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関西大学ソシオネットワーク戦略研究機構

The Research Institute for Socionetwork Strategies,
Kansai University

Joint Usage / Research Center, MEXT, Japan

Suita, Osaka, 564-8680, Japan

URL: <http://www.kansai-u.ac.jp/riss/index.html>

e-mail: riss@ml.kandai.jp

tel: 06-6368-1228

fax: 06-6330-3304

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Factors Promoting Childbearing among Married Women: On the Prioritization of Socio-economic and Psychological Factors*

Y. CAO[†], S. MATSUMOTO[‡] and T. MURATA[§]

Abstract. Background factors to Japan's declining birth rate are said to divide broadly into two types. The first consists of trends toward marrying late or not at all, and the second is a drop in the birth rate for married women. The current research takes mothers of small children as the object of its analysis, and demonstrates factors which promote childbearing among married women. Specifically, socio-economic factors (wife's and husband's education and income) and psychological factors (needs for and availability of private time/space) were treated simultaneously, and based on differences in the number of children, the prioritization of the two sets of factors was clarified. As a result of the analysis, for households currently with one child, in order to give birth to two children in all, securing private time/space for the mother must be given priority over financial support. And in order to give birth to three children in all, both financial and psychological support are necessary. Specific policies which have been enacted thus far regarding declining birth rates have been limited to "financial support for child rearing" and "support for the compatibility of child rearing and work," but the results of this research suggest a need for psychological support as well.

Keywords: Very low fertility, Socio-economic factors, Psychological factors.

* This paper was translated from PG Lab Discussion Paper No. 39 (Policy Grid Computing Laboratory, The Research Institute for Socionetwork Strategies, Kansai University, May 2009), and its publication was supported with funds received as "a Promotion Project for Distinctive Joint Research" from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), 2011.

[†] Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences
Researcher, The Research Institute for Socionetwork Strategies, Kansai University
Email: caoy@psych.ac.cn

[‡] Department of Economics, Aoyama Gakuin University
Researcher, The Research Institute for Socionetwork Strategies, Kansai University
Email: shmatsumoto@aoyamagakuin.jp

[§] Faculty of Informatics, Kansai University
Collaborator, The Research Institute for Socionetwork Strategies, Kansai University
Email: murata@res.kutc.kansai-u.ac.jp

1 Introduction

According to the White Paper on birthrate-declining society, the number of children born in 2007 was 1,089,818 (1,092,674 the previous year), and the Total Fertility Rate (TFR) was 1.34 (1.32 the previous year) [1]. Moreover, the moderate-range projection (for the fertility rate and death rate) estimated by the National Institute of Population and Social Security Research speculates that TFR will be 1.26 in 2055 [2]. When a picture of Japan's future is delineated on the basis of such speculation, it is predicted that not only Japan's rapid population decline due to the increasingly very low fertility rate¹ and a negative impact on the economy due to a workforce decline, but also growth in pension costs, medical spending and care costs due to an increase in the elderly population, will become issues in the future. On the other hand, since both the working-age population that supports social security systems and its ratio to the total population decline, a review of generous benefits for the elderly, and measures to balance benefits and burdens, must be taken for the sustainability of social security systems. Furthermore, as a social impact due to a decrease in population, the number of elderly people is increasing while the number of children is declining in rural areas, and it is said that particularly in depopulated regions there is a potential problem threatening the basis of rural society's existence, leading to a situation in which it is difficult even to maintain rural communities complete with autonomous functions of the local population, such as crime prevention, fire extinguishing, etc.

The very low fertility rate problem has become a research theme that was heretofore dealt with only in the field of demography, however the Japanese term for very low fertility rate (*shōshika*) was originally not a technical term from demography. According to Sato [3], the term *shōshika* is derived from the phrase "the arrival of a society with a small number of children, its impact and a response," appearing as the subtitle of the White paper on the national lifestyle from the Economic Planning Agency [4]. It is said that there are two general factors behind Japan's very low fertility rate. One is a tendency to marry later or not marry, and the other is a decline in the fertility rate for married women. The increase in the number of women who do not marry and have no children even when they reach childbearing age, and the decrease in the number of children born even to those who do marry, combine to

¹ "Below-replacement fertility," "very low fertility" and "lowest-low fertility" should be used in cases of the TFR being less than approximately 2.1, 1.5, and 1.3, respectively.

cause the decline in the fertility rate. There are various opinions about which factor accounts for how great a portion of the decline. According to Iwasawa [5], who simulated a cohort-based analysis, for the decrease during the period from the 1970s to the year of 2000, when the TFR went from more than 2.0 to 1.36, about 70% of the drop was caused by a change in marriage behavior, and the remaining 30% was caused by a change in the birth behavior of married couples. However, it was also analyzed that about 60% of the decrease in the total fertility rate during the period from 1990 to 2000 was caused by a change in birth behavior of couples. Yamaguchi alleges that since the series of policy countermeasures, such as the Law for Childcare Leave and its revision, the New Angel Plan for Children and the Plus One very low fertility rate measure, mainly target married women, they only cover about half of the problem relevant to the recovery of the fertility rate [6]. At present, both factors are recognized as significant issues that have impact [3][7].

In democratic nations including Japan, which espouse human rights, publicly discussing extremely sensitive issues relating to rights of self-determination and individual privacy, such as marriage and childbirth, may be considered taboo [8][9]. Thus, the concrete measures that have been implemented to reverse the decline in the fertility rate are limited mainly to economic assistance to child rearing, and support for the balancing of work and child rearing. Based on experimental study, Yamaguchi showed that countermeasures taken thus far to the very low fertility rate (such as the Law for Childcare Leave, the New Angel Plan for Children, and the Plus One very low fertility rate measure), which have targeted married persons, were correct with regard to the basic direction, and he classifies policy tasks into three types as follows [6]:

- First, measures to cut the opportunity cost for childbirth and child rearing.
- Second, measures to alleviate household budget constraints on having a child.
- Third, measures to alleviate the psychological burdens of childbirth and child rearing, and encourage a feeling of happiness in child rearing.

The first and second types of measures relate to economic assistance for child rearing, and to support for the balancing of work and child rearing, however both give priority to economic factors. On the other hand, the third type, which relates to childbirth and child rearing stresses and mental health, has not received much attention in devising countermeasures to the very low fertility rate which have been implemented so far. Psychologists have viewed the situation of mothers during the child rearing period as being in an enclosed environment over a long period of time, and have taken up the child rearing stress problem from a perspective of private time /space [10]–[14]. Tomari and Yoshida define private time/space as “a personal domain (space and time) where the self is temporarily separated from one’s socially

expected roles and free to act without concern about the gaze of others,” and claim it is necessary for everyone [15]. However, it is extremely difficult for a mother, especially one who has a young child, to have her own time and space, apart from her role as mother. It is reported that if private time/space is secured, then child rearing stress, a desire to escape from or reject child rearing, and aggressive reactions to a child, are reduced [14].

In consideration of this background, the present study aims at demonstrating the necessity for policy measures that consider not only economic factors but also psychological ones in order to counter the trend to lowest-low fertility. Using micro-data of mothers who have young children, and simultaneously handling economic and psychological factors, analysis is made of factors which encourage birth behavior of married couples.

2 Methods

Investigation period:

A questionnaire survey was conducted from June 15, 2006 to July 21, 2006.

Participants:

Mothers whose children go to private kindergartens in S city, Osaka prefecture; the average age was 34.97 ($SD = 3.75$, range = 24–51 years).

Procedure:

To get a sample of respondents with particular attributes and at a low cost, a questionnaire survey for distribution by kindergartens was used. As preparation, the S City Private Kindergarten Association was contacted in early March, and an explanation made of the questionnaire to its regular meeting of kindergarten principals on April 26. Afterward, each kindergarten was contacted by phone to check if they would participate. In the end 7 kindergartens cooperated, and the survey forms and an explanation were conveyed through the kindergartens to the mothers. Completed forms were sealed by the respondents in return envelopes prepared for them, and collected by kindergarten staff. A total of 2,237 questionnaires were distributed, with 1,541 returned (response rate 68.9%). Missing (5) and incomplete (44) forms were discounted, for a total of 1,492 usable responses.

Questionnaire items:

(1) Personal attributes: Four items, consisting of the mother’s chronological age, age at first childbirth, co-resident family, and housing type.

- (2) Measurements of the socio-economic factors: Since the unemployment rate for mothers during the child rearing period was predicted to be high, the four items of the husband's and wife's separate levels of education and total incomes were used in order to measure earning potential and actual income level for the families.
- (3) Measurements of the psychological factors: Using Tomari and Yoshida's private time/space scale (2001), the levels of need for private time/space (seven items, seven step scale) and of its acquisition (seven items, four step scale) for mothers during the child rearing period were measured.

3 Results

3.1 Basic statistics for the respondents

The number of the respondents, and the ratios with respect to the number of children were 277 mothers with 1 child (19%), 964 mothers with 2 children (65%), 207 mothers with 3 or more children (14%) and 44 missing values (3%). In comparison with the results of population surveys throughout Japan including rural areas, the respondents in the present investigation, who live in a big city, had as characteristics a greater than average ratio of families with 1 child, and a smaller ratio of families with 3 or more children.

Next, one-way ANOVA with the number of children as the independent variable, and age at first childbirth as the dependent variable, was carried out. As a result, a difference depending on the number of children was recognized not only for chronological age but also for age at first childbirth ($F(2,1445) = 10.160, p < .001$; $F(2,1442) = 68.808, p < .001$). Moreover, in the multiple comparison (Tukey's test) by chronological age, an age disparity between mothers with 1 child and those with 2 children was not recognized ($p > .05$), however, an age disparity between mothers with 1 versus 3 or more children was seen ($p < .001$). At the same time, an age disparity between mothers with 2 children and those with 3 or more children was also recognized ($p < .001$). Following that, in the multiple comparison (Tukey's test) by age at first birth, an age disparity among ages at first birth was recognized, depending on the number of children (all of them were $p < .001$). When these results are considered together with the basic statistics presented in Table 1, mothers with 3 or more children were the eldest as compared to mothers with 1 or 2 children, however they had given birth to their first child at the youngest age. Also, a tendency toward later marriage was observed for mothers with 1 child.

Furthermore, for the respondents to the present investigation, the rate of privately-owned homes including detached houses and condominiums reached 64.9% (Table 2),

and the ratio of respondents who answered that they lived with their husbands was 94.5% (Table 3). From the result of basic statistics of these two items, it is clear that most of them had chosen the lifestyle of the nuclear family.

Table 1. Personal attributes of respondents by numbers of children

Children	Chronological age				Age at first childbirth			
	<i>M</i>	<i>SD</i>	min	max	<i>M</i>	<i>SD</i>	min	max
1	34.82	3.97	25	47	30.76	3.86	22	42
2	34.74	3.65	24	47	28.79	3.12	18	38
3 or more	36.01	3.64	27	47	27.33	3.13	19	38

Table 2. Housing types

Type	Number	Percent
Privately owned (single family dwelling)	360	24.1
Privately owned (multiple family dwelling)	608	40.8
Publicly owned rental unit	91	6.1
Private rental unit	298	20.0
Company housing	111	7.4
No response	24	1.6
Total	1,492	100.0

Table 3. Co-resident family types

Type	Co-residence	Number	Percent
With husband	Yes	1,410	94.5
	No	69	4.6
	No response	13	0.9
	Total	1,492	100.0
With parent(s)	Yes	99	6.6
	No	1,380	92.5
	No response	13	0.9
	Total	1,492	100.0

3.2 Relation of the number of children with the socio-economic factors

As for levels of education, most husbands graduated from colleges/universities, while most wives graduated from junior colleges, vocational or technical schools, or colleges/universities (Table 4). Additionally, as for monthly earnings, it was found that about 60% of the wives had no income (Table 5).

Next, one-way ANOVA with the number of children (1, 2, or 3 or more) as the independent variable, and socio-economic data from the four items of levels of education and monthly incomes as the dependent variable, was carried out. As a result, it was shown that in families with 3 or more children, levels of education for both the wives and the husbands were the lowest, however monthly incomes of the husbands were the highest. Among families with 1 or 2 children, no significant differences were observed for all items (Table 6). To sum up, in comparison with the families with 3 or more children, levels of education of parents with 1 or 2 children were higher, but the economic levels for both of the latter types of family were same.

Table 4. Level of education

Highest level graduated	Wife		Husband	
	Number	Percent	Number	Percent
Middle school	9	0.6	21	1.4
High school	322	21.6	315	21.1
Vocational or technical school, jr. college	569	50.8	213	14.3
Four-year college/university	319	21.4	753	50.5
Graduate school	9	0.6	99	6.6
No response	75	5.0	91	6.1
Total	1,492	100.0	1,492	100.0

Table 5. Level of monthly income

Monthly income (Yen)	Wife		Husband	
	Number	Percent	Number	Percent
None	890	59.7	20	1.3
Less than 100,000	198	13.3	13	0.9
100,000–199,999	28	1.9	10	0.7
200,000–299,999	27	1.8	221	14.8
300,000–399,999	17	1.1	419	28.1
400,000–499,999	12	0.8	273	18.3
500,000–599,999	6	0.4	176	11.8
600,000–699,999	2	0.1	89	6.0
700,000–799,999	2	0.1	46	3.1
800,000 or more	3	0.2	93	6.2
No response	307	20.6	132	8.8
Total	1,492	100.0	1,492	100.0

Table 6. Results of one-way ANOVA and Tukey's test with levels of education and monthly income as dependent variables

	Children	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>	HSD
Wife's education ^{a)}	1	3.04	.72	7.793	2	1,393	.000	a = b > c
	2	3.02	.70					
	3 or more	2.81	.70					
Husband's education ^{a)}	1	3.52	.91	8.015	2	1,378	.000	a = b > c
	2	3.44	.95					
	3 or more	3.18	1.03					
Wife's income ^{b)}	1	1.40	.94	1.839	2	1,162	.159	—
	2	1.45	1.11					
	3 or more	1.62	1.46					
Husband's income ^{b)}	1	5.62	1.61	5.638	2	1,336	.004	a = b > c
	2	5.85	1.82					
	3 or more	6.20	1.96					

Note. The number of children was used as the independent variable.

- a) Education levels: 1=Jr HS 2=Sr HS 3=Vocational school 4=2 yr or tech college 5=University 6=Grad school
- b) Income levels (monthly, in 1000 JY): 1=0 2=below 100 3=below 200 4=below 300 5=below 400 6=below 500 7=below 600 8=below 700 9=700 or above

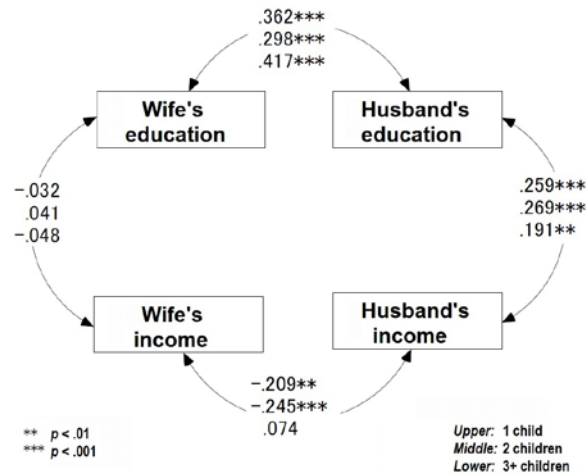


Figure 1. Correlations of husband's and wife's education and monthly income

Also, in regard to the correlation between levels of education and monthly income, for every size of family the result was seen that if the level of education for the wife is high, that of her husband is also high, and if the level of education for the husband is

high, his monthly income is high (Fig. 1). On the other hand, there was no correlation between levels of education and monthly income for the wife regardless of family size, reflecting the current conditions for women in Japanese society.

Most of these results correspond to previous research findings, however the relations between the incomes of wives and husbands contains a newly found observation. That is, unlike the cases of families with 1 or 2 children, in families with 3 or more children a traditional gender role division, in which the family depends on the incomes of a breadwinner husband, was seen. On the other hand, in families with 1 or 2 children, since a negative correlation exists between the incomes of wives and husbands, interpretation in line with the traditional gender role division cannot be applied, and it is conceivable rather that these married couples are more cooperative with each other regarding financial matters.

3.3 Relation of the number of children with the psychological factors

After confirming the factor structure (principal factor method, promax rotation) for Tomari and Yoshida's scale for levels of privacy need (seven items, seven step scale) and acquisition (seven items, four step scale), each factor score was calculated. One-way ANOVA was conducted with the number of children as the independent variable, and two factor scores as the dependent variable. As a result, regardless of the number of children, scores for the degree of need for private time/space for mothers was at the same level. On the other hand, it was shown that the degree of acquisition of private time/space was significantly higher for the mothers with 1 child (in each case, $p < .05$). The results are given in Table 7.

Table 7. Results of one-way ANOVA and Tukey's test with need and acquisition levels of private time/space as dependent variables

Privacy scale	Children	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>	HSD
Level of need ^{a)}	1	5.02	.88	0.049	2	1,427	.952	—
	2	5.02	.83					
	3 or more	5.00	.87					
Level of acquisition ^{b)}	1	2.18	.69	10.560	2	1,427	.000	a > b = c
	2	2.00	.71					
	3 or more	1.90	.69					

Note. The number of children was used as the independent variable.

- a) Need levels: 1=absolutely no need 2=hardly any need 3=not much need 4=perhaps some need 5=definite degree of need 6=considerable need 7=extreme degree of need
- b) Acquisition levels: 1=cannot acquire 2=cannot acquire enough 3=can acquire to some degree 4=can acquire

4 Discussion

How many children a family should have is a decision-making problem with various factors intricately intertwined. In the present study, the cause of the very low fertility rate was considered while simultaneously examining both economic and psychological factors, with respect to the number of children.

As to the characteristics of this investigation's respondents, who live in a big city, it was seen that 90% were nuclear families with husbands and children, and that 60% were home owners. According to a nationwide survey which investigated the rate of home ownership by age group of persons who were the main supporters of the household, it was reported that willingness to own a home was high for people in their 30s and that about 60% of those in their 40s lived in their own homes [16]. This agrees with the results of the present study. Also, as for the number of children, according to the 13th National Fertility Survey carried out by the National Institute of Population and Social Security Research, the nationwide ratios of households with 1 child, 2 children, and 3 or more children were 12.4%, 59.3% and 28.2%, respectively, so in comparison with the present study the ratio of households with 1 child was smaller, and that of households with 3 or more children was higher [17]. Yokoyama has examined the factors that make a difference in couples' fertility, using data from the Japanese Panel Survey of Consumers conducted by the Institute for Research on Household Economics, finding that birth behavior in the future is generally encouraged by having a first or second child [18]. However, this advantageous effect gradually fades with advancing age. From the viewpoint of the childbearing age range (ages 20 to 49), since the respondents in the present study are still comparatively young, it is presumed that in a few years some families now with 2 children will have a third child. However, the tendency to marry later was confirmed for mothers with 1 child, and therefore it is difficult to expect a third child for some of them even after a number of years. Furthermore, in the aforementioned National Fertility Survey, conducted periodically, looking at the composition of the numbers of children born after the 7th Survey conducted in 1977, it is seen that a little over half of all couples had 2 children, and this had not changed up to the 13th Survey in 2005, though the latter survey showed slight increases in the numbers of couples with no child or only 1 child, and conversely a decrease in couples who had a third child. The current study, conducted in a big city, suggests this tendency has progressed further.

Regarding socio-economic factors related to the number of children, it was seen that if the level of education for the wife is high, that of the husband plus his monthly earnings are also high, but there was no relation with the wife's monthly income. This agrees with conventional research findings for Japan. On the other hand, it was shown that the degree of correlation between monthly earnings of wives and husbands differs

depending on the number of children. In comparison with families with 1 or 2 children, in families with 3 or more children husbands have lower levels of education but higher monthly earnings, and are thus characterized by a strong tendency for the household budget to be supported only by the husband. According to the White Paper on the National Lifestyle [19], there is no clear correlation between the number of children and yearly earnings for households with more than 4 million Yen in annual income, whereas the ratio of families with no child or only 1 child is higher by comparison for those earning more than 10 million Yen. On the other hand, the proportion of families with no child is higher in the families with less than 4 million Yen in yearly earnings than for other groups. In other words, for annual income beyond a certain level, no clear relation between earnings and the number of children is consistently observed, but in case of the economic resources below a certain level, the burden of having a child is relatively high and therefore it becomes difficult to have children. It can be said that the present study further clarifies the relation between the number of children and earnings by examining the link between couples' levels of education and monthly earnings.

As for the relation between the number of children born and the psychological factor, regardless of the number of children the level of need for private time/space for mothers did not differ, which can be understood in terms of the notion of the mother's role. That is, since mothers with young children are strongly conscious of child rearing, even though they require a certain amount of time and space of their own, they seem to feel a responsibility for and a perception of their gender role which keeps them from demanding more than a certain amount. On the other hand, it was observed that in actuality mothers with 2 or more children clearly could not secure private time/space as readily as mothers with only 1 child. What should be noted here is that when people's consciousness of private time/space is measured, it is necessary to divide it into the two dimensions of need and acquisition. In other words, the need dimension is a psychological index of subjective desires of people as an ideal. The acquisition dimension is a psychological index of the experience of objective characteristics of reality. In people's consciousness, when ideals cannot be realized in actuality, stress is readily experienced, which impacts their mental health.

The present study suggests that it is necessary to consider the psychological factor with regard to child rearing support measures for mothers with more than 1 child. One approach to countering the very low fertility rate is to increase the fertility rate of married women. Within the framework of the childbearing age range, for families in this study with 1 child to have a second child, more than anything it is necessary to prioritize psychological support measures which enable the acquisition of private time/space. Additionally, for families to have a third child, we believe it is necessary to consider both economic and psychological support measures at the same time. It is necessary in the future to conduct further research, while considering links with child

rearing support networks, to determine what would constitute psychological support policies for securing private time/space.

Acknowledgement

The child rearing questionnaire survey, 2006, <http://www.kansai-u.ac.jp/riss/en/shareduse/database.html>, used in this study was conducted with support obtained through the “Collaboration with Local Communities” Project for Private Universities, a matching fund from the Ministry of Education, Culture, Sports, Science and Technology of Japan, 2005-2010.

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