictors were slightly less than four percent.

Four variables associated with family planning pressures were introduced into Model 4. After the other factors were controlled, knowledge on contraception (β=-.091), abortion for birth control purpose (β=-.082), and fertility discussions (β=-.118) revealed significant effects on deviant fertility. The findings indicated that more knowledge of contraception, more abortion due to family planning, and fertility discussions between a husband and a wife affected deviant fertility negatively, even after other family planning variables were taken into account. The directions of the impact were consistent with the zero-order correlations presented earlier. Again, individual contacts by family planning personnel failed to show a statistically meaningful influence on deviant fertility. All independent variables in Model 4 could explain less than four percent of variations in deviant fertility.

In Table 5.18, Model 5 showed the effects of traditional influences on fertility deviance. Since son preference for next child was limited only to those who wanted to have a child in the future, the variable was excluded in the multiple regression model in order to avoid a reduction in the number of cases. Among the remaining factors, the ideal of large family size showed a strong positive relationship with deviant fertility (ß=.314) when arranged marriage and early marriage ideal were held in constant. About 10 percent of variations in deviant fertility were explained by the three independent variables in the model. Compared with the previous models, it was obvious that Model 4 had more explanatory power in predicting deviant fertility than the other models.

Model 6 in Table 5.18 included all of the variables used in Model 1 through 5. Traditional ideal of large family size was the most important factor (ß=.227), followed by rural residence (ß=-.121), and county-level socioeconomic conditions (ß=-.104). Additionally, individual socioeconomic status (ß=-.091), state-owned employment (ß=-.091), and parents' educational level (ß=-.062) were found to retain their significantly negative effects on deviant fertility. The influences of age at marriage and living with parents after marriage became insignificant and negligible after the other variables were taken into account in the model. Moreover, in Model 6 the report of failed pregnancy continued to show its significant impact on deviant fertility (ß=.061), and the same was true if the previous births were female (ß=.078). In comparison to Model 4, it was found that the effect of fertility discussions on deviant fertility was reduced but remained significant (ß=-.054) after other variables were controlled in Model 6. However, the significant effect of abortion due to family planning found in Model 4 became trivial after

the other factors were controlled. The impact of knowledge of birth control on deviant fertility changed both in direction and magnitude. The overall coefficient of determination (R^2) was .150, indicating that 15 percent of variations in deviant fertility were explained by all the variables in Model 6.

Given that fertility discussion and the ideal of large family size are important predictors of deviant fertility when other variables were controlled, two multiple regression models were examined to assess the extent to which the related indicators affect the fertility discussion and the ideal of large family size among Chinese women. Results are presented in Table 5.19. It was revealed that individual socioeconomic status ((β=.159) and state-owned employment ((β=.065) exhibited significantly positive effects on fertility discussion, while the influences of these two variables on the ideal of large family size were negative. It is also interesting to note that the impact of contact by family planning personnel on fertility discussions was positive and significant (β=.155), suggesting that family planning pressure on individual couples may initiate or encourage their discussions on how many children they want to have.

Table 5.20 presents the results of two separate regression models in order to predict deviant fertility by desegregating rural from urban areas. Given the high correlation between the type of employment and residence, employment as an independent factor in the previous regression analyses was eliminated in the present equation. As indicated in the table, several findings are revealing. First, parents educational attainments had a significant effect on deviant fertility for the rural population (β=-.078), but not for the urban regions (β=.013). In other words, the parents' low

Table 5.19 Standardized Regression Coefficients of Fertility Discussion and Ideal of Large Family Size by Fertility Related Factors, IDFS Data

| | Dependent Variables | |
	DISCUSS	LARGE
MACROSECY	.011	-.159***
PAMAEDUC	.031	-.070
SES	.159***	-.165***
RURAL	-.019	.157***
EMPLOYER	.065***	-.086***
CONTACT	.155***	-.107***
R^2	.079	.232

* P < .05;
** P < .01;
*** P < .001.

Table 5.20 Standardized Regression Coefficients of Deviant Fertility by Fertility Related Factors, Controlling Residence, IDFS Data

	Rural	Urban
MACROSEC	-.078***	-.156***
MONEY	.007	.049
PAMAEDUC	-.078***	.013
SES	-.073***	-.142***
MAGE	-.006	-.045
LIVEWITH	.022	.039
DEADCHD	.000	-.072*
FAILPREG	.050**	.067*
ALLGIRL	.046**	.245***
KNOW	.040*	.014
ABORT	-.012	-.057
DISCUSS	-.069***	-.015
CONTACT	.001	-.035
ARRANGE	-.006	.042
LARGE	.202***	.296***
EARLY	.004	-.053
R^2	.099	.361

* P < .05;
** P < .01;
*** P < .001.

educational level was related to deviant fertility only in the rural areas. In the urban regions education of parents failed to demonstrate statistically a significant relationship to deviant fertility when the other variables were controlled.

The second interesting result consisted of the differential effect of fertility discussions on deviant fertility between rural and urban couples. Discussions with husbands on the number of children had a significantly negative impact on deviant fertility in rural areas ($\beta=-.069$). Rural respondents who participated in fertility discussions with their husbands after marriage were less likely to be identified with deviant fertility. The effect, however, became insignificant for the urban sample ($\beta=-.015$).

Thirdly, previous female births had significant effects on deviant fertility in both rural and urban areas. While a strong positive impact of previous female births on deviant fertility was found among urban respondents ($\beta=.245$), the effect became weaker for predicting deviant fertility of rural population ($\beta=.046$).

The fourth important result involved the consistency between rural and urban samples in terms of the effects of ideal of large family size, failed pregnancy, and socioeconomic development on deviant fertility. It was noted that, for both rural and urban respondents, ideal of large family size was the most important factor predicting deviant fertility ($\beta=.202$ and $\beta=.296$, respectively). In addition, the significant influence of failed pregnancy on deviant fertility remained for both rural ($\beta=.050$) and urban samples ($\beta=.067$). Social and economic development at either county-level and individual-level exhibited significant effects on fertility for both rural and urban areas.

Finally, the coefficients of determination (R^2) of the two models displayed different explanatory power in explaining deviant fertility. Slightly more than 36 percent of the variation in deviant fertility was explained by the 16 variables for the urban area. The explanatory strength diminished dramatically for the rural sample with the same predictors were under control ($R^2 = .099$). This result indicates that the established model for predicting deviant fertility fits better for the urban area than that for the rural one.

Table 5.21 presents the standardized regression coefficients of predicting deviant fertility and the number of children. Although deviant fertility and the number of children were highly correlated, some significant differences between the two models were uncovered when deviant fertility and the number of children were separately regressed on the same independent factors. First, consistent with the results from the OASS data analyses, age at first marriage had a significant impact on the number of children (ß=-.085), but failed to show a statistically meaningful effect on deviant fertility (ß=-.015) with the other variables controlled. Early marriage may lead to a large number of children, but deviant fertility was unrelated to age at first marriage, statistically speaking.

Second, type of employment, which had significant influences on deviant fertility (ß=-.091), did not show a statistically meaningful relation to number of children (ß=-.036) with the other factors controlled. Those respondents who worked in non-state-owned sectors did not have a large number of children, but were more likely to exhibit deviant fertility.

Table 5.21 Standardized Regression Coefficients of Deviant Fertility and Number of Children by Fertility Related Factors, IDFS Data

	Number of Children	Deviant Fertility
MACROSEC	-.045*	-.104***
MONEY	.011	.018
PAMAEDUC	-.057***	-.062***
SES	-.136***	-.091***
RURAL	.051**	-.121***
EMPLOYER	-.036	-.091***
MAGE	-.085***	-.015
LIVEWITH	.010	.017
DEADCHD	.012	-.008
FAILPREG	.076***	.061***
ALLGIRL	.127***	.078***
KNOW	.097***	.043*
ABORT	.064***	-.025
DISCUSS	-.070***	-.054***
CONTACT	-.003	-.010
ARRANGE	.010	.005
LARGE	.322***	.227***
EARLY	.000	-.005
R^2	.289	.150

* $P < .05$;
** $P < .01$;
*** $P < .001$.

Third, when the 18 variables were controlled to predict the number of children, almost 29 percent of the variation could be explained by the model. The regression equation for deviant fertility, however, only explained 15 percent of the variation. The comparison of the two models revealed that the variables were able to predict the number of children better than deviant fertility.

5.3.3 Path Analysis

Following the bivariate and multivariate analyses, a path analysis was performed. The major advantages of path analysis consist in setting up a causal framework and allowing the disaggregation of associations into components as direct, indirect, or spurious effects (Wolfle, 1980; 1989). Accordingly, a path model was established and illustrated in Figure 5.6. All the variables which were statistically significant at .001 level in the previous multiple regressions were included in the path model. Specifically, parent's education (PAMAEDUC), rural residence (RURAL), state-own employment (EMPLOYER), county-level socioeconomic condition (MACROSEC), and previous female births (ALLGIRL) were exogenous variables, while the endogenous variables of individual socioeconomic status (SES), failed pregnancy (FAILPREG), ideal of large family size (LARGE), and discussion with husbands (DISCUSS) and deviant fertility (DEVIANT) were included in the model. Path coefficients were estimated and presented in Figure 5.6.

As shown in the figure, when the ideal of large family size was presented, educational level by parents ($\beta = -.078$), rural residence ($\beta = .205$), failed pregnancy
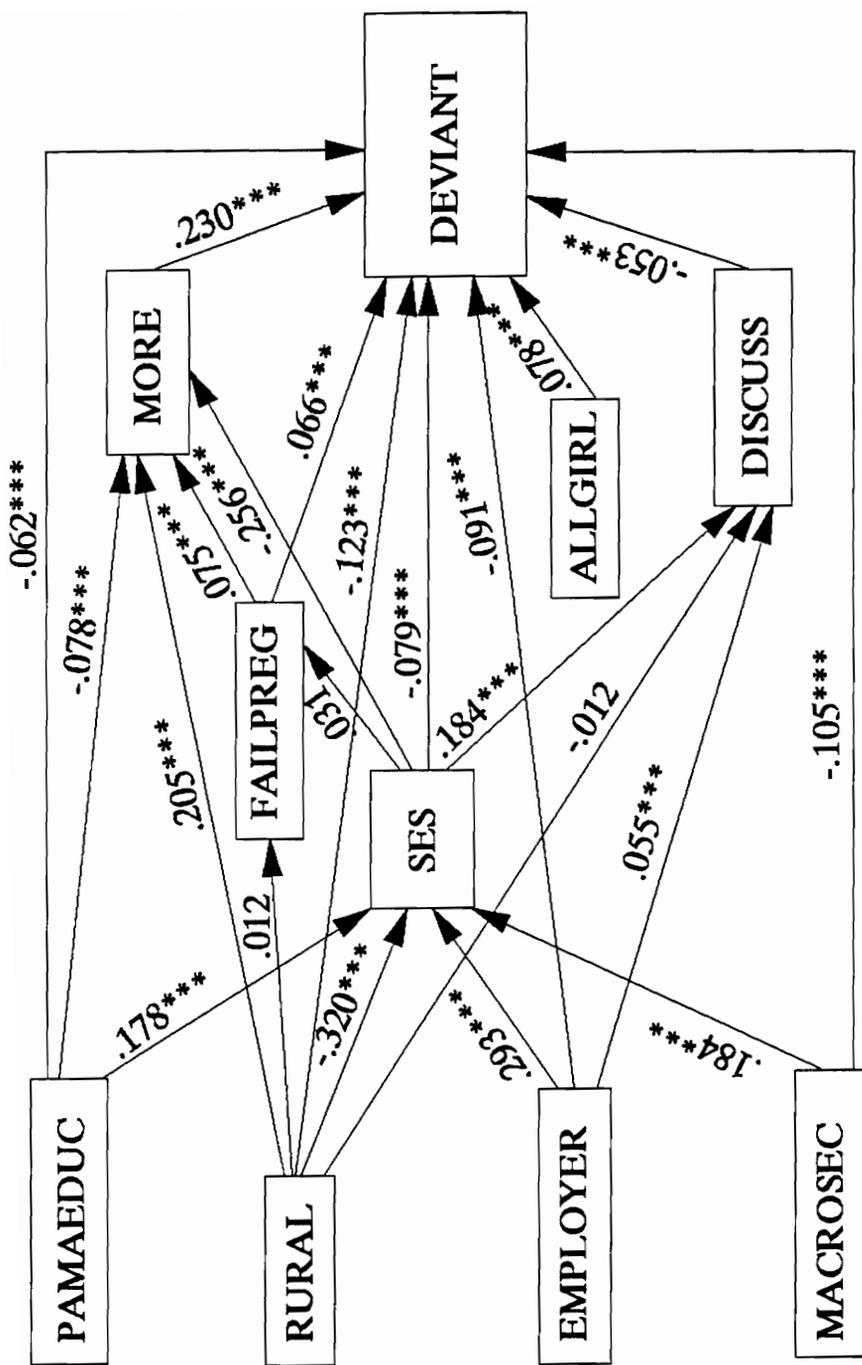
Figure 5.6   Path Model of Fertility-Related Factors on Deviant Fertility, IDFS Data

(.075), and socioeconomic status (ß=-.256) demonstrated significant influences. Both socioeconomic status (ß=.184) and state-owned employment (ß=.055) were significantly related to fertility discussions with husbands. The impact of rural residence, however, was not statistically significant (ß=-.012) when the other two factors were under the control.

As deviant fertility is the major endogenous variable, the direct and indirect effects of the selected factors on deviant fertility are decomposed and exhibited in Table 5.22. The composition of the effects on deviant fertility extend the knowledge obtained from the multiple regression analyses.

First, the direct effect of rural residence on deviant fertility was negative, but its indirect effects on deviant fertility were positive (.095). As demonstrated in the model, rural residence had positive indirect influences on deviant fertility through socioeconomic status (.025), failed pregnancy (.001), ideal of large family size (.047), and discussion with husbands (.001). Among them, the indirect paths through socioeconomic status and the ideal of large family size contributed substantially to deviant fertility. The results indicated that rural residents were more likely to hold traditional ideal of large family size (ß=.205), which, in turn, affected deviant fertility positively (ß=.230). Moreover, rural residents were more likely to have lower socioeconomic status (ß=-.320), and low socioeconomic status was related to deviant fertility (ß=-.079). Because the insignificant effects of rural residence on failed pregnancy, the impact of rural residence on deviant fertility through failed pregnancy was very weak.

Table 5.22   The Total, Direct, and Indirect Effects of Fertility-related Variabels on Deviant Fertility, IDFS Data

Variables	Total Effect	Direct Effect	Indirect Effect	Correlation
PAMAEDUC	-.106	-.062	-.044	-.167
RURAL	-.028	-.123	.095	.124
EMPLOYER	-.136	-.091	-.045	-.214
MACROSEC	-.118	-.105	-.013	-.226
SES	-.139	-.079	-.060	-.244
FAILPREG	.083	.066	.017	.054
ALLGIRL	.078	.078	na	.108
DISCUSS	-.053	-.053	na	-.135
LARGE	.230	.230	na	.317

na = not applicable

Second, the total effect including both the direct (-.062) and indirect ones (-.044) was able to account for the majority of the correlation (r=-.167) between parents' education and deviant fertility. The negative influence of parent's education on deviant fertility came from the paths which pass through individual socioeconomic status and ideal of large family size. These findings indicated that the negative correlation between educational attainment of parents and deviant fertility was partially because low level of educational level of parents was related to a low socioeconomic status, and low socioeconomic status further resulted in ideal of large family size and deviant fertility.

Third, individual socioeconomic status affected deviant fertility both directly (-.079) and indirectly (-.060). Nevertheless, it is interesting to note that socioeconomic status affected deviant fertility positively through failed pregnancy, but negatively through ideal of large family size and fertility discussions with husbands. The strongest indirect impact came through the path from socioeconomic status to ideal of large family size to deviant fertility.

In short, the decomposition of effects in the path model provided an alternative for further exploring the relationships previously discovered. Also the path analysis explored the relationships in a causal order and specified the effects of independent variables by different paths.

CHAPTER VI. SUMMARY AND DISCUSSION

6.1 Summary

6.1.1 Findings from Descriptive Analyses

The Records of County Family Planning Commission (RCFPC) provides the official version of birth accounts and incidence of deviant fertility in the area. The three-year records illustrate several facets related to the main focus of this dissertation.

First, deviant fertility is officially defined as those "out-of-plan" second-order births and births in third or higher order. According to the data, approximately 45 percent of the total births from 1988 to 1990 were second or higher order births. Among the second order births, which comprised 32 percent of the total births, about 72 percent were approved by the government while 28 percent were deviant fertility. The data also showed that the components of "out-of-plan" births were largely dependent on family planning policies. After the policy allowed some couples to have their second children, many couples did so with or without permission. It is plausible that many second-order births have been justified as "planned" while they were actually not. Often, people use bribes and fake certificates to change a second-order birth from "out-of-plan" to "planned" (World Journal, 1992).

The second finding consists of a great increase in third or higher order births from 1988 to 1989. The majority of deviant fertility in 1989 came from the third or higher order births. This phenomenon occurred primarily due to the policy adjustments since 1988. Although the new policy, which allowed rural only-daughter-households to have a second birth, was introduced earlier in Guangdong, it was not until 1988 that the policy officially included all rural areas of the country. Since early 1989 a universal "two-children-with-spacing" policy has been practiced in the rural areas of Guangdong (Zheng, 1989). Despite the fact that the third or higher order births are prohibited even under the new policy, the overall relaxed regulation might encourage some couples to go one step further and have more than two children.

Finally, the distribution of pregnancies and outcomes reveals that only a small portion of "out-of-plan" pregnancies result in "out-of-plan" births. This appears attributable to family planning policies which require women with an "out-of-plan" pregnancy to undergo an abortion (Aird, 1986; Kaufman et al., 1989). Under the influence of family planning propaganda and regulations, couples with an "out-of-plan" pregnancy may either voluntarily or mandatorily terminate the pregnancy. In addition, the availability and accessibility of abortion facilities in China may also contribute to the result.

Descriptive analyses of both the IDFS and the OASS data also portray some important tendencies in deviant fertility. Although findings from the IDFS and the OASS data are not identical in some aspects, some general patterns and trends are revealing. First, the majority of fertility deviants married during the 1970s when the "Later-Longer-

Fewer" family planning regulations were in effect; they might not violate the family planning rules of the 1970s but might do so in the 1980s. The longer the time after the marriage, the more likely that the deviant tendency resulted in fertility. On the other hand, it might be speculated that some of those who married in the 1980s, especially after the mid 1980s, did not conflict with the family planning regulations only because of the matter of time.

The final notable finding in the descriptive analysis concerns the relationship between deviant fertility and social and economic conditions. At least in the IDFS data, fertility deviants were likely to be those who lived in rural areas, had low educational attainments, and had low family incomes. Although it was true that "wealthy" families could pay "penalties" for their deviant births, fertility deviants, as a group, were likely to have low socioeconomic status.

6.1.2 Findings from OASS Data

The Old-Age Security Survey (OASS) data were analyzed by using both bivariate and multivariate statistical techniques. The independent variables included expectation of benefits from children, living standard, family size of origin, relation with parents, previous female births, and educational attainments.

The analyses uncovered a number of fascinating results with relation to deviant fertility in China. Perhaps the most important finding is the strong relationship found between deviant fertility and the gender of previous children. Data showed that deviant fertility was significantly related to the number of daughters but not to the number of

sons. Also, multiple regression analyses demonstrated that the respondents with all female children were more likely to have a deviant birth. The factor of previous female births was the most important predictor affecting deviant fertility, when the other variables were controlled. These results may reflect the fact that Chinese couples violate the family planning regulations simply because they want to have a son. After they have a son, they are inclined to limit their fertility. If they have only female children, however, many couples tend to violate the family planning policy no matter how many children they have already had.

Second, it is also interesting to note that some variables associated with the number of children may not necessarily relate to deviant fertility. For example, consistent with previous literature, age at first marriage was significantly correlated with the total number of living children, but did not significantly relate to deviant fertility. The results may provide evidence for the claim that studying deviant fertility in China is unique and should not be equated with general fertility studies in which the number of children has been emphasized.

The third important finding in this section involves differences between husbands and the wives in the sample with respect to the predictive patterns for deviant fertility. Although the wives demonstrated a higher expectation of benefits from children than their husband counterparts, the expectation was not a significant predictor of deviant fertility among wives. Furthermore, the results of logistic regressions for the husbands revealed that the effect of educational attainment on deviant fertility was negative and significant. It was also found that the husband's family size of origin exhibited a significant impact

on deviant fertility. A similar pattern failed to appear for the wives, suggesting, perhaps, a concern of gender difference in the issue of deviant fertility in China.

Finally, the analyses of the OASS data also revealed that parents' expectations of benefits from children varied with their educational attainment and ancestral family sizes of origin. High expectation of benefits from children were significantly associated with those parents with low educational levels and those originally from large families. Moreover, it was interesting to note that the expectation of benefits from children was a function of gender of children rather than the number of children. With the increase of the number of sons, the expectation of benefits from children went up. The expectation declined while the number of female children increased. These findings provide additional evidence of strong preference for sons over daughters, which is associated with deviant fertility in China.

6.1.3 Findings from IDFS Data

The In-Depth Fertility Survey (IDFS) provides an important data source for this dissertation, due not only to its sufficient sample size but also a variety of variables relevant to the topic of this study. The analysis of data involves 28 variables and the use of such statistical techniques as Pearson's r, multiple regression, and path analysis.

The initial findings consist in significant zero-order relationships found in bivariate analyses. It became evident that deviant fertility was significantly related to socioeconomic characteristics, at both the individual and county levels. Educational attainment of parents was also negatively associated with deviant fertility. Additionally,

those respondents who resided in rural areas and did not work in the state-owned sectors were more likely than others to be identified with fertility deviance.

The relationships between deviant fertility and some indicators of marriage and reproductive experiences were also significant. Specifically, deviant fertility was negatively related to age at marriage, and positively correlated with living with parents after marriage, failed pregnancy, and previous female births. Furthermore, age at marriage was positively related to socioeconomic characteristics, and the relationship between socioeconomic development and living with parents after marriage was negative and statistically significant.

The second set of findings involves selected indicators of constraints on traditional and current fertility norms. It was found that, in general, indicators of current family planning pressures were negatively associated with deviant fertility, while significantly positive associations were found between fertility deviance and traditional family norm constraints. It was also interesting to discover that these traditional pressure indicators significantly related to low socioeconomic status, rural residence, non-state-owned employment, low educational attainment of parents, and living with parents after marriage. On the other hand, indicators of family planning constraints, such as knowledge of birth control, abortion due to family planning, and participation in fertility discussion with husbands, were significantly associated with higher socioeconomic status, higher educational attainment of parents, urban residence, state-owned employment, and not living with parents after marriage.

The third collection of findings results from the multivariate analyses of the IDFS data. After all the relevant variables were controlled in the multiple regression model, the remaining meaningful factors were county-level socioeconomic conditions, education of parents, individual socioeconomic status, area of residence, type of employment, failed pregnancy, previous female births, fertility discussions with husbands, and ideal of large family size. These factors have significant effects on deviant fertility at the .001 level, even after the other variables were taken into account.

The fourth notable result from analyzing the IDFS data is the difference between rural and urban samples in terms of the impact of individual variables on deviant fertility and different explanatory power of the models. The established regression model for predicting deviant fertility appeared more suitable for the urban sample than the rural one. In addition, educational attainments by parents, which exhibited a significant impact on deviant fertility in the rural model, failed to demonstrate its meaningful effect in the urban sample. Fertility discussions with husbands significantly affected deviant fertility for rural residents, but did not produce a significant influence for urban ones. These results provide evidence that area of residence not only strongly affects the dependent variable, but also manifest interactive impacts on other variables' influencing deviant fertility.

The fifth major finding of the IDFS data involves with the comparison of predicting number of children and deviant fertility. The finding is somewhat consistent with that from the OASS data. Although there exists a great deal of similarity for predicting the two dependent variables, the difference appears more meaningful. When

the same factors were under the control, non-state-owned employment was significantly related to deviant fertility, but failed to lead to a large number of children. Age at first marriage had a significant impact on the number of children, but its effect on deviant fertility was negligible. The comparison further supports the postulate that there may be discrepancies in predicting deviant fertility and number of children.

Finally, the path analysis reveals a number of particular paths through which deviant fertility is affected. Among them, the indirect effects of residence on deviant fertility are worth mentioning. Rural residence demonstrated relatively strong influences on deviant fertility through socioeconomic status and ideal of large family size. And much of the negative impact of parents' education on deviant fertility was also obtained by the paths through socioeconomic status and ideal of large family size. Thus, it can be concluded that individual socioeconomic status and traditional desires for more children served as crucial factors in transmitting the indirect effects of residence and parents' education to deviant fertility.

6.1.4 Summary of Hypothesis Tests

The nine hypotheses formulated earlier were tested in the data analyses. The results of the tests were summarized and listed as follows.

Hypothesis		Test Results
Hypothesis 1:	Chinese couples who have strong traditional norm constraints of fertility are more likely to have deviant fertility than those couples who do not have the strong traditional pressures.	Supported by the IDFS data

Hypothesis 2:	Chinese couples who are strongly constrained by new family planning norms are less likely to have deviant fertility than those couples who are not significantly limited by the new fertility norms.	Partially supported by the IDFS data
Hypothesis 3:	Chinese couples who have unfortunate reproductive experiences are more likely to be involved with deviant fertility than those who don't have the experiences.	Supported by the IDFS data
Hypothesis 4:	Chinese couples who have only female children are more likely than those who had previous male offspring to commit fertility deviance.	Strongly supported by both the IDFS and OASS data
Hypothesis 5:	Chinese couples who live with their parents, especially parents on the husband's side, are more likely to have deviant fertility than other couples.	Not supported by the OASS data, partially supported by the IDFS data
Hypothesis 6:	Chinese couples who enjoy high socioeconomic status are more likely to be constrained by current family planning norms than those couples with low socioeconomic status.	Strongly supported by the IDFS data
Hypothesis 7:	Chinese couples who reside in rural areas are more likely than those couples living in cities to accept traditional fertility ideals and commit fertility deviance.	Strongly supported by the IDFS data
Hypothesis 8:	Chinese couples who grew up in families with low socioeconomic status are more likely to be influenced by traditional family ideals than those couples who came from better-off families.	Partially supported by the IDFS data
Hypothesis 9:	Chinese couples who are personally contacted by family planning personnel are more likely to follow the new reproductive regulations than those couples who are not strongly approached by family planning programs.	Not supported by the IDFS data

6.2 Interpretation and Discussion

Given the richness of results in this project, it is difficult to address all the findings. This section, however, will cover a number of major results of the study and discuss them in terms of relationships between deviant fertility and rural-urban differences, son preference, women's status, and fertility norm conflict in China.

6.2.1 Rural-Urban Differences and Deviant Fertility

One of the main findings consists in discrepancies between rural and urban areas in relation to traditional ideal of large family size and, in turn, to deviant fertility. The results parallel the fact that urban and rural fertility patterns and levels are different in China (Aird, 1981; Yi and Vaupel, 1989). A knowledge of social and structural distinctions between rural and urban regions appears necessary to an understanding of this issue.

China is an agricultural nation and three out of four Chinese are rural residents (The State Statistical Bureau, 1990). For years, however, the Chinese government has implemented many social and economic policies that give the urban sectors much privilege. For instance, rural peasants send capital to urban industries by selling grain to the state, which results in low income levels among rural laborers (Sun and Gao, 1990). In China, as in many other developing countries, the wide gap in income and opportunities between peasants and urban residents constitutes the great inequality between rural and urban population. In relation to the economic disadvantages, rural areas also suffered from the lack of state supported welfare systems.

Unlike their urban counterparts who can receive pensions after retirement, rural residents in China depend mainly upon the support of their children when they grow old. The agricultural collective's guarantees of food, shelter, clothing, medical care, and burial, so called "five guarantees", provide only minimal aid for the elderly, and by no means can substitute the economic and emotional supports provided by one's own child (Chen, 1982; Davin, 1985; Davis-Friedmann, 1985). For those rural peasants, having enough surviving children is extremely important, not only for maintaining the family line, but also for old-age security. Thus, rural families have a greater demand for surviving children than their urban counterparts. It is expected that, until adequate old-age security systems are developed in rural China, the strong demand for enough children for old-age supports will not diminish. Consequently, the phenomenon of deviant fertility is likely to continue.

The desire for more children by rural families is also the result of rational calculation in terms of economic advantage. A family is the key productive unit in rural China, which has been enhanced since the rural reform in 1979. Under the new "family responsibility system", communally-owned land is divided and contracted to particular families. Households want to expand their labor force in order to increase the yield from their land. The normal way for a family to enlarge their labor force, however, is to increase the number of family members. Therefore, the dependency period for Chinese children in rural villages is short, and the children engage in such economic activities as feeding livestock, caring for their younger siblings, and helping in the fields at an early

age. Parents benefit from the additional work force, and the advantages of a large family seem apparent.

As in other nations, Chinese urban areas are characterized by such factors as high population density, high industrialization, and high costs of living. These characteristics of urban life imply higher social and economic costs associated with childbearing and childrearing. It is estimated that the cost of raising a child in large cities of China is over four times the cost in rural villages (Cleland and Hobcraft, 1985). For urban young couples living on low wages, having children is bound to have a negative effect on their standard of living. In addition, for many years housing in cities was allocated according to social status and types of employment rather than to actual needs. Having more children creates housing problems for young couples with low socioeconomic status. Given the pressure of urban life, urban residents may be more easily convinced about the negative effects of a large family and population growth than their rural counterparts. As a result, urban couples in China are more likely than rural ones to accept the family planning regulations and to distance themselves from fertility deviance.

In addition to the structural factors mentioned earlier, educational attainments appear relevant to rural-urban difference on deviant fertility. It is often the case in China that urban residents are more likely to be associated with higher educational levels than rural villagers. Caldwell (1982) regards education as an institutional factor influencing fertility behavior by changing the direction of wealth flow between generations (Caldwell, 1982; Cutright, 1983). According to this perspective, the two generations discussed are married couples and their children. On one hand, the improvement in education of both

parents and children increase the costs of childbearing and childrearing. On the other hand, educated parents are more likely than uneducated ones to accept the fact that education reduces their children's availability to work. But how do educational attainments of the couple's parents make a difference in the couple's fertility behavior? Based on the results of this study, two connections may be considered. First, educational levels of parents are closely related to the couples' socioeconomic status, which is negatively associated with deviant fertility. Second, parents' education may affect the couples' traditional fertility ideals and attitudes and thereafter fertility deviance. Education, not only of couples and their children but also of their parents, is an important factor influencing the couple's fertility behaviors.

One related finding in this study is that educational attainments by parents are more likely to influence deviant fertility among rural couples, while the impact of urban parents' education seems negligible. Two possible interpretations appear appropriate. First, the influences of old generations over the young are more evident in rural areas than in cities. It is perhaps due to the fact that modern nuclear families are more prevalent in cities than in rural villages (Tien and Lee, 1988; Zeng, 1986). The lack of co-residences reduces the interactions among generations. As a result, the impact of traditional ideals held by the older generation to the young is likely to be diminished. Another possible explanation consists in the fact that urban youth are more likely to be exposed to modern lifestyles than the rural ones regardless of family formats. The growing availability of modern means of career advancements, communications, and entertainments allows the young generation to adopt a modern lifestyle rapidly and

spontaneously. Consequently, the gap between the young generation and the old widens. The influence of parents' preferences concerning family size and fertility seems less likely to pass to the young couples despite the fact that they may live in the same household.

Furthermore, rural-urban differences in deviant fertility may also stem from distinct social control applied to cities and villages. Social control in China has relied heavily upon the authority of social resources. Urban employees, especially those who work in the state-owned sectors, enjoy much privilege at the cost of strict control by the Chinese government. The power over housing allocation, job promotions, career mobility, and even family matters makes the urban residents more susceptible to the state policies and regulations. For them the punishment for violating family planning rules are much more severe and effectual. Compared to that of their urban counterparts, the life of rural villagers looks more autonomous. In spite of the tight ideological dominion, rural peasants are somewhat removed from certain sanctions. In the case of family planning programs, rural couples who have "out-of-plan" children may be subject to fines, but their behavior may not influence their career moves and living conditions. Since some of the peasants became "rich" after the rural reform in 1979, it is often the case that those rich peasants are more than happy to "buy" their extra births. Thus it is easier for rural couples than urban ones to manifest their traditional large family desires in their fertility behaviors.

The Chinese government implements more moderate birth control measures in rural areas than in cities. But these moderate policies cannot lessen the strong traditional

fertility norms which are prevalent among rural villagers. Indeed, disparity in socioeconomic developments of rural and urban regions is the most important factor contributing to the rural-urban differences on deviant fertility.

The relationship between socioeconomic development and fertility has been a "classic" topic among social demographers since the inception of Demographic Transition Theory. Although China has been used as an example of the difficulty of applying the transition theory to a developing and agricultural nation where a dramatic fertility declines occurs (Kaufman, 1983; Aird, 1981; Mauldin, 1982), a growing body of studies suggest that China follows the general pattern described by the transition hypothesis (Birdsall and Jamison, 1983; Li and Ballweg, 1992; Platte, 1984; Poston and Gu, 1987; Tien, 1984). However, it should be admitted that Demographic Transition Theory does not provide an answer to the question of how socioeconomic situations influence individual fertility behaviors. For years many scholars have tried to offer a solution by identifying some intermediate links connecting fertility and socioeconomic factors. Freedman (1979) suggests that social and economic factors first change the norms of people and thereafter the norms affect a series of intermediate variables that can have impacts on fertility behaviors. This explanation can shed light on the understanding of the relationship between socioeconomic conditions and deviant fertility. The present study further provides evidence that socioeconomic status does influence fertility behaviors through reproductive norms and desires.

6.2.2 Son Preference and Deviant Fertility

One major finding of this study is that those couples who have only female children are more likely to engage in deviant fertility than the couples having a son. In other words, son preference is a very important determinant of deviant fertility in China.

The traditional Chinese family was patriarchal, patrilineal, and patrilocal. Only sons were permanent members of their parents' family. The family line passed through sons, and male offspring was symbolically important for the family and kinship. The patriarchal family structure and the resulting strong son preference became an institutionalized value. According to tradition, a man's duties to his ancestors include having a son and therefore guaranteeing that the family name would survive. Thus, to have at least one son and preferably many sons was regarded as necessary for a family. In spite of the official condemnation, the tradition that sons fulfill symbolic functions is still evident in most parts of China and tends toward emphasis in rural areas and among couples of low socioeconomic status (Arnold and Liu, 1986; Menard and Moen, 1987).

In modern China, especially in rural areas, the patrilocal system perseveres and patriarchal beliefs are still pervasive. The persistence of son preference in China has been maintained despite all attempts since 1949 to change it. Almost immutably daughters still move to their husband's villages, and responsibility for caring for parents continues to rest primarily with male children and their wives. Therefore, in addition to the son preference tradition, having sons proves more advantageous than having daughters in rural China. For instance, a greater economic return may be expected by parents from sons than from daughters, simply because sons tend to remain at home longer than daughters. Given the society with sex differentiation in work, sons are often

considered by their parents as more productive than daughters. Moreover, in the absence of a proper social welfare system in rural China, the only way rural peasants feel secure about their old age is to have at least one son to take care of them later on. Although those urban residents who work in the state-owned sectors can enjoy an old-age pension system, these people only comprise about 10 percent of the total population. For most Chinese, especially those rural Chinese, old-age security is a family obligation. Thus, until an old-age security system is universally provided, rural parents will remain dependent on their children in the future. For some of them, the new official family planning norms may become unacceptable.

As stated earlier, both the continuing influence of the traditional ideals and the lack of a developed welfare program in rural areas contribute to the continuance of son preference in China. Actually, the phenomenon of son preference has not attracted much attention for a long time until it became regarded as a major source of resistance to the current family planning policy. The strict family planning regulations in China would result in many couples having no sons. Given the symbolic and practical importance of having a son for rural families, the average peasant couples may not be ready to limit their fertility if their previous children are female. Under such circumstances, the desire for a son may become stronger because of the limited number of births imposed by family planning. With the powerful preference of sons, it is likely that many rural couples will want to keep having children until they have a son.

In additional to deviant fertility, son preference is also related to other deviant behaviors such as female infanticide, abandonment of female children, and abuse of

women who give birth to daughters, just to name a few. The skewed sex ratios at birth in 1980s support previous suspicions on the occurrence of female infanticide and abandonment in China (Hull, 1990; Johansson and Nygren, 1991; Kristof, 1991). With the limitation of having one or two children, some couples are reluctant to "waste" their quota on daughters. Therefore, many baby girls become "unwanted," and even abandoned or killed. Furthermore, son preference may also result in the reality that girls receive less care and attention than boys in many Chinese families, which reduces the chance of survival of baby girls.

The preference for sons over daughters is widespread and persistent in China. Although the examination of the traditional ideals, the current social system, and the responses to family planning policies shed light on the issue, a full understanding of the phenomenon and its relation to deviant fertility should go beyond these aspects. After all, the persistence of son preference in China reflects the inferior status of Chinese women.

6.2.3 Chinese Women's Status and Deviant Fertility

Although many Chinese women prefer to have a son rather than to have a daughter, they are also victims of the son preference. In China women are often mistreated because they give birth to a girl. One letter written by fifteen women who had given birth to daughter read:

> Whatever it takes, even at the cost of our lives, we women still want to have sons.... Why would we risk our lives to do this bitter thing which endangers the nation and ourselves? Because in our village, if a women

does not have a son, she suffers from discrimination and mistreatment which is even greater in its bitterness than this risking our lives (People's Daily, 1983).

Women in feudalist China had probably the most brutal oppression in the human history. Foot-binding, child bride, concubinage, and girl infanticide were only parts of the miserable lives of Chinese women. Under the Confucian ideology, a set of codes of ethics regulated women's conducts. For instance, the "three obedience" defined the subordination of women to men. A woman should be obedient to her father and brothers when young, obedient to her husband when married, and obedient to her sons when widowed (Andors, 1983). Indeed, the Confucian customs constituted the foundation of male supremacy in China.

There is no doubt that the lack of women's rights and progress leads to the point that women themselves are likely to have a strong motivation for having families with sons. Women not only need sons to contribute security in old age, but also, more importantly, need sons to provide status in their families and communities (Johnson, 1983). It is customary in rural China that women who have at least one son are considered "complete" people, and the other women are often prejudged and discriminated against by the whole community. Therefore, as long as the traditional marriage patterns and structures keep viewing women as outsiders in their husbands' families and communities, women will continue to rely on their male children as a primary source of membership, influence, and status in family and community.

Since 1949, substantial efforts have been made by the government to improve the status of Chinese women. Women are referred as "half the sky" and supposed to be

equal to men in terms of equal opportunity for education, labor force participation, and pay. Nevertheless, gender equality is by no means a reality in today's China. Differences have been found in leadership position, education, employment, and decision-making power within the family (Arnold and Liu, 1986; Croll, 1983; Dalsimer and Nisonoff, 1987; Hemmel and Sindbjerg, 1984; Hong, 1987). In spite of more and more women becoming economically self-supporting, most leadership positions are held by men. Recent statistical data reveal that about 93 percent of leaders at provincial level and 94 percent at county level, are males (World Journal, 1991). In terms of education, women make up 70 percent of the illiterates in China. And approximately 80 percent of the children who do not attend primary schools are girls. Lower educational attainment further prevents women from working in many relatively desirable jobs. In fact, women tend to concentrate in low prestige occupations such as service, commerce, and agriculture, and are under-represented in governmental occupations and professionals (Li, 1989). In summary, Chinese women have a long way to go to achieve the goal of gender equality despite the fact that women's status has improved significantly over time.

Since female offspring have much less potential than males to benefit the family both economically and symbolically, it is not surprising that the tradition of son preference powerfully persists and that deviant fertility is prevalent in China. It is a woman who gives birth to a child. Her reproductive behavior may be blamed for not having a son in a family, or she may be punished for violating current family planning regulations. Women are indeed the victims. In the long run, deviant fertility further handicaps the improvement of women's status. While those baby boys who are "out-of-

plan" by the government policy are likely to bring joy to the families, the "out-of-plan" girls may be not welcome by either the government or the parents. Those girls are often in hiding, given up for adoptions, or simply abandoned. It is estimated that a significant number of female births may never be reported to the authorities (Tien, 1992). Consequently, these girls will be further denied appropriate medical and health care as well as education and employment opportunities in the future. More importantly, their miserable treatment and experiences may turn into a strong son preference by those women, because they will desperately need sons to improve their status. This unfortunate circle implies that, as long as women are still in the inferior position, the son preference becomes inevitable and, in turn, deviant fertility is likely to occur in China.

What can be done? The findings of this study provide some insights on this issue. It is found that those women who participated in fertility discussions with their husbands on how many children they want are less likely to have deviant fertility than those women who fail to engage in fertility discussion with their husbands. Actually, fertility discussions between a wife and a husband can be considered as the process of decision-making, which is closely related to the power structure within the family. It is generally assumed that, since women sacrifice more than men during childbearing and childrearing, the more a wife involves herself in the decision-making of fertility, the more likely she will end up with a small number of children. Some evidence suggests that Chinese women desire fewer children than their husbands and in-laws (Johnson, 1983; Parish and Whyte, 1978). Yet the impact of their desires on actual fertility is quite limited. The fact is that Chinese women, especially rural residents, lack power in decision-making on

matters of family and clan because they are only marginal members. A husband may consult with his parents about how many children he should have rather than discuss the matter with his wife. It is suggested that increased gender equality in the family, which would increase women's participation in fertility discussions, might lead Chinese couples to limit their family sizes in China.

It is supported in this study and a related research that women's socioeconomic development helps them to participate in fertility discussions in the family (Li, 1993). Improvement in women's socioeconomic status, especially educational attainment, influences women's desire for children and their traditional mother roles. However, these attitude changes may not manifest themselves in fertility behavior unless women are able to participate actively in fertility decision-making within the family. One policy strategy suggested by this study is to encourage women to become active in fertility discussions. In doing so, women's support groups may be practical in the short term, and improvement in women's educational attainments and other opportunities will be effective in the long run.

6.2.4 Fertility Norm Conflicts and Deviant Fertility

The major focus of this study is to use a fertility norm conflict approach to understand deviant fertility in China. This approach proves beneficial in terms of examining the large-scale societal picture rather than accusing individuals. Reproductive behavior of an individual is quite personal and private in its natural form. Nevertheless, like other types of human behavior, fertility behavior does not occur in an vacuum but

a social context. The fundamental norms which guide the behavior and the social meanings attached to the behavior constitute social significance in the issue of deviant fertility.

It is generally agreed that the success of the Chinese family planning programs largely depends on the effort to persuade those of childbearing age to accept family planning measures and establish new family planning norms. However, it is unrealistic to expect that the newly established fertility norms can suddenly replace the traditional norms concerning family sizes. In fact, the new reproductive norms exist side by side with the traditional fertility ideal. The conflict between the two is rather intense in China.

The large family idea has been a characteristic of Chinese people for several thousand years. The traditional concepts such as "more children, more happiness," "no descendants means no filial piety," and "bringing up the children today in order to have someone to rely on in old age" are deeply rooted in Chinese culture and lifestyle (Beijing Review, 1982; Sun and Wei, 1987). Traditionally, a large family with many children, especially sons, is a fundamental norm directing people's fertility behavior.

Chinese traditional fertility norms of a large family and son preference directly conflict with the new official reproductive norms imposed by family planning programs. Chinese family planning programs have relied heavily upon ideological efforts. During the family planning campaigns, the propaganda machines in China have their full operations. Individual families and couples are required to sacrifice their own interests for social obligations and the collective benefits for the country. There is no doubt that

the ideological propaganda does introduce and reinforce the new family planning norms to individuals. Nevertheless, norm changes in a society are rather gradual, which are not parallel to ideological reformations. Especially in the situation where the collective pursuits somewhat conflict with interests of individual couples such as old-age security, the new official norm of small family size may not be internalized to guide people's fertility behavior, but rather become a coercive measure. On the other hand, traditional fertility norms are likely to develop through social interaction within intimate groups and communities, which appear more persistent to shape individual perceptions and behaviors than some compulsory means.

Furthermore, fertility norm changes require the corresponding structural transformations. In fact, the fertility patterns in China have been susceptible to its social and institutional changes. For instance, the conflict between family planning norms and traditional fertility ideals becomes more intense after the rural economic reforms known as the "production responsibility system" began in the early 1980's. The reform shifts the unit of management and accounting from the production team to the peasant family. Under the new system, households are responsible for economic production and the private wealth of families. While agricultural production rapidly increases, so too does the economic value of children. Rural families choose to bear more children and pay the economic penalties, calculating that the benefit of more children outweighs the costs (Banister, 1984; Croll, 1983). Moreover, as indicated earlier, the traditional ideal of large family size and son preference are facilitated within current social institutions and structures in China. Although these conventional ideals threaten family planning goals,

they are likely to continue unless institutional changes occur. The structural changes suggested in this study include socioeconomic development, the establishment of appropriate old-age security systems in rural areas, and the improvement of women's status in general and women's power within the family and the community in particular.

The conflict between the traditional fertility ideals and the new reproductive norms imposed by the government family planning programs also can be understood in terms of relativity of norm conformity. In complex societies, normative agreement seems very problematic because of the diversity of competing values. The differences of fertility norm definitions in China exist not only between individual and collective interests, but also among people with various family backgrounds, socioeconomic status, and their early reproductive experiences.

Another implication of this study is related to the influences of Chinese family planning programs on deviant fertility. This study fails to provide evidence of how family planning efforts, either monetary input on family planning or contact by family planning personnel, reduce deviant fertility in China. Nevertheless, it is suggested in this study that family planning pressures imposed upon individual couples may affect their fertility discussions. The contact by family planning personnel may encourage a husband and a wife confront and discuss the issue of family size and planning. Also, it is noted that contact by family planning personnel may reduce the traditional ideal of large family size. In this way, the couple's fertility is more likely to be planned.

In conclusion, deviant fertility is indeed a complex social phenomenon. The coexistence and conflict of the traditional fertility ideals and the new family planning

norms often put individual couples into a difficult situation of making a choice. The normative conflict on fertility and family size is the key to understanding deviant fertility in China. This dissertation, as a primary effort, provides evidence on the uniqueness of sociologically studying the deviant fertility, which cannot be replaced by general fertility research with focus on the number of children.

6.3 Limitations and Recommendations

A major limitation of this study involves the secondary data analysis. The In-Depth Fertility Survey was primarily designed to examine the general patterns and trends of fertility in China. Only limited attention was paid to the fertility desires, not to mention the motivation of violating the current fertility regulations. Similarly the Old-Age Security Survey was also restricted by its original blueprint with limited questions relating to fertility desires and behavior.

Given that the empirical examinations of this study are patterned by what is already available in the data sets, the concepts developed earlier cannot be measured and tested in a satisfactory fashion. For instance, the pressure of traditional fertility norms was only measured by separate items in the survey. The ideal of large family size, arranged marriage, son preference, and early marriage were used to measure various dimensions of the traditional influences. Because of differences in responses categories of the survey questions, these aspects could not be combined into a single factor. In a similar manner, family planning pressure was also measured by individual items and the operational definition may be limited to the problem of measurement error.

Deviant fertility is a new concept in this study. The measurement of the concept is complicated, taking into account indicators of number of living children, family planning regulations, rural-urban variations, time and types of marriage, and majority-minority differences. However, the measurement can be improved by considering the physical and mental conditions of previous children. According to the family planning policy, a couple is allowed to have another child if their previous child is disabled and has serious defects. Without the relevant questions available in the survey, this study failed to identify this situation.

The integration of individual and county-level variables may result in some questionable outcomes. Given the limited variations at county-level, the aggregated individual-level variables were also restricted. Relatively speaking, the relationship between indicators with more variation is more likely to be statistically significant than between those with less variation. This may be the reason for the weak relationship between the county-level monetary input on family planning and deviant fertility.

Another questionable consideration goes to the analysis of the Old-Age Security Survey data. The survey questioned the husband and the wife separately. Thus it is legitimate to consider them as individual respondents. However, the results should be interpreted with caution. Interdependence between the husband and the wife may exist in such variables as perceived living conditions, age at first marriage, and educational attainments. It is possible that the interdependent situation may lead to distorted results. Also, the fact that the sample was small and included only rural couples may result in distorted findings such as a large proportion of fertility reported.

Additionally, the causal ordering of variables in the path analysis may also be questioned. For instance, it is assumed that individual socioeconomic status influences deviant fertility. It is also possible to argue that fertility deviance may result in the low status. It perhaps makes sense that failed pregnancy appears related to ideal of large family size and thereafter deviant fertility. It is also possible to assume that the experience of having more children may lead to more failed pregnancies. The debatable linkage order in the path analysis does not mean that the analyses are spurious, but that the interpretation requires more evidence in the future research, especially through longitudinal studies on this issue.

Based on the multiple regression analysis, the relevant control variables can explain about 15 percent of the variation in deviant fertility for the whole sample. The majority of the variation remain unexplained. It is expected that some important factors are still excluded in the study. Future studies may solve the problem by conducting surveys focusing on deviant fertility and establishing more comprehensive models for predicting deviant fertility.

The final recommendation consists in the theoretical framework of deviant fertility. The results of the study suggest the benefits of conceptualizing deviant fertility in a norm conflict approach. It looks also promising, however, if the issue is explored by using other theoretical perspectives. For example, social labeling theory may help to examine the stigma attached to the Chinese couples who violate the family planning regulations. Also, the phenomenon of deviant fertility may be explained by the means-end perspective of deviance, by which having enough children or sons may be regarded

as a means for realizing the end of old-age security. Deviant fertility is a complex social reality and its causes are multiple. Clearly, a better understanding of this topic requires more comprehensive theoretical perspectives and research in the future.

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APPENDIX 1

Variable Descriptions of In-Depth Fertility Survey - Individual

Section 0
Interview Characteristics

Name	Variable Description
V001A	Province code
V001B	Questionnaire number
V002A	Cluster
V002B	County or city district
V002C	Commune or street committee
V002D	Brigade or neighborhood committee
V002E	Team or neighborhood group
V002F	Household number
V002G	Line number
V003A	Domain
V003B	Stratum
V003C	PSU
V003D	Area is the same as V003C
V003E	Weight
V004A	Type of area
V004B	Number of visits
V005A	Result of first visit
V005B	Result of second visit
V005C	Result of third visit
V005D	Final result
V006A	Interview day
V006B	Interview month
V006C	Interview year
D006	Interview data <CMC>[1]
V007	Interviewer code
V008	Supervisor code

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[1] CMC refers to Century Month Codes, which is defined as the number of months since December 1899 and is calculated as follows: CMC = 12 * year + month. You can convert from CMC to normal calendar date: Year = (CMC-1) / 12 and Month = CMC - 12 * year.

V009	Coder
V010	Answers in section 3
V011	Presence of other after section 3
V012	Degree of co-operation
V013	Respondent for section 6
V014	Usually residence
V101A	Year of birth
V101B	Month of birth
V101C	Day of birth
V101D	Age as reported
D101	Birth date < CMC >
D102	Age
V102	Usual type of place residence
V103	Childhood place of residence
V104	Level of education
V105	Grade completed that level
V106	Age when left school
V107	Can read a newspaper
V108	Ever worked for pay
V109	Most recent occupation
V110	Respondent's employer
V111	Marital status
V112	Father's level of education
V113	Mother's level of education
V114A	Husband's year of birth[2]
V114B	Husband's month of birth
D114	Husband's birth date < CMC >
V115	Husband's childhood place
V116	Husband's level of education
V117	Husband's grade completed
V118	Age husband left school
V119	Husband able to read
V120	Husband's occupation
V121	Husband's employer
V122	Husband currently working[3]
V123	Husband lives at home
V124A	Interval between visit home

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[2] V114A to V121 current husband or not currently married last husband.

[3] V122 to V123A husband = current husband.

Appendix 1. Variable List of IDFS Data - Individual   190

V124B	Times visits
V201A	1st marriage < year >
V201B	1st marriage < month >
V201C	1st marriage < status >
V201D	End of 1st marriage < year >
V201E	End of 1st marriage < month >
D201	Date of 1st marriage < CMC >
D202	Age at first marriage
D203	Years since first marriage
D204	End date of 1st marriage < CMC >
D205	Years from start to end < 1st marriage >
V202A	End of current marriage < year >
V202B	End of current marriage < month >
D206	Date of current marriage < CMC >
V203	Ideal age get married < woman >
V204	Ideal age get married < man >
V205	Who arranged marriage
V206	Live with H'parents at 1st marriage[4]
V207A	Live with H'parents < year >
V207B	Live with H'parents < month >
D207	Live with H'parents < CMC >
V208	Live with R'parents at 1st marriage
V209A	Live with R'parents < year >
V209B	Live with R'parents < month >
D209	Live with R'parents < CMC >
V210	Live with parents at 1st marriage
V211	H'parents in same community
V212	R'parents in same community
V213	Live with parents in same community
V301	Number of sons at home
V302	Number of sons away
V303	Number of daughters at home
V304	Number of daughters away
V305	Number of sons dead
V306	Number of daughters dead
V307	Number of boys adopted
V308	Number of girls adopted
V309	Abortions for family planning
V310	Abortions for illness or other

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[4] H'parents = husband's parents; R'parents = respondent's parents.

V311	Miscarriages + stillbirths
V312A	Children ever-born
V312B	Number of living children
V313	Total pregnancies <incl.curr.>
V314	Currently pregnant
V315A	Months expect to have baby
V315B	Number of living children <incl.curr.>
V316	Times sex relations last 2 weeks
V317	Reason for abstinence
V318A	Last period <year>
V318B	Last period <month>
V319	Times breastfeed per 24 hours
V320	Other food supplied
V401	Ever-use pill
V402	Ever-use IUD
V403	Ever-use female scientific[5]
V404	Ever-use condom
V405	Ever-use withdrawal
V406	Ever-use rhythm
V407	Ever-use injection
V408	Whether woman sterilized
V409A	When woman sterilized <year>
V409B	When woman sterilized <month>
D409	Age at sterilization
V410	Whether male sterilized
V411A	When male sterilized <year>
V411B	When male sterilized <month>
V412	Ever-use rhythm + condom
V413	Ever-use rhythm + other female scientific
V414	Ever-use rhythm + withdrawal
V415	Ever-use other
D415	Use any other <V412-V415>
MUSE	Use any method
V416	Know pill
V417	Know IUD
V418	Know female scientific
V419	Know condom
V420	Know withdrawal

[5] Female scientific measures include spermicide suppository, films, spongers cream, foam, and diaphragms.

V421	Know rhythm
V422	Know injection
V423	Know female sterilization
V424	Know male sterilization
MKWN	Know any method
V425	Current method
V426	Used times < in open interval >
V427	First method used in episode
V428A	Year started first method
V428B	Month started first method
V429	Source of first method
V430	Reason stopped first method
V431	Second method used in episode
V432A	Year started second method
V432B	Month started second method
V433	Source of second method
V434	Reason stopped second method
V435	Third method used in episode
V436A	Year started third method
V436B	Month started third method
V437	Source of third method
V438	Reason stopped third method
V439	Source of current method
V440	Duration of use current method < month >
V441	Interval of first use
V442	Duration of use 1st method
V443	Duration of use 2nd method
V444	Duration of use 3rd method
V445	No of pregnancy before last use
V501	Discussed children wanted
V502	Local officers asked about children
V503	Will sign one child certificate
V504A	Year one child certificate
V504B	Month one child certificate
V505	Children wanted at marriage
V506	Ideal children desired
V507	Desire for future birth
V508	Years wait before next child
V509	Sex preference next child
TPRG	Total pregnancy < incl. curr. >
CHIL	Children ever born

LIVE	Living children
NCBL	Living children before last pregnancy
SONS	Sons everborn
SONL	Living sons
NS05	Sons born in last 5 years
FB51	Children born in 1st 5 years
FB10	Children born in 2nd 5 years
LB05	Children born in last 5 years
FBIN	First birth interval
SBIN	Between 1st and 2nd birth
B041	Sex of 1st living child
P13L	Last method used in last pregnancy
ATFB	Age at 1st birth
ATSB	Age at 2nd birth
CMCL	Date of last birth <CMC>
P04L	Outcome of last pregnancy
P16L	Pattern of use in last P.INT.
B00	Pregnancy order
B01	Birth order
B011	Order in multiple birth
B02	Year of birth
B03	Month of birth
B04	Sex
B05	Who did pregnant check 1st 6 month
B06	Place of delivery
B07	Assistance during delivery
B08	Birth weight
B09	Still alive
B10	Age at death <year>
B11	Age at death <month>
B12	Age at death <day>
B13	Duration of breastfeeding
B14	Age given supplementary food
B15	Vaccination in 1st 6 month
P01	Pregnancy order
P02	Pregnancy ended <year>
P03	Pregnancy ended <month>
P04	Pregnancy outcome
P05	Duration of pregnancy
P06	Duration of amenorrhoea
P07	Segments of control use
P08	First method used

Appendix 1. Variable List of IDFS Data - Individual   194

P09	Years before start using
P10	Months before start using
P11	Duration of use < year >
P12	Duration of use < month >
P13	Last method used
P14	Duration last method < year >
P15	Duration last method < month >
P16	Reason for terminating
D00	Pregnancy order
D01	End of pregnancy < year >
D02	End of pregnancy < month >
D03	Duration of pregnancy < month >
D04	Pregnancy terminated
D05	Duration post-part amenorr < month >

APPENDIX 2

Variable List of In-Depth Fertility Survey - Household

I101B	Province
I102	Type of area
I103A	Cluster
I103B	County or city district
I103C	Commune or street committee
I103D	Brigade or neighborhood committee
I104	Block number or neighborhood group
I106	Household number
I107	Line number
I108	HH questionnaire serial number
I202	Domain number
I203	Stratum number
I204	PSU number
I205	UAU number
I206	Sample weight <1000>
M101	Sex
M102	Age in years
M103	Age in 5 year group
M106	Lives here usually
M107	Slept here last night
M201	Region of residence
M203	Type of place of residence
M207	Education level
M209	Highest grade
M214	Nationality
M501	Ever married
M502	Current marital status
M505	Couple code
M507	Partner's line number
M508	Partner here last night
M509	Partner usually lives here
M510	Partner's age
M511	Partner's Nationality
M701	Own children in HH
M702	Own sons in HH

M703	Own daughters in HH
M704	Child's line number
M705	Child's sex
M706	Child's age
M707	Child lives here
M708	Child's educational level
M709	Child's highest grade
M712	Current marital status
M801	Generation
M804	Mother's line number
M805	Mother's current marital status
M806	Mother usually lives here
M810	Mother's age
M811	Mother slept last night
M812	Mother education level
M813	Mother highest grade
M814	Mother nationality
M815	Father's line number
M816	Father usually lives here
M817	Father's age
M818	Father slept last night
M819	Father education level
M820	Father highest grade
M821	Father nationality
M807	Mother-in-law's line number
M808	Mother-in-law currently married
M809	Mother-in-law lives here
M822	Mother-in-law's age
M823	Mother-law slept last night
M824	Mother-law education level
M825	Mother-law highest grade
M826	Mother-law nationality
M827	Father-in-law's line number
M828	Father-in-law usually lives here
M829	Father-in-law's age
M830	Father-law slept last night
M831	Father-law education level
M832	Father-law highest grade
M833	Father-law nationality

M903	Eligibility code
M904	Selected
M905	Selected matched with SR
H101	Total HH members
H102	HH members < de facto >
H103	HH members < de jure >
H104	Total male
H105	Males in household < de facto >
H106	Males in household < de jure >
H107	Total female
H108	Females in household < de facto >
H109	Females in Household < de jure >
H110	Eligible women in HH
H111	Selected women in HH
H112	Males 0 - 4 < dejure >
H113	Males 5 - 9 < dejure >
H114	Males 10 - 14 < dejure >
H115	Males 15 - 59 < dejure >
H116	Males 60 - 64 < dejure >
H117	Males 65 + < dejure >
H118	Females 0 - 4 < dejure >
H119	Females 5 - 9 < dejure >
H120	Females 10 - 14 < dejure >
H121	Females 15 - 59 < dejure >
H122	Females 60 - 64 < dejure >
H123	Females 65 + < dejure >
H124	Total generations
H125	E. married in generation 1
H126	E. married in generation 2
H127	E. married in generation 3
H128	E. married in generation 4
H129	E. married in generation 5
H130	E. married in generation 6
H131	E. married in other generation
H132	N. married in generation 1
H133	N. married in generation 2
H134	N. married in generation 3
H135	N. married in generation 4
H136	N. married in generation 5
H137	N. married in generation 6
H138	N. married in other generation
H139	Total couples
H140	Generations with couples

H141	Couples in generation <1>
H142	Couples in generation <2>
H143	Couples in generation <3>
H144	Couples in generation <4>
H145	Couples in generation <5>
H146	Couples in generation <6>
H147	Couples in other generation <7-9>
H148	Household structure
H152A	Monthly income
H152B	Total income
H208	Rooms owned
H209	Building material
H305	Water <general or drinking>
H307	Electricity
H406	Bicycle
H408	Refrigerator
H409	Washing machine
H413	Radio
H414	Television
H416	Sewing machine <electric>
H420	Clocks

APPENDIX 3

Variable List of Old-Age Security Survey

Q variable = Husband's; W variable = Wife's

Q1 W1	Village
Q2 W2	Team
Q3 W3	Index number of household
Q4 W4	Index number of couple
Q5 W5	Index number of return
Q18 W18	Father, family code
Q19 W19	Father, gender
Q20 W20	Father, date of birth
Q21 W21	Father, date of death
Q22 W22	Father, education
Q23 W23	Father, occupation
Q24 W24	Father, marital status
Q25 W25	Father, times of marriage
Q26 W26	Father, age of marriage
Q27 W27	Father, ex-married children
Q38 W38	Mother, gender
Q39 W39	Mother, date of birth
Q40 W40	Mother, date of death
Q41 W41	Mother, education
Q42 W42	Mother, occupation
Q43 W43	Mother, marital status
Q44 W44	Mother, times of marriage
Q45 W45	Mother, age of marriage
Q46 W46	Mother, ex-married children
Q56 W56	Brother or sister, relationship
Q79 W79	Brother or sister, relationship
Q101 W101	Brother or sister, relationship
Q123 W123	Brother or sister, relationship
Q145 W145	Brother or sister, relationship
Q168 W168	Brother or sister, relationship
Q190 W190	Brother or sister, relationship
Q212 W212	Brother or sister, relationship
Q234 W234	Brother or sister, relationship
Q256 W256	Brother or sister, relationship
Q278 W278	Brother or sister, relationship
Q58 W58	Brother or sister, gender

Q81 W81	Brother or sister, gender
Q103 W103	Brother or sister, gender
Q125 W125	Brother or sister, gender
Q147 W147	Brother or sister, gender
Q170 W170	Brother or sister, gender
Q192 W129	Brother or sister, gender
Q214 W214	Brother or sister, gender
Q236 W236	Brother or sister, gender
Q258 W258	Brother or sister, gender
Q280 W280	Brother or sister, gender
Q59 W59	Brother or sister, date of birth
Q82 W82	Brother or sister, date of birth
Q104 W104	Brother or sister, date of birth
Q126 W126	Brother or sister, date of birth
Q148 W148	Brother or sister, date of birth
Q171 W171	Brother or sister, date of birth
Q193 W193	Brother or sister, date of birth
Q215 W215	Brother or sister, date of birth
Q237 W237	Brother or sister, date of birth
Q259 W259	Brother or sister, date of birth
Q281 W281	Brother or sister, date of birth
Q60 W60	Brother or sister, date of death
Q83 W83	Brother or sister, date of death
Q105 W105	Brother or sister, date of death
Q127 W127	Brother or sister, date of death
Q149 W149	Brother or sister, date of death
Q172 W172	Brother or sister, date of death
Q194 W194	Brother or sister, date of death
Q216 W216	Brother or sister, date of death
Q238 W238	Brother or sister, date of death
Q260 W260	Brother or sister, date of death
Q282 W282	Brother or sister, date of death
Q61 W61	Brother or sister, relation
Q84 W84	Brother or sister, relation
Q106 W106	Brother or sister, relation
Q128 W128	Brother or sister, relation
Q150 W150	Brother or sister, relation
Q173 W173	Brother or sister, relation
Q195 W195	Brother or sister, relation
Q217 W217	Brother or sister, relation
Q239 W239	Brother or sister, relation
Q261 W261	Brother or sister, relation
Q283 W283	Brother or sister, relation
Q62 W62	Brother or sister, education

Appendix 3. Variables List of OASS Data 201

Q85 W85	Brother or sister, education
Q107 W107	Brother or sister, education
Q129 W129	Brother or sister, education
Q151 W151	Brother or sister, education
Q174 W174	Brother or sister, education
Q196 W196	Brother or sister, education
Q218 W218	Brother or sister, education
Q240 W240	Brother or sister, education
Q262 W262	Brother or sister, education
Q284 W284	Brother or sister, education
Q63 W63	Brother or sister, occupation
Q86 W86	Brother or sister, occupation
Q108 W108	Brother or sister, occupation
Q130 W130	Brother or sister, occupation
Q152 W152	Brother or sister, occupation
Q175 W175	Brother or sister, occupation
Q197 W197	Brother or sister, occupation
Q219 W219	Brother or sister, occupation
Q241 W241	Brother or sister, occupation
Q263 W263	Brother or sister, occupation
Q285 W285	Brother or sister, occupation
Q64 W64	Brother or sister, marital status
Q87 W87	Brother or sister, marital status
Q109 W109	Brother or sister, marital status
Q131 W131	Brother or sister, marital status
Q153 W151	Brother or sister, marital status
Q176 W176	Brother or sister, marital status
Q198 W198	Brother or sister, marital status
Q220 W220	Brother or sister, marital status
Q242 W242	Brother or sister, marital status
Q264 W264	Brother or sister, marital status
Q286 W286	Brother or sister, marital status
Q65 W65	Brother or sister, time marriage
Q88 W88	Brother or sister, time marriage
Q110 W110	Brother or sister, time marriage
Q132 W132	Brother or sister, time marriage
Q154 W154	Brother or sister, time marriage
Q177 W177	Brother or sister, time marriage
Q199 W199	Brother or sister, time marriage
Q221 W221	Brother or sister, time marriage
Q243 W243	Brother or sister, time marriage
Q265 W265	Brother or sister, time marriage
Q287 W287	Brother or sister, time marriage
Q66 W66	Brother or sister, age of marriage

Q89 W89	Brother or sister, age of marriage
Q111 W111	Brother or sister, age of marriage
Q133 W133	Brother or sister, age of marriage
Q155 W155	Brother or sister, age of marriage
Q178 W178	Brother or sister, age of marriage
Q200 W200	Brother or sister, age of marriage
Q222 W222	Brother or sister, age of marriage
Q244 W244	Brother or sister, age of marriage
Q266 W266	Brother or sister, age of marriage
Q288 W288	Brother or sister, age of marriage
Q67 W67	Brother or sister, number of sons
Q90 W90	Brother or sister, number of sons
Q112 w112	Brother or sister, number of sons
Q134 W134	Brother or sister, number of sons
Q156 W156	Brother or sister, number of sons
Q179 W179	Brother or sister, number of sons
Q201 W201	Brother or sister, number of sons
Q223 W223	Brother or sister, number of sons
Q245 W245	Brother or sister, number of sons
Q267 W267	Brother or sister, number of sons
Q289 W289	Brother or sister, number of sons
Q68 W68	Brother or sister, number of daughter
Q91 W91	Brother or sister, number of daughter
Q113 W113	Brother or sister, number of daughter
Q135 W135	Brother or sister, number of daughter
Q157 W157	Brother or sister, number of daughter
Q180 W180	Brother or sister, number of daughter
Q202 W202	Brother or sister, number of daughter
Q224 W224	Brother or sister, number of daughter
Q246 W246	Brother or sister, number of daughter
Q268 W268	Brother or sister, number of daughter
Q290 W290	Brother or sister, number of daughter
Q330 W330	Living with parents
Q331 W331	Address of parents
Q332 W332	Frequency of visiting parents
Q333 W333	Frequency of parents visits
Q334 W334	Taking care parents, parents
Q335 W335	Taking care parents, interviewee
Q336 W336	Taking care parents, children of interviewee
Q337 W337	Taking care parents, brothers of interviewee
Q338 W338	Taking care parents, hiring relatives
Q339 W339	Taking care parents, hiring others
Q340 W340	Taking care parents, neighbors
Q341 W341	Taking care parents, other relatives

Q342 W342	Taking care parents, government
Q343 W343	Taking care parents, other
Q345 W345	Parents, financial support, who
Q346 W346	Parents, financial support, sharing
Q370	Children, gender
Q371	Children, date of birth
Q372	Children, date of death
Q373	Children, relation
Q374	Children, education
Q375	Children, occupation
Q376	Children, marital status
Q377	Children, times of marriage
Q378	Children, age of marriage
Q379	Children, no. of sons
Q380	Children, no. of daughter
Q391	Children, gender
Q392	Children, date of birth
Q393	Children, date of death
Q394	Children, relation
Q395	Children, education
Q396	Children, occupation
Q397	Children, marital status
Q398	Children, times of marriage
Q399	Children, age of marriage
q400	Children, no. of sons
Q401	Children, no. of daughter
Q412	Children, gender
Q413	Children, date of birth
Q414	Children, date of death
Q415	Children, relation
Q416	Children, education
Q417	Children, occupation
Q418	Children, marital status
Q419	Children, times of marriage
Q420	Children, age of marriage
Q421	Children, no. of sons
Q422	Children, no. of daughter
Q433	Children, gender
Q434	Children, date of birth
Q435	Children, date of death
Q436	Children, relation
Q437	Children, education
Q438	Children, occupation
Q439	Children, marital status

Q440		Children, times of marriage
Q441		Children, age of marriage
Q442		Children, no. of sons
Q443		Children, no. of daughter
Q454		Children, gender
Q455		Children, date of birth
Q456		Children, date of death
Q457		Children, relation
Q458		Children, education
Q459		Children, occupation
Q460		Children, marital status
Q461		Children, times of marriage
Q462		Children, age of marriage
Q463		Children, no. of sons
Q464		Children, no. of daughter
Q517	W517	Re-marry
Q519	W519	Wife give birth
Q521	W521	Separate from parent
Q523	W523	Retire
Q525	W525	Become city resident
Q527	W527	Build new house
Q529	W529	Do business
Q531	W531	Children get education
Q533	W533	Children become labor force
Q535	W535	Get grandchildren
Q537	W537	Separate from children
Q539	W539	Children become city resident
Q541	W541	Others 1
Q543	W543	Others 2
Q546	W546	Send money
Q547	W547	Frequent visit
Q548	W548	Give birth a grandson
Q549	W549	Live together
Q550	W550	Send gift
Q551	W551	Maintain parent face
Q552	W552	Success
Q553	W553	Enjoy luxury
Q554	W554	Living support
Q555	W555	Visiting when ill
Q556	W556	Never fight
Q557	W667	Turn in all income
Q558	W558	Politeness
Q559	W559	Visiting in holiday
Q560	W560	Help homework

Q561	W561	Other
Q563	W563	First importance
Q564	W564	Second importance
Q565	W565	Third importance
Q566	W566	Children duty, money
Q567	W567	Children duty, affection
Q568	W568	Children duty, taking care
Q569	W569	Parent preference
Q570	W570	Interviewee preference
Q571	W571	To live with children after retired
Q572	W572	Which child to live with
Q573	W573	Gender of the child
Q574	W574	Parents grandson
Q575	W575	Parents grandson, date of birth
Q576	W576	Grandson
Q577	W577	Grandson, date of birth
Q578	W578	Grandfather
Q579	W579	Grandmother
Q580	W580	Grandfather, mother
Q581	W581	Grandmother, mother
Q582		Date of building house, year
Q583		Date of building house, month
Q584		Expense for building house
Q585		House expansion
Q586		House remodeling
Q587		Expense for house expansion
Q588		Type of house
Q589		How big the house
Q591		Bike, number
Q592		Bike, self-possession
Q593		Bike, join-possession, number
Q594		Bike, join-possession, no of owners
Q595		Bike, from auction
Q596		Motorcycle, number
Q597		Motorcycle, self-possession
Q598		Motorcycle, join-possession, number
Q599		Motorcycle, join-possession, no of owners
Q600		Motorcycle, from auction
Q601		Car, number
Q692		Car, self-possession
Q603		Car, join-possession, number
Q604		Car, join-possession, no of owners
Q605		Car, from auction
Q606		Tractor, number

Q607	Tractor, self-possession
Q608	Tractor, join-possession, number
Q609	Tractor, join-possession, no of owners
Q610	Tractor, from auction
Q611	Boat, number
Q612	Boat, self-possession
Q613	Boat, join-possession, number
Q614	Boat, join-possession, no of owners
Q615	Boat, from auction
Q616	Thresher, number
Q617	Thresher, self-possession
Q618	Thresher, join-possession, number
Q619	Thresher, join-possession, no of owners
Q620	Thresher, from auction
Q621	Rice mill, number
Q622	Rice mill, self-possession
Q623	Rice mill, join-possession, number
Q624	Rice mill, join-possession, no of owners
Q625	Rice mill, from auction
Q626	Pump, number
Q627	Pump, self-possession
Q628	Pump, join-possession, number
Q629	Pump, join-possession, no of owners
Q630	Pump, from auction
Q631	Cattle, number
Q632	Cattle, self-possession
Q633	Cattle, join-possession, number
Q634	Cattle, join-possession, no of owners
Q635	Cattle, from auction
Q636	Other, number
Q637	Other, self-possession
Q638	Other, join-possession, number
Q639	Other, join-possession, no of owners
Q640	Other, from auction
Q642	Area of land
Q647	Self-evaluation
Q648	Electricity, amount
Q649	Coal, amount
Q651 W651	Agriculture
Q652 W652	Business
Q653 W653	Construction
Q654 W654	Transportation
Q655 w655	Hired worker
Q656 W656	Government

Appendix 3. Variables List of OASS Data

Q657 W657	Other 1
Q658 W658	Other 2
Q659 W659	Other 3
Q660 W660	Agriculture, how long
Q661 W661	Business, how long
Q662 W662	Construction, how long
Q663 W663	Transportation, how long
Q664 W664	Hired worker, how long
Q665 W665	Government, how long
Q666 W666	Other 1, how long
Q667 W667	Other 2, how long
Q668 W668	Other 3, how long
Q678 W678	Agriculture, stay
Q679 W679	Business, stay
Q680 W680	Construction, stay
Q681 W681	Transportation, stay
Q682 W682	Hired worker, stay
Q683 W683	Government, stay
Q684 W684	Other 1, stay
Q685 W685	Other 2, stay
Q686 W686	Other 3, stay
Q687 W687	Registration
Q688 W688	Registration, where
Q689 W689	Registration, reason of moving
Q690 W690	Leaving home
Q691 W691	Leaving home, times
Q692 W692	Leaving home, longest, where
Q693 W693	Leaving home, longest, how long
Q694 W694	Leaving home, longest, for what
Q695 W695	Leaving home, latest, where
Q696 W696	Leaving home, latest, how long
Q697 W697	Leaving home, latest, for what
Q698 W698	Interview time, hour
Q699 W699	Interview time, minute
Q700 W700	Answer by spouse
Q701 W701	Cooperation
Q702 W702	Attitude of interviewee
Q703 W703	Interruption
Q704 W704	House condition

APPENDIX 4

Variable List of the Records of County Family Planning Commission

ID88	ID number in 1988
BIRTH88	Total births in 1988
POP88	Birth rates in 1988
ONE88	First birth in 1988
TWO88	Second birth in 1988
PLAN288	Second planned birth in 88
UNPLB288	Second unplanned birth in 88
THREE88	Third or higher birth in 88
STER88	Sterilization in 1988
IUD88	IUD in 1988
ABORT88	Abortion in 1988
INDUC88	Induction in 1988
UNPLP88	Unplanned pregnancy in 1988
MARRY88	Women married at the first time in 1988
LMRRY88	Late marriage in 1988
GROWTH88	Population growth in 1988
ID89	ID number in 1989
BIRTH89	Total births in 1989
POP89	Birth rates in 1989
ONE89	First birth in 1989
TWO89	Second birth in 1989
PLAN289	Second planned birth in 89
UNPLB289	Second unplanned birth in 89
THREE89	Third or higher birth in 89
STER89	Sterilization in 1989
IUD89	IUD in 1989
ABORT89	Abortion in 1989
INDUC89	Induction in 1989
UNPLP89	Unplanned pregnancy in 1989
MARRY89	Women married at the first time in 1989
LMRRY89	Late marriage in 1989
GROWTH89	Population growth in 1989
ID90	ID number in 1990
BIRTH90	Total births in 1990
POP90	Birth rates in 1990
ONE90	First birth in 1990

TWO90	Second birth in 1990
PLAN290	Second planned birth in 90
UNPLB290	Second unplanned birth in 90
THREE90	Third or higher birth in 90
STER90	Sterilization in 1990
IUD90	IUD in 1990
ABORT90	Abortion in 1990
INDUC90	Induction in 1990
UNPLP90	Unplanned pregnancy in 1990
MARRY90	Women married at the first time in 1990
LMRRY90	Late marriage in 1990
GROWTH90	Population growth in 1990

APPENDIX 5

Correlation Matrix

	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
X1	.69	-.61	-.21	-.13	-.13	.03	.12	.11	.04	-.13	-.11	.05	.02	-.06	.22	-.24
X2		-.20	.63	-.40	-.24	-.17	.22	.10	.11	-.13	-.02	.11	.14	-.14	.06	-.33
X3			.12	.18	.17	-.02	-.53	-.28	-.08	.41	.21	.08	-.07	.11	-.01	.56
X4				-.04	-.17	-.21	-.08	-.08	.08	.12	.15	.16	.20	-.00	-.01	-.04
X5					.14	.13	-.22	-.11	-.07	.18	.08	-.07	-.16	.27	.03	.28
X6						.16	-.16	-.09	-.05	.17	.06	-.01	-.09	.07	-.02	.23
X7							-.01	.01	.10	-.02	-.05	-.07	.01	.01	.02	.03
X8								.24	.10	-.44	-.25	-.03	.08	-.17	.03	-.59
X9									.03	-.21	-.13	.01	.02	-.06	.02	-.22
X10										-.13	-.07	.00	.05	-.02	-.01	-.17
X11											.26	.08	-.06	.11	-.01	.52
X12												-.04	-.01	.05	-.01	.22
X13													.06	-.03	.01	.04
X14														-.08	-.04	-.14
X15															.02	.17
X16																-.03
X17																1.00

X1 - Deviant Fertility
X2 - Number of Children
X3 - Type of Employment
X4 - Age
X5 - Age at First Marriage
X6 - Discussions with Husbands on Number of Children
X7 - Contact by Family Planning Personnel
X8 - Residence
X9 - Living with Parents After Marriage
X10 - Arranged Marriage by Parents or Others
X11 - Knowledge of Birth Control
X12 - Abortion because of Family Planning
X13 - Terminated Pregnancy not due to Family Planning
X14 - Children Death
X15 - Early Marriage Ideal
X16 - Previous Female Births
X17 - Individual Socioeconomic Status

Appendix 5. Correlation Matrix

VITA

EDUCATION

Ph.D., Sociology, November 1992.
Virginia Polytechnic Institute and State University,
Blacksburg, Virginia, U.S.A.

M.S., Sociology, May 1989.
Virginia Polytechnic Institute and State University,
Blacksburg, Virginia, U.S.A.

Graduate Student, Philosophy, September 1985 - May 1986.
Zhongshan (Sun Yatsen) University, Guangzhou, China

B.A., Philosophy, January 1982.
Zhongshan (Sun Yatsen) University, Guangzhou, China

PUBLICATIONS

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Li, Li and Clifton D. Bryant. "'The Dead Ashes Have Been Rekindled': The Reappearance of Prostitution in China." Presented at the Annual Meeting of Mid-South Sociological Association, Hot Springs, Arkansas, October 1990.

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Ballweg, John A. and Li Li. "Stress and Health Concerns of Military Women." Presented at the Annual Meeting of Southern Sociological Society, Louisville, Kentucky, March, 1990.

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Ballweg, John A. and Li Li. "Health Habit Comparison of Military with the Civilian Population." Presented at the Annual Meeting of Southern Sociological Society, Norfolk, Virginia, April, 1989.

PROFESSIONAL EXPERIENCES

Graduate Research Assistant, 1987-1992
Department of Sociology, Virginia Polytechnic Institute and State University

Assistant Editor, 1989-1991
Deviant Behavior: An Interdisciplinary Journal (Published by Taylor and Francis)

Instructor, 1982-1985
Department of Social Science, Guangdong Education College, China

Graduate Teaching Assistant, Spring, 1992
Department of Sociology, Virginia Polytechnic Institute and State University

HONORS/AFFILIATIONS

American Sociological Association
Southern Sociological Society
Rural Sociological Society
Alpha Kappa Delta, the International Sociology Honor Society
The Honor Society of Phi Kappa Phi