The Relative Importance of Family and Education Influences on Attitudes to Family Size among Thai Single Youths

Umaporn Pattaravanich[*]

Introduction

A recent study of family formation in the United States focuses on the importance of family characteristics and early in life on family formation behavior later in life (Glodscheider and Waite, 1991). In the case of fertility, previous studies have documented a strong correlation between parent's fertility behavior and children's fertility preferences and behavior (Axinn, Clarkberg and Thornton, 1994).

Over the last thirty years, Thailand's total fertility rate (TFR) declined from six or seven births per woman to about two births per woman (Hirschman et. al., 1994). The Thai government has played an active role in providing family planning services; the program has been truly voluntary, relying on existing demand rather than on government pressure for compliance.

As a result, new generations probably have mimicked the older generations and they have wanted to have few children also. However, one study argues that this phenomenon is not merely because contraceptive use was prevalent, but also because the expansion of education has occurred very rapidly in Thailand (Pritchett, 1994).

This study questions whether family influences determine the ideal family size among Thai single adolescents. The family influences are measured by sibling influences (the number of siblings, and birth order), and maternal influences (mother's closeness, mother's education, and mother's occupation).

---

* Institute for Population and Social Research, Mahidol University, Salaya, Phutthamonthon, Nakhon Pathom 73170, THAILAND. E-mail: tukta33@yahoo.com

Family influences

Several studies have found a positive relationship between the number of children born to parents and the number of children their children have. Duncan et al. (1965) assert that the link between large families in successive generations is due to the familial transmission of social attitudes unfavorable to family planning. This means that parents' childbearing behavior influences their children's family size preferences.

Gustovas (1973) found a positive relationship between the number of siblings and the family size preferences of young people in 1968; however, in 1971, the family size preference was curvilinearly related to the number of siblings among youth. Although Duncan et. al (1965) argue that the number of siblings influence family size preferences in successive generations, they also found that the number of siblings of wives and husbands have a small effect on family size preferences after controlling for education.

Moreover, birth order is likely to affect ideal family size because the studies of Johnson and Stokes (1976), and Anderton et. al.(1987) point out that first-born daughters are more likely to reproduce the size of their family of origin than later-born daughters. In addition, those who have different educational experiences than their mother are likely to have family size preferences that differ from the size of their mother's family (Johnson and Stokes ,1976).

Relationships within the family also probably affect family size preferences. Youths who had a satisfying relationship with their natal family may recreate a family of similar size (Johnson and Stokes, 1976). That is if the relationship within the family is good, youths will follow their family size of orientation, whereas if the relationship is not good, they will not want to duplicate their natal family size.

Some studies have shown that the influence of mothers has important effects upon the family size preferences of young people; that is, the effect of mothers' preferences for their children's behavior is more important than the effect of mothers'

preferences for their own behavior on youths' family size preferences (Axinn, Clarkberg and Thornton, 1994). That is the mothers' preferences for their children family size have more a important impact on the child's family size preferences than the number of siblings of children. That means that the interaction between mothers and their children affect their children's fertility.

Thus, desired family size is influenced by the number of siblings and interaction between mothers and their children.

The influence of education

The influence of education on fertility is not new topic. Many studies found that education is the principle factor behind fertility pattern. Ahmed's 1981 study in rural Bangladesh shows that education is negatively related to number preferences, but the exception to this pattern is for women with a religious education. However, Martin (1995) found that the effect of women's education levels on conceptions of ideal family size among Sub-Saharan Africans and people in some countries in Latin America are very strong. A 1988-1993 study in Thailand that compared married women aged 15-49 with married women aged 30 or less showed an association between education and mean number of children. Both groups of women showed evidence of an inverse association between educational attainment and the mean number of children preferred, regardless of whether all married women of reproductive age or only those younger than 30 were considered (Knodel et. al., 1996). That means that the higher educational attainment reduces desire for a high number of children. Moreover, some studies argue that children who receive a different education to their mothers tend to have differences in family size preference from their mothers' family size (Anderton et. al., 1987).

Fertility and family size preference in Thailand.

The recent Thai phenomenon of fertility decline is particularly remarkable because it has been rapid and pervasive and has been occurring while a large majority

of the population is still rural and agrarian. Within the past three decades the total fertility rate has been reduced from 6.1 in 1969 to about 5.4 in 1972 and to 2.1 in 1998 (Knodel and Pitaktepsombati, 1975; Knodel and Prachuabmoh, 1974; Institute for Population and Social Research, Mahidol University, 1999). Family size preferences declined substantially; that is, 77 percent of married women aged 15-49 preferred 3 children or more in 1966-1970, but this proportion was reduced to 32 percent in 1993. Meanwhile, a preference for two children rose from 19 percent in 19966-1970 to 64% in 1993 (Knodel et. al., 1996).

Regional differences are also evident in family-size preferences. The lowest mean preferred family size was found in the North and the highest in the South and Northeast; that is, the mean preferred number of children in the upper North and lower North are 1.98 and 2.05, respectively, in the upper South and lower South are 2.26 and 3.40, respectively, and in the Northeast and the Central are 2.27 and 2.05, respectively (Knodel et al., 1996).

Hence, family influences, such as the number of siblings, birth order, and maternal influences are likely to affect the ideal family size attitudes. In addition, youth's educational attainment is also likely to influence attitudes about ideal family size.

Data and Methodology

Data

Data are from "The Survey of Thai Youth's Opinion and Needs on Targets for Children and Youth Development in the Eighth National Economic and social Development Plan of Thailand." The survey was conducted between May and June in 1998 by The Institute for Population and Social Research, Mahidol University, and The National Youth Bureau, Thailand. A total of 2,306 adolescents aged 15-24 in 10 provinces were selected by multi-stage sampling from four regions and Bangkok. The

main objective of the survey was to obtain data of youths' attitudes and desires in order to assist in the development of the Eighth Economic and Social Development Plan of Thailand (1997-2001). The questionnaire for the survey consisted of seven sectors, namely, general characteristics of youth, family and relationship in household, health and leisure, education and work status, beliefs; values; and self esteem, sexual behavior, and aptitude and idealism.

Method

The sample for this analysis focuses on 1,994 single youths and excludes married youths because the married youths were not interviewed about desired family size. Thus, married youths were excluded from this analysis. Multivariate analysis uses multinomial logistic regression to test the significant level of family and education influences affecting attitude toward ideal family size.

The main independent variables, the dependent variable, and the control variables are explained below.

Dependent variable

Attitude towards ideal family size is the dependent variable for this study. It is divided into 3 groups, namely, antinatalist (those who do not want to marry in the future and those who want to marry but desire to have less than two children), standard ideal family size (those who want to marry and desire to have only two children), and pronatalist (those who want to marry and desire to have more than two children). In the multinomial analysis, the standard ideal family size is used as the reference groups.

Independent variables

Family influences and education are the main independent variables. The family influences consist of sibling influences and maternal influences. The sibling influences are measured by the number of siblings and birth order. The maternal

influences are identified by closeness to mother, mother's education, mother's occupation. The education contains two determinants: youth's education, and interaction factor between mother education and youth's education. The youth's education has four groups, namely primary level, junior secondary education level, senior secondary education level, college (reference group). The interaction factor between mother education and youth's education has four groups: mother's primary level vs. youth's primary level of education, mother's primary level vs. youth's junior secondary level of education, mother's primary level vs. youth's senior secondary level of education, and mother's primary level vs. youth's college level of education (reference group)

Control variables

The control variables are sex of the youths, age of the youths, father's education, father's occupation, area (Bangkok, other urban, and rural), and region.

Model

Since the dependent variable is trichotomous, a multinomial logistic regression model is set up. We suppose that P1, P2, P3 are the probability that the *i*th individual in the sample is in categories 1, 2, and 3 of the dependent variable (P1 +P2 +P3 =1), and we let X1, X2…., Xk be a vector of the predictors measured on the *i*th individual in the sample. As in the dichotomous cases, we model the log odds (odds in this type of model represent the ratio of the probability that an event will occur to the probability that a reference event will not occur) of being in the category of the interest as a linear function of the explanatory variables. More than one equation is required, since there are two independent contrasts that can be constructed with the odds. For example, we can consider the log odds of being in category 1 versus category 3; expressed as a linear function of the predictors, this becomes as follows:

$$\ln(P1/P3) = b0 + b1X1 + b2X2 + \ldots..+bkXk$$

Where b0, b1….bk are the constant and coefficients of regression. Since it is easier to think of odds rather than log odds, the equation can be written in terms of odds as follows:

$$\text{Odds} = (P1/P3) = \exp(b0 + b1X1 + b2X2 + \ldots..+bkXk)$$

Exponential (exp) raised to the power bj is the multiplicative factor by which the odds of being in category 1 versus category 3 changes when the *j*th explanatory variable increases by one unit. By the same procedure, the equation for odds of being in category 2 versus category 3 can be worked out. The odds of being in category 1 versus category 2 can be derived from the above two equations. In this model, the categories 1, 2 and 3 are antinatalist, standard of ideal family size, and pronatalist attitude, respectively. Thus, according to the value of odds, it is possible to find which variables have a stronger effect on youths' ideal family size.

Results

Table 1 describes the characteristics of the sample used in the analysis. Most of the sample (around 67 percent) want to have two children. One-fifth of the sample is antinatalist, whereas only one-tenth is pronatalist.

Table 1: Summary statistics of sample

Variables	N	Mean	Std. Deviation
Attitude toward ideal family size			
Antinatalist	1994	0.2126	0.4093
Standard	1994	0.6710	0.4700
Pronatalist	1994	0.1093	0.3121
Sibling influences			
The number of siblings	1994	3.1018	1.3812
Birth order	1994	2.4700	1.8200
Maternal influences			
Closeness to mother	1994	0.7663	0.4233
Mother's primary level of education or less	1994	0.7608	0.4267
Mother's junior secondary level of education or more and other	1994	0.2307	0.4267
Mother's white collar	1994	0.1314	0.3379
Mother's blue collar and others	1994	0.8676	0.3390
Youth's education			
Primary level or less	1994	01098	0.3128
Junior secondary level	1994	0.2668	0.4424
Senior secondary level	1994	0.4072	0.4914
College	1994	0.2146	0.4107
Individual characteristics			
Female	1994	0.5160	0.4999
Age	1994	18.35	2.43
Father's background			
Father's primary level of education or less	1994	0.6354	0.4814
Father's junior secondary level of education or more and other	1994	0.3571	0.4793
Father's white collar	1994	0.2357	0.4245
Father's blue collar and others	1994	0.7618	0.4261

Table 1: (continued)

Variables	N	Mean	Std. Deviation
Residence			
Area			
Bangkok	1994	0.2116	0.4086
Urban	1994	0.3796	0.4854
Rural	1994	0.4087	0.4917
Region			
Central*	1994	0.3731	0.4838
Northeast	1994	0.2603	0.4389
South	1994	0.2292	0.4204
North	1994	0.1374	0.3444

* Include Bangkok

The average number of siblings is 3.1 and the average birth order of the sample is 2.5. Three-fourths of the sample are close to their mothers.

The proportion of the sample whose mothers completed primary level or less is more than that of fathers (about 76 percent and 64 percent, respectively), but the proportion of the sample whose fathers engage in white collar jobs is higher than that of mothers (about 24 percent and 13 percent, respectively).

Two-fifths of the sample had completed or had been studying senior secondary level of education, and one-fifth had completed or had been studying in college. Approximately 27 percent of the sample had completed or had been studying junior secondary level. Only 10 percent completed primary level or less. Approximately 52 percent of the adolescent sample are female. The average age is 18.4.

Most of the sample (41 percent) lived in rural areas when interviewed for the survey. More than one-third (38 percent) lived in urban (municipal) areas, and 21 percent of the sample lived in Bangkok. Over one-third (37 percent) lived in the Central

region (including Bangkok), one fourth lived in the Northeastern region, 23 percent lived in the Southern region, and only 14 percent lived in the Northern region.

Three equations of the multinomial logistic regression model in Table 2 are established to describe the effects of family and education influences on attitudes toward ideal family size. The dependent variables are the odds of having in an antinatalist versus pronatalist attitudes; standard ideal family size versus pronatalist attitudes; and antinatalist versus standard ideal family size attitudes. Table 2 gives the odds ratios of these equations classified by sex.

The equations show that the number of siblings is strongly significant especially among male youths. The importance of birth order appears specific to males, and the effects of own mother's education and youths' education appear in some equations among female youths. The interaction factor strongly affects ideal family size in some equations. In addition, the findings show that the importance of age is strong in some equation among males, father's occupation appears in some equations, and region still has a strong effect on the ideal family size attitude.

The first equation shows that the sibling influences strongly impact on the contrast between pronatalist views and an antinatalist views among male youths only. Males who belong to a large family are 29 percent more likely to have pronatalist attitudes over antinatalist attitudes than those who belong to a small family. Later-born sons are 1.3 times as likely to have antinatalist views over pronatalist views as early-born sons. This result is consistent with the study of Anderton et. al. (1987), who focused on women and found that former births tend to have higher proportions of family size preference than the later births. This means that later-born people tend to want small families. However, among females this analysis does not show a significant relationship between sibling influences and the contrast between pronatalist views and an antinatalist views.

This equation shows a slightly small association between mother's or youths' education and the attitude toward ideal family size among youths. Also, it shows a small

association between mother-children's education interaction factors and the contrast between pronatalist views and an antinatalist views.

The finding from this equation shows that age affects the contrast between pronatalist views and an antinatalist views among male youths only. Older males are 14% more likely to have pronatalist views over antinatalist views than younger males. Probably older male youths can earn income and this provides better economic status, so their family size preference is likely to be higher than preferences of younger youths, who cannot earn income.

Father's background and area of residence (Bangkok-urban-rural areas) do not significantly affect the attitude towards ideal family size. However, the findings show an influence of region on the contrast between pronatalist views and an antinatalist views among youths. Only the Northeastern and the Southern regions strongly affect the contrast between pronatalist views and an antinatalist views among female youths, but all regions strongly affect the contrast between pronatalist views and an antinatalist views among male youths. Northeastern females are 85 percent more likely to have pronatalist views over antinatalist views than Northern female youths. Also, Southern females are 85 percent more likely to have pronatalist attitudes over antinatalist attitudes than Northern females. Meanwhile, Central males are 90 percent more likely to have pronatalist views over antinatalist views than Northern males. Northeastern males are 94 percent more likely to have pronatalist views over antinatalist views than Northern males. Southern males are 95 percent more likely to have pronatalist attitudes over antinatalist attitudes than Northern males.

Thus, the first equation in table 2 shows that the determinants that influence the contrast between pronatalist views and an antinatalist views are sibling influences (the number of siblings and birth order), and age of youths. However, these factors affect the contrast between pronatalist views and an antinatalist views among male youths only. For region, the findings showed that only the Northeastern and Southern regions affect the contrast between pronatalist views and an antinatalist views among

female youths, but all regions affect the contrast between pronatalist views and an antinatalist views among male youths.

The second equation illustrates the determinants of the contrast between pronatalist views and standard views. The finding found that sibling influences (the number of siblings and the birth order) strongly impact on the contrast between pronatalist views and standard views among male youths. Males who belong to a large family are 26 percent more likely to have pronatalist views over standard views than those who belong to a small family. Similar to the previous equation, the effect of sibling influences on the contrast between pronatalist views and standard views is not significant among females. Moreover, birth order influences the contrast between pronatalist views and standard views among males. Later-born males are 1.2 times as likely to have standard attitudes rather than pronatalist attitudes as former-born males.

The findings show that the influence of mothers, particularly mothers' educational levels affect the contrast between pronatalist view and standard view among female youths. Female youths whose mothers attain low levels of education are 87 percent more likely to have pronatalist views over standard views than the reference group. Apart from mothers' educational levels, female youths' primary level of education also affects the contrast between pronatalist views and standard views. Female youths with low education (primary education) are 93 percent more likely to have pronatalist attitudes over standard attitudes than those with a college level of education.

In addition, the impact of the interaction factor between mothers' low education (primary education) and daughters' low education (primary education) on the contrast between pronatalist attitudes and standard attitudes is statistically significant at the .05 level. Female youths with low education whose mothers have low education are 9 times as likely to have standard attitudes rather than pronatalist attitudes as female youths with college level whose mothers have low education. That means that youths who have the same experience as their mothers are likely to prefer to have more the number of children than those who have a different experience from their mothers.

Table 2: Odds ratios of effects of siblings influences, mother influence, youth's education, interaction factors, parents' background, residences on attitude towards ideal family size among single Thai youths.

Variables	Antinatalist VS. Pronatalist		Standard ideal family size VS. Pronatalist		Antinatalist VS. Standard ideal family size	
	Female	Male	Female	Male	Female	Male
Sibling influences						
No. of siblings	0.920	0.709**	0.970	0.743**	0.948	0.941
Birth order	0.876	1.285*	0.857	1.208*	1.023	1.064
Maternal influence						
Closeness to mother	0.675	0.811	0.712	0.904	0.947	0.897
Mother's primary level of education	0.239	0.851	0.130*	0.410	1.835	2.073
Mother's junior secondary level or less (reference group)	-	-	-	-	-	-
Mother's white collar	0.622	1.052	0.654	0.828	0.952	1.271
Mother's blue collar or others (reference group)	-	-	-	-	-	-
Education						
Primary level of education or less	0.137	1.760	0.071**	0.662	1.932	2.661
Junior secondary level of education	1.037	1.270	0.747	0.556	1.389	2.286
Senior secondary level	0.527	0.813	0.314	0.977	1.681	0.831
College (reference group)	-	-	-	-	-	-
Interaction factor between mother education and youth's education						
Mother's primary level X youth's primary level of edu.	2.989	0.668	9.043*	3.201	0.331	0.209*
Mother's primary level X youth's junior secondary level of edu.	0.923	0.951	2.030	3.267	0.455	0.291*
Mother's primary level X youth's senior secondary level of edu.	1.436	1.284	3.883	1.539	0.370*	0.834
Mother's primary level X youth's college level of edu. (reference group)	-	-	-	-	-	-

Table 2: (continued)

Variables	Antinatalist VS. Pronatalist		Standard ideal family size VS. Pronatalist		Antinatalist VS. Standard ideal family size	
	Female	Male	Female	Male	Female	Male
Age of Youths	0.886	0.861*	0.965	0.922	0.918	0.934
Father's background						
Father's primary level of education	1.229	0.771	1.721	0.955	0.714	0.807
Father's junior secondary or more level of ed. (reference group)	-	-	-	-	-	-
Father's white collar	0.814	1.698	1.377	1.308	0.592*	1.299
Father's blue collar and others (reference group)	-	-	-	-	-	-
Residence						
Areas						
Bangkok	0.967	1.171	0.671	0.789	1.441	1.485
Urban	1.173	0.774	0.908	0.762	1.291	1.015
Rural (reference group)	-	-	-	-	-	-
Region						
Central	0.476	0.095**	0.500	0.151*	0.952	0.630
Northeast	0.148**	0.062**	0.287*	0.121**	0.517**	0.516*
South	0.148**	0.050**	0.344	0.096**	0.430**	0.522*
North (reference group)	-	-	-	-	-	-

* P < .05

** P < .01

The findings show small effects of age, father's background, and areas of living on the contrast between pronatalist attitudes and standard attitudes, whereas they show the big effects of region. Only the Northeastern region negatively affects the contrast between pronatalist attitudes and standard attitudes among female youths, whereas the central, Northeastern and South region affect the contrast between pronatalist attitudes and standard attitudes among male youths. Northeastern females are 71 percent more likely to have pronatalist views over standard views than Northern females. Meanwhile, Central males are 85 percent more likely to have pronatalist views to standard views than North males. Northeastern males are 88 percent more likely to have pronatalist views to standard views than Northern males. Southern males are 90 percent more likely to have pronatalist views to standard views than Northern males.

Hence, the second equation of table 2 demonstrates that among male youths, the sibling influences (both the number of siblings and birth order), and region are important determinants of the contrast between pronatalist views and standard views. Meanwhile, among female youths, the influence of siblings does not affect the contrast between pronatalist views and standard views but the influence of education of youths and mothers are strongly related to the contrast between pronatalist views and standard views. Moreover, only the Northeast affects the contrast between pronatalist views and standard views among female youths.

The third equation shows the contrast between standard attitude and pronatalist attitude among female and male youths. The findings show an impact of the interaction factor between mother's low education and youth's education the contrast between standard attitudes and pronatalist attitudes. Among male youths, the effect of the interaction factor appears in interactions between mothers with low education (primary education) and male youths' junior secondary level or less. Whereas among female youths, the effect of the interaction factor appears in interaction between mothers with primary education and female youths' senior secondary level only. Male youths with low education (primary level) whose mothers have low education are 79 percent more likely to have standard attitudes over antinatalist attitudes than those with a college education whose mothers have low education. Male youths with a senior secondary level of education whose mothers have low education are 71 percent more likely to have standard attitudes over antinatalist attitudes than those with a college education whose mothers have low education. Female youths with a senior secondary level whose mothers with low education are 63 percent more likely to have standard attitudes over antinatalist attitudes than those with a college education whose mothers have low education. This means that higher education of youths is likely to play an important role in the contrast between a desire for 2 children and a desire fewer than 2 children.

Moreover, father's white-collar job strongly affects the contrast between standard attitudes and antinatalist attitudes among female youths. Female youths whose fathers hold white-collar status are 41 percent more likely to have standard attitudes

over antinatalist attitudes than those whose fathers hold blue collar or other jobs. Families whose fathers hold white-collar jobs represent high-income families, so probably a desire for only one child is less than a desire for two children since they have more resources with which to rear their children. Knodel et al. (1996) argue that a fertility decision is likely to be associated with individuals' sense of their own well-being.

Certainly in this equation regions, particularly the Northeast and South have still strong effects upon ideal-family size attitude among youths. The Northeastern females are 48 percent more likely to have standard attitudes over antinatalist attitudes than the Northern females. Also, Southern females are 57 percent more likely to have standard attitudes over antinatalist attitudes than the Northern females. Meanwhile, the Northeastern males are 48 percent more likely to have standard attitudes over antinatalist attitudes than the Northern males. The Southern males are 48 percent more likely to have standard attitudes over antinatalist attitudes than the Northern males.

Hence, the last equation of table 3 shows that the effect of interaction between mother's education and youth's education is the factor affecting the contrast between standard attitudes and antinatalist attitudes among both sexes. Father's white-collar job is the determinant that affects the contrast between standard attitudes and antinatalist attitudes among female youths only. However, the Northeastern and the Southern regions affect the contrast between standard attitudes and antinatalist attitudes in both female and male youths.

Conclusion and Discussion

The objective of this study is to examine family influences, measured by the sibling influences (the number of siblings, and birth order), and maternal influences (mother's closeness, mother's education, and mother's occupation) determining family size preference of Thai single adolescents. The multinomial analyses' findings revealed determinants on the contrast between pronatalist attitudes and antinatalist attitudes, the

contrast between standard attitudes and pronatalist attitudes, and the contrast between antinatalist attitudes and standard attitudes. Among female youths, after controlling for other variables, the influence of education (both own youths' education, and mother's education), and the interaction factor of intergeneration are strong determinants of the contrast between standard attitudes and pronatalist attitudes. However, we cannot find that an influence of the number of siblings affects ideal-family size attitude of female youths very much. Moreover, the contrast between standard attitudes and pronatalist attitudes among female youths depends on intergenerational differences in education experience.

Among male youths, after controlling for other variables, the number of siblings and birth order are not only strong determinants of the contrast between standard attitudes and pronatalist attitudes, but also strong determinants of the constrast between antinatalist attitudes and pronatalist attitudes. This findings confirm the past studies that argued that the number of siblings or the number of children born to mothers influences the family size preferences (Axinn, Clarkberg and Thornton, 1994; Westoff and Prtvin, 1966; Duncan et. al, 1965).

Later birth increases the likelihood of the contrast between standard attitudes and pronatalist attitudes, as well as the contrast between antinatalist attitudes and pronatalist attitudes among male youths. This result is consistent to the study of Anderton et. al. (1987) but that studies focused on women and found that former births tend to have a higher proportion of family size preference than the later births. In addition, the findings show that the influence of intergeneration change in educational experience affects the contrast between antinatalist views and standard views. This shows that the influence of education between mothers and sons is important for the contrast between desire for two children and the desire for one or less children.

However, the findings show an influence of region on ideal-family size attitude, particularly in the Northeastern and Southern regions where the influences are very strong on family size prefernce.

In brief, clearly the number of siblings affects ideal-family size of youths. Thus, the policies about knowledge and information in family planning are still important in order to maintain small families for couples who have few children, and in order to reduce desire for more children in couples who have large families. Moreover, educational policy should be encouraged so that youths can attain a higher level of education, especially a higher senior secondary level. However, these policies are likely to emphasize the Northeast and South because the findings can infer that family size preference is higher in both regions than in the Northern and Central regions.

Acknowledge

The author is grateful to Professor Roger Avery at Brown University who suggested many ideas during the onset of analyzing this article. This article could not have been written without the Youth Survey Data set provided by IPSR, Mahidol University. Thanks go to an anonymous reviewer for useful suggestions.

References

Ahmed, Nilufer R. 1981. "Family Size and Sex Preferences among Women in Rural Bangladesh." *Studies in Family Planning*, Vol. 12 (3): 100-109.

Anderton, Douglas L., Noriko O. Tsuya, Lee L. Bean, Geraldine P. Mineau. 1987. "Intergenerational Transmission of Relative Fertility and Life Course." *Demography*, Vol 24 (4): 467-480.

Axinn, William G., Marin E. Clarkberg, Arland Thornton. 1994. " Family Influence on Family Size Preferences." *Demography*, Vol.31(1) : 65-79.

Duncan, Otis Dudley, Ronald Freedman, J. Michael Coble, Doris P. Slesinger. 1965. "Marital Fertility and Size of Family of Orientation." *Demography*, Vol 2 : 508-515.

Goldscheider, F. K., and L. J. Waite. 1991**.** *New Families, No Families? The Transformation of the American Home*. Berkeley: University of California Press.

Gustavus, Susan O. 1973. "The Family Size Preferences of Young People: a Replication and Longitudinal Follow-up Study." *Studies in Family Planning*, Vol.4 (12): 335-342.

Hirschman, Charles, Joo Ean Tan, Aphichat Chamratrithirong, Philip Guest. 1994. "The Path to below Replacement-level Fertility in Thailand.": 82-87, *107 International Famly Planning Perspectives*, Vol.20 (3): 82-87, 107.

Institute for Population and Social Research, Mahidol University. 1999. *Gazette*. Vol. 8, No.1, January. Thailand.

Johnson, Nan E., C. Shannon Stokes. 1976. "Family Size in Successive Generations: The Effects of Birth Order, Intergenerational Change in Lifestyle, and Familial Satisfaction." *Demography*, Vol. 13 (2) : 175-187.

Knodel, John, and Pichit Pitaktepsombati. 1975. "Fertility and Family Planning in Thailand: Results of the second round of the national survey*." Paper No. 19. Chulalongkorn Universit*y, Institute of Population Studies.

Knodel, John, Vipan Prachuabmoh Ruffolo, Pakamas Ratanalangkarn, Kuo Wongboonsin. 1996. "Reproductive Preferences and Fertility Trends in Post-transition Thailand." *Studies in Family Planning*, Vol. 27 (6) : 307-318.

Knodel, John, and Visid Prachuabmoh. 1974. "Demographic aspects of Fertility in Thailand." *Population Studies*, Vol.28: 423-448.

Martin, Teresa. 1995. *Women's Education and Fertility: Results from 26 Demographic and Health Survey." Studies in Family and Planning,* Vol. 26, No. 4: 187-202.

Pritchett, Lant H. 1994. "Desired Fertility and the Impact of Population Policies." *Population and Development Review*, Vol.20 (1): 1-55.

Westoff, Charles F., Raymond H Potvin. 1966. "Higher Education, Religion and Women's Family-Size Orientations." *American Sociological Review*, Vol.31 (4): 489-496.