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## Effects of the Family Formation Norms on Demographic Behaviors\*

— Case of Okinawa in Japan —

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### Introduction

The birth rate in Okinawa Prefecture has continued to be Japan's highest, although it has been subject to the same national tendency towards decrease. The factors behind this, however, appear to have seldom been studied<sup>1)</sup>. Prior studies in ethnology, etc. have confirmed that in the southern part of Okinawa Honto (main island of Okinawa), a family is structured along the father-eldest son line as its axis, and the patrilineal family prevails. It has been viewed that this indigenously Okinawan family formation norm may influence marriage and fertility behaviors and hence the birth rate. This study attempts to analyze Okinawa's high birth rate mainly through gender-preference indexes.

### Analytical Framework

The level of fertility in Okinawa is high compared with other prefectures. Although the differences among prefectures tend to be reduced over time, the total fertility rate (TFR) in Okinawa has always been the highest since 1973 when Okinawa was returned to Japan. The TFR in 1993 in Okinawa is 0.5 point higher than the national average (Figure 1), and, thus, there is a large difference with many other prefectures. Compared with the birth rate by age of mother for the whole Japan, the figures for Okinawa are different at the ages 30 and above (Figure 2).

We can consider that the norm about family formation in this area has some connections with this difference. Families in this area are composed of the patrilineal descent group called "Munchū (sib)". "Munchū" which has the family formation norms with a son preference is often found in the South of the Okinawa Island. But such norms are generally found in other parts of Okinawa with some variations.

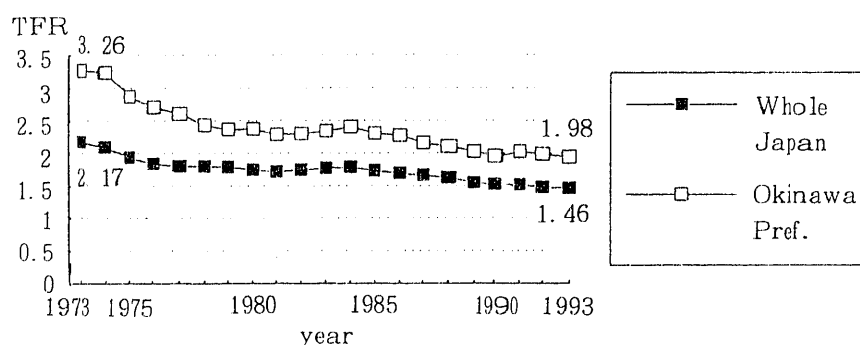
First, we would like to examine the relationships of the marriage type and the birth to such norms of family formation. It is easy to understand them if we compare the "Munchū" with the

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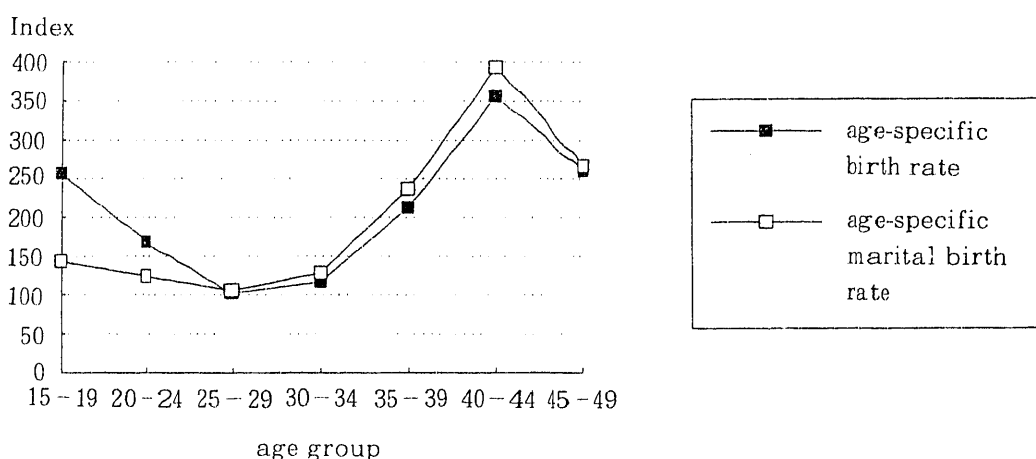
1) e.g., Reiko Tsubouchi, *Japanese Family—Continuity and Incontinuity of 「Ie」*, Akademia Syuppankai, 1992 (in Japanese).

Figure 1 Trends of Total Fertility Rate 1973 to 1993 : Japan and Okinawa



Source : Vital Statistics, 1973 to 1993, Department of Statistics and Information, Ministry of Health and Welfare.

Figure 2 Proportion of Age-Specific Birth Rates Index : Okinawa in 1990 (Setting the Whole Japan Birth Rates as 100)



Source : Vital Statistics 1990, Department of Statistics and Information, Ministry of Health and Welfare.

“Dōzoku” which were found in many other areas of Japan<sup>2)</sup>. Thus, we explain the basic principles of the two family systems affecting demographic behaviors.

“Dōzoku” : This is based on the patrilineal descent, but the biological filiation is not necessarily

2) Masao Higa, “Inquiries into the Feature of Okinawan Society – From the Viewpoint of Social Anthropology –”, *Okinawa Syakai Kenkyu* [Journal of Okinawan Society], No. 1, 1986, pp.34-38 (in Japanese).

Morio Fukusato, “A Study on Succession of Religious Utensils in Okinawa”, *Okinawa Hogaku* [Journal of the Association of Law], No. 9, 1981, pp.75-92 (in Japanese).

Seiichi Muratake, “Descent • Family • Homestead and Village-Cosmos in Southern Okinawa Main-Island”, *Mirzokugaku-Kenkyu* [The Japanese Journal of Ethnology], Vol. 36, No. 2, 1971, pp.109-150 (in Japanese with an English Summary).

Seiichi Muratake, *Social Anthropology of Family*, Kobundo, 1973 (in Japanese).

Yasushi Kikuchi, “Comparative Studies on the Kinship System of the Philippines and Okinawa”, *Shakai Kagaku Kenkyu* [The Social Sciences Review], Vol. 26, No. 2, 1981, pp.39-53 (in Japanese).

regarded as important. Mutual recognition is needed, but the blood relationship is not always necessary. The first priority is given to the continuation of "Ie (the traditional Japanese family)".

"Munchū" : Patrilineal (Male) descent line takes priority and rigid adherence to the biological relationship is found. Only the successor of the family is allowed to have "To-to-me (a mortuary tablet)", who should have been designated as such (Figure 3). The biological continuation of patrilineal descent is regarded as more important than the succession of the "family".

What do the differences between the two basic principles of family formation suggest? And how do they influence the demographic behaviors? In the case of "Dōzoku" systems, giving priority to the succession of the "family", it is normal for the parents without any daughters to adopt a son. In Okinawa where male descent line is the basic principle, daughters cannot succeed the family and they marry out. If the couples have no sons, they will adopt a son of the husband's brother. But under this norm women were expected to give birth to at least one son and, still now, women aged 30 and above are expected to do so and feel some pressure for that.

With regard to the effect of the family formation norms on demographic behaviors, the following four hypotheses are proposed.

H1 : The patterns of marriage regarding the postnuptial residence will show the differences. In Okinawa where the male descent line is important and daughters cannot succeed their family, the proportion of the uxorilocal marriages in which newly married couples live with the bride's family may be low and, in contrast, the proportion of virilocal and neolocal marriages might be higher than in other prefectures where the succession of the family is highly regarded.

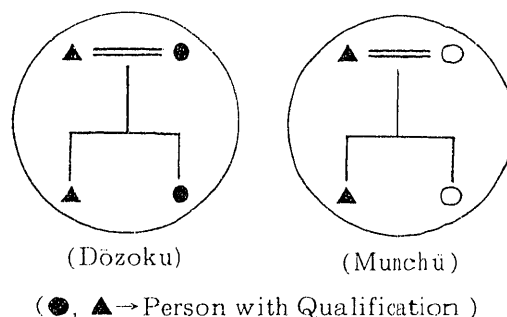
H2 : If Okinawans have a strong social norm to have at least one son, it can be considered that women in Okinawa continue to give births until they can have a son. Thus, the number of children increase.

H3 : Sex ratio at birth is biologically fixed, and in our modern society where the human rights are respected we cannot artificially select the sex of a child. But the couple can make a choice about the number of children considering the sex composition of their children. If they want to have a son at all costs, "the youngest child's sex ratio" for women who have finished child-bearing will be higher than the normal value.

H4 : As a result of the H2 and H3, the sex composition of their children will be a criterion for deciding whether they will have another child or not. Thus, the parity progression ratio will differ by the sex composition of children.

Therefore, if the hypotheses, H1-H4 are empirically supported, we can ascertain that the family formation norms in Okinawa have a large effect on the demographic behaviors and that the sex-selective fertility behavior leads to a high level of fertility in Okinawa. We can also

Figure 3 Limits of the Person who Qualifies as Successor a Family



confirm that the category of regions with the same family formation norm constitutes a region-unit for the analysis of the fertility transition. The family formation norms can be the tool for an efficient analysis of factors of fertility transition.

## Data and Methods

### <Data>

1. "Fertility Survey in Selected Rural Areas in 1979", Institute of Population Problems ; the data for 210 couples and their 875 children in the South area of Okinawa Island (plural deliveries and foetal deaths are excluded).

2. "Vital Statistics", Department of Statistics and Information, Ministry of Health and Welfare.

### <Method>

As for the Hypotheses 1, because we cannot get such statistics at present, we will confirm the effect of family formation norms on the marriage patterns by the data on the number the uxori-local marriages.

To test the H1, the number of marriages by type of postnuptial residence (virilocal, uxori-local or neolocal) can be used as an index. Although we collect no information on the type of marriage in postwar vital statistics, we can make use of the data from prewar vital statistics for 1904-1938.

The H2, H3 and H4 will be examined using the survey data.

The H2 will be examined using the survey data on the number of the children ever-born and the ideal number of the children by age among married women.

As for the H3, the level of "the sex ratio of the youngest child" can be used to ascertain whether the couples had decided to finish childbearing by the last child's gender.

The H4 will be tested using the fertility behavior indices about the preference for the child's sex; for example, the parity progression ratios by children's sex composition. And if the parity progression ratios are different by the sex combination of children, it is supposed that their parents have a special preference for their child's sex<sup>3)</sup>.

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3) Hiromichi Sakai, "On Preferences for Sex of Children Among the Japanese", *Jinko Mondai Kenkyu* [Journal of Population Problems], No. 182, 1987, pp.51-55 (in Japanese).

Hiromichi Sakai, "Child-Sex Effects on Further Births", *Jinko Mondai Kenkyu* [Journal of Population Problems], No. 189, pp 18-30 (in Japanese with an English Summary).

Gray H. McClelland, "Measuring Sex Preferences and Their Effects on Fertility", in Bennett N. E. (ed.), *Sex Selection of Children*, Academic Press, 1983.

Jay D. Teachman and Paul T. Schollaert, "Gender of Children and Birth Timing", *Demography*, Vol. 26, No. 3, 1989, pp.411-423.

Kathy R. Widemer, Gray H. McClelland and Carol A. Nickerson, "Determining the Impact of Sex Preferences on Fertility: A Demonstration Study", *Demography*, Vol. 18, No. 1, 1983, pp.27-37.

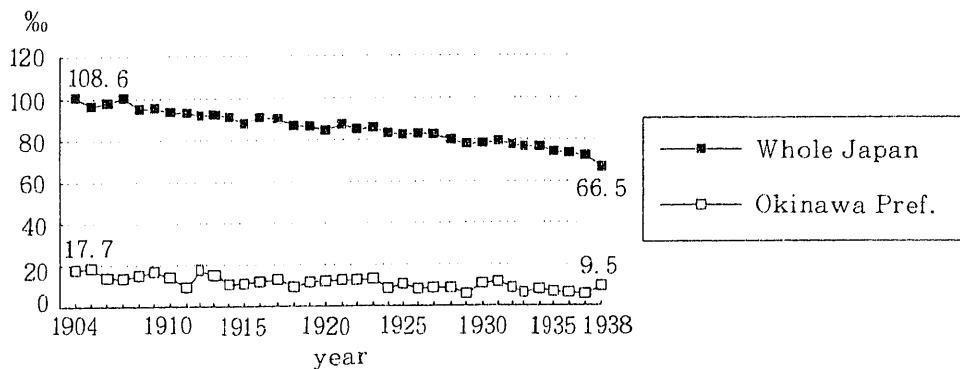
Nancy Williamson, *Sons or Daughters: A Cross-Cultural Survey of Parental Preferences*, Sage, 1976.

Nancy Williamson, "Parental Sex Preferences and Sex Selection", in Bennett N. E. (ed.), *Sex Selection of Children*, Academic Press, 1983.

## Results

As for the marriage patterns regarding H 1, the following results are obtained from Figures 4 and 5.

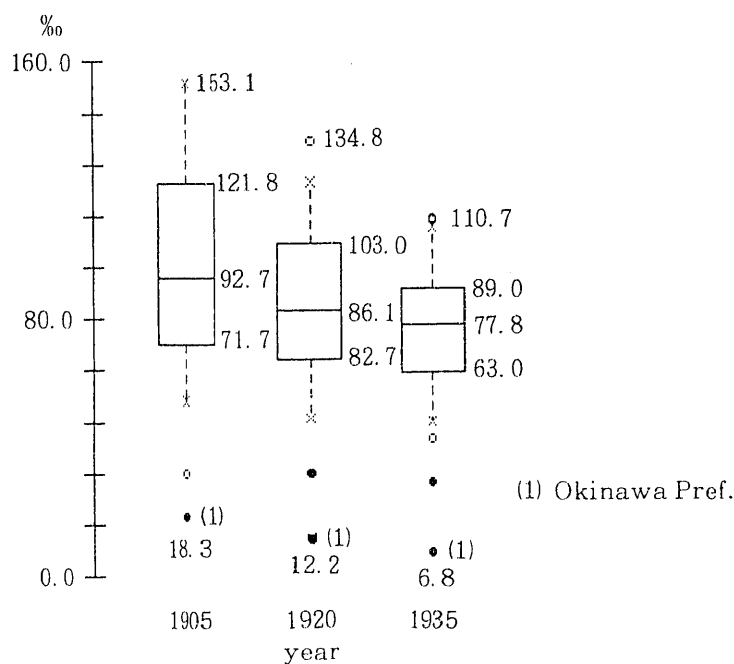
Figure 4 Uxorilocal Marriage Rate in Japan and Okinawa  
1904 to 1938 (per 1,000 marriages)



Source : Vital Statistics of the Japanese Empire, 1904 to 1938,  
Statistics Bureau, Imperial Cabinet.

Uxorilocal marriage rate for the whole Japan gradually declined while that for Okinawa remained at the lowest level among 47 prefectures during the 35 years between 1904 and 1938. Such social norms regarding postnuptial residence remains more powerful in Okinawa than in areas with the "Dozoku" system. Although there were some changes caused by the revision of Civil Code after World War II, the regional differences in marriage patterns have rarely been examined. In Okinawa, uxorilocal marriages have rarely been found. Instead, the virilocal marriage rate is the highest in Japan. This is one of the

Figure 5 Boxplot of Uxorilocal Marriage Rates in 47 Prefectures  
in 1905, 1920 and 1935 (per 1,000 marriages)



Source : Vital Statistics of the Japanese Empire, 1905, 1920 and  
1935, Statistics Bureau, Imperial Cabinet.

effects the family formation norms about the marriage pattern. In fact, I was convinced of the fact that the uxorilocal marriage avoided as much as possible during one interview survey in K town in the South of Okinawa in 1992.

Concerning the H 2, H 3 and H 4 about the fertility behavior, I got the following results :

a) Among married women aged 35 and above, the ideal and the actual numbers of children are approximately the same in Okinawa. This means that they rationalized their actual behavior, but

Table 1 Mean Number of Children Ever-Born and Ideal Number of Children of Married-Women

age group	20-24	25-29	30-34	35-39	40-44	45-49
Okinawa Case						
Ever-Born	1.5	2.7	3.2	4.1	4.7	4.7
Ideal Number	3.8	3.8	3.6	4.2	4.5	4.6
Whole Japan						
Ever-Born	0.7	1.4	2.0	2.2	2.2	2.3
Ideal Number	2.5	2.5	2.6	2.6	2.7	2.8

Source: Okinawa Case is the Fertility Survey in Selected Rural Areas in 1979, Institute of Population Problems. Whole Japan is the Seventh Japanese National Fertility Survey in 1977, Institute of Population Problems.

the ideal number of children among married women aged 20-34 is high. Thus, in comparison with the Japanese average the norm about the number of children had a great effect on fertility behavior (Table 1).

b) The sex ratio at birth is normally 105-106. In the case of Okinawa samples the sex ratio for the total (870 children) is 105 and it means normal. The youngest child's sex ratio of married women aged 40-49 (106 couples) who finished childbearing is "141" which is higher than that of those aged 30-39 (107). This means that they wanted a boy for their youngest child.

c) If there is a social norm to have many children in Okinawa, the proportion of married women having only daughters will be reduced. But out of 210 married women, the number of those with the combination of both male and female children is 91. Among 106 married women aged 40-49 those with the combination is 76, and only two of them have only daughters. One of them gave birth to seven daughters, and another one still desired to have another child. 104 out of 106 women have at least one son.

d) Because the special desire for sons can be seen in the fertility behavior discussed in c), I am going to examine the parity progression ratios by sex composition of children in Okinawa. About 60% of married women aged 40-49 had more than 6 children. Accordingly, in the case of the progression from the first birth to the second, the norm about the number of children has a greater effect than the sex preference for children. Thus, the sex of the first child does not influence the next birth. Table 2 shows the parity progression ratios in relative terms by the sex

Table 2 Relative Parity Progression Ratio by the Number and the Sex Composition of Children

sex composition \ age group	40 ~	30-39 (%)
2 m	87.5	58.8
1 m 1 f	95.5	90.3
2 f	100.0	100.0
3 m	92.9	50.0
2 m 1 f	80.0	76.5
1 m 2 f	93.9	72.2
3 f	100.0	100.0
4 m	83.3	
3 m 1 f	68.0	
2 m 2 f	60.7	
1 m 3 f	86.4	
4 f	100.0	

Source: Fertility Survey in Selected Rural Areas in 1979, Institute of Population Problems

composition of children for the parity of two to four by age of married women. Among those with the parity of two, the proportion progressing to the third differs by the sex composition in the following order : 1flf > 1m1f > 1m1m (m and f mean male and female).

As for the progression from the third to the fourth, 3f > 1m2f > 3m > 2m1f. As for the progression from the fourth to the fifth, 4f > 1m3f > 4m > 3m1f > 2m2f >.

In the case of 2m, 3m and 4m combinations, those women progress to the next parity due to the preference for balanced sex composition. But in the 2f, 3f and 4f cases, those women want a son, and the proportion of giving birth to the next child is 100%. There is a very high probability that they will continue giving birth until they get a son. Those women with many children but only one son are also likely to continue giving birth to have their second son. It is considered as an ideal behavior to continue giving birth until they have at least two sons.

These indices show that the son preference is stronger than the preference for balanced sex composition of children, and that the norm for a large family is little or only potentially affected by the preference for balanced sex composition.

Throughout the process of family formation the fertility behavior is guided by son preference.

### Summary and Conclusion

In the South area of Okinawa Island, the norm about the family size is originally set at a higher level than in Japan as a whole. To add to this, the principle of patrilineal descent have a pronatalist effect on fertility behavior. In other words, when Okinawa women have their second and the subsequent births, they show the behavior suggestive of the son preference. But, at first, the family size norm precedes the son preference and they have some children any way. In this process the following four patterns are found.

a) The couples which have already at least two sons (including two sons only) reveal the preference for balanced sex composition of children and they continue childbearing hoping for a daughter within the limit of their ideal number of children.

b) The couples who have balanced sex composition of children (at least one child each of both sexes) will continue giving birth within the limits of ideal family size determined by the norm.

c) The couples which have only daughters will continue giving birth until they get a son.

d) In contrast to the case b), there are many couples which have one son and some daughters but continue giving birth for another son. In this case the couples may expect to have more children than the ideal. At the final stage of childbearing "the coordinative mechanism" to change the sex composition of children is often operative in the direction to have more sons. This is the reason why the sex ratio of the youngest child among married women aged 40-49 tends to be higher than 105. Before they finish childbearing, they would like to adjust the sex combination of their children. Fertility level of married women in Okinawa is especially high in the ages 30 and above compared with the average for Japan as a whole.

In Okinawa where the norm about family formation is based on the principle of patrilineal descent, we can clarify the distinctive fertility behavior : differentiated by the sex composition of children.

Through all the process of family formation the fertility behavior guided by the son preference is found. Especially at the final stage of childbearing, the coordinative mechanism gives priority

to the sons preference over the family size norm, resulting in a large number of children than the ideal. As a consequence, this mechanism has contributed to the high level of fertility in this area.

In conclusion, the family formation norms found in Okinawa have a very large effect on the demographic behaviors including the distinctive patterns of fertility determined by the sex composition of children as well as the high level of fertility. The category of the regions where the same family formation norms are found can be used as a unit of analysis for determinants of fertility transition. The set of family formation norms as a cultural factor can be an efficient tool for the analysis of fertility transition.



# Effects of the Family Formation Norms on Demographic Behaviors — Case of Okinawa in Japan —

## 結婚行動、出生行動に与える家族形成規範の影響

— 沖縄本島南部地方の場合 —

西岡 八郎

沖縄の出生力水準は、日本全体の低下傾向と軌を一にしながらも、常に高位の水準（全国一位）を維持している。しかし、その要因分析については、とくに研究対象となることが少なかったように思える。沖縄本島南部地域では、民族学などの先行研究で父→長男の男系を軸に家族は構成され、父系氏族がみられることが確認されている。こうした沖縄固有の家族形成規範が、結婚行動や出生行動については出生力水準に影響を与えてきたのではないかとの視点から、おもに性別選好に関する行動指標を用いて分析、検証を試みた。

データは、おもに人口動態統計（厚生省統計情報部）および沖縄県の小地域データ「農村地域の出生力に関する特別調査」（人口問題研究所、昭和54年、なお複産、死亡児は含まず）の夫婦210組を対象に再集計したデータを用いた。その結果、沖縄県の場合、結婚形態や出生行動と地域固有の家族形成規範との関係から以下のような事項が確認された。

結婚形態については、婚姻の大多数が普通婚姻の形態を取り、婿取り婚姻割合は全国一低く他府県に比して極端に少ない。これは、厳格な父系氏族の規範によって娘に婿を取る婿養子縁組みが意図的に回避されたための結果といえる。また、この傾向は30代以降の女性には根強く意識されている。

つぎに、出生率を年齢別にみた指数をみると、全国の平均値よりいずれの年齢階級も高くなっている。とくに30歳以降で乖離幅が大きくなっているがこれは以下の知見によって裏付けされた。

子どもの性別組み合わせ別のパリティ拡大率を検討の結果、総じて「男子を期待」する男児選好が読み取れ、既往出生児の性別の組み合わせが次の子を産むかどうかの判断基準になっている。とくに、30代以降の出生行動の最終局面で、子どもの男女組み合わせの如何でさらにもう一子を追加希望する「調整メカニズム（かけこみ調整）」が働き、この局面で男子を期待して出生を選択するケースが多いという結果を得た。これは、ほぼ完結出生した女子（40歳以上）の「末子性比」が「141」と高いこと、妻が40歳以上の106組夫婦のうち104組までが子どものなかに一人以上の男子をもち、女兒のみを出生しているか子どもが出来ない残り2夫婦についても調査時点で出生意欲を保ち続けていることでも確認された。以上の結果から、父系氏族の規範が子ども数を押し上げ、拡大させる効果となっており30代以降の高位な出生率に直結していることが確認された。

この事例では男系の原理をとる家族形成規範が、子どもの性別による差別出生力を生じさせ、沖縄地方の高位な出生力水準に寄与してきたといえる。また、社会経済的な指標以外の地域に固有の文化規範、家族形成規範が、出生行動などの人口学的行動に影響を与えることを確認できた。この事実は地域固有の家族形成規範が出生力の地域差の規定要因の一つとして作用することを意味している。また、同時に文化的条件の同質性が出生力変化のメカニズムを探る有効なフレームとなり得ることを示唆している。