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Thailand Institution Factors Influencing Middle-Income Earning Generation Y's Fertility Intentions

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Abstract

Thailand's fertility rate has been declining from 5.6 children per women in 1970 to 1.5 children per women in 2016. With such a decline in the nation' fertility, Thailand will become an aged society in less than a decade. The aim is to understand the factors influencing people's fertility intentions which will lead to an improved formation of the country's official fertility policy. The aim is to investigate the relationships between institutional factors and fertility intentions within the group of middle-income earning women from Generation Y who plan to have a child or children. The theory of institution was adopted for the investigation. A total of 404 samples from the Bangkok and metropolitan were selected from a group of middle-income earning women from generation Y. Questionnaire surveys were carried out using face-to-face interviews. The study shows that family support and household income have positive effects on women's fertility intentions while marriage age and urbanization have negative effects on women's fertility intentions. It is recommended that the government should encourage couples to get married at an earlier age. Also, jobs should be created in suburban areas to reduce chances of migration which will also increase the level of family support and finally result in higher fertility intentions.

Keywords: Fertility intention, Institution theory, Middle-income, Generation Y

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Background

Many developed countries have faced an ageing population problem due to a decline in their fertility and mortality rates. Thailand's fertility rate has been dramatically declining from 5.6 children per women in 1970 to 1.5 children per women in 2016 (World Bank, 2018). Forecasts show that the rate would decline to 1.4 children per women in 2030 (Vapattanawong & Prasartkul, 2014). Thailand will become an aged society in less than a decade.

In some aged or super aged countries, the fertility rate is as low as 1.2 in Singapore (United Nations, 2015) and 1.4 in Japan (The Japantimes, 2020), their governments maintain their nation's fertility by encouraging people of reproductive age to have children. For example, the Singapore government offers baby bonus cash gift to a couples for each eligible children born (United Nations, 2015) and the Japan government plans offer support for childbirth and child rearing including reducing the financial burden for fertility treatment, higher child allowances, and expanding the program for free higher education to encourage couples to produce more children (The Japantimes, 2020).

There are also other examples of measures which some governments initiated to boost their national fertility. Numerous studies in developed countries suggested that the fertility policy could increase the reproductive population's fertility intentions (Billingsley & Ferrarini, 2014; Fraser, 2001; Kalwij, 2010; McNown & Ridao-cano, 2004; Véghová & Machová, 2013). Thailand has also initiated fertility related policies, but the results have not been promising. Thus, these policies need to be revised (Pattarakijkusol & NaRanong, 2020). Thailand has such policies as child bearing subsidy (Social Security Office, 2015), maternity/parental leave and benefits (Royal Thai Government Gazette, 1998, 2013), tax subsidies, child allowance, and education allowance (Revenue Department, 2014). Nevertheless, the fertility rate is still declining at 0.01 percent annually (Phrompak, 2013). Table 1 illustrates the number of newborn children in Thailand.

Table 1 The number for births in the Kingdom of Thailand (in Millions), 2010-2019

#	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Whole Kingdom	0.77	0.80	0.82	0.78	0.78	0.74	0.70	0.70	0.67	0.62
Boy	0.40	0.41	0.42	0.40	0.40	0.38	0.36	0.36	0.34	0.32
Girl	0.37	0.39	0.40	0.38	0.38	0.36	0.34	0.34	0.32	0.30

Source Office of the National Economic and Social Development Council (2020)

The ineffectiveness of aforementioned policies may be due to the low number of Thai taxpayers. *ThaiPublica* (2016) reported that 38.8 million Thais participate in the labor market, and around 70 per cent of these people are aged 15 years and older. However, 10.3 million people filed their personal income tax, and

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4 million people paid their personal income tax. The statistics reveal that the fertility-related policies regarding tax benefits may attract at most 4 million Thais.

Institutional factors have been largely explored to reveal their relationships with fertility intentions. China, where the fertility rate was as low as 1.0 child per women in many provinces (Baochang, Feng, Zhigang, & Erli, 2007), has been severely affected by the effects of the country's One Child Policy (Quanbao & Yixiao, 2016). The study of Zhenzhen, Cai, Feng, and Baochang (2009) suggests that the institutional factors are more influential to the population's childbearing intentions than the national fertility policy. According to Zhenzhen et al. (2009), changes that have taken place in China have contributed to lower fertility levels. For instance, following the end of collective farming forced the new generation to work in cities. As a result, the living arrangements have changed. More families have had to be responsible for the cost of and rearing of children themselves. Grandparents are unable to take care of the children. Also, with more competition for jobs, having children has become more expensive. Another contributing factor stems from the migration of people within the country for employment purposes. All of these factors have led to lower fertility rates than the one-child policy.

The low fertility in Thailand is resulting in the shrink of the base of demographic pyramid (see Figure 1) Women in reproductive age could contribute to shaping future demographic structure. Nonetheless, it is not that every woman should be encouraged to get married and plan to become pregnant. There are preventable risks of pregnancies such as miscarriage, ectopic pregnancy, or multiple gestation if the particular women do not fall into pregnancy at young (under 17) or old (35+) ages. (Phangsuwan & Srisupundit, 2017). Thailand is also facing issues with adolescent pregnancies which lead to increased school dropout rates among teenagers (Unicef Thailand, 2016). As a result, the Gen Y population between 25 – 39 years of age (Reresfordresearch, 2020) would be the group of interest and the focus of this study.

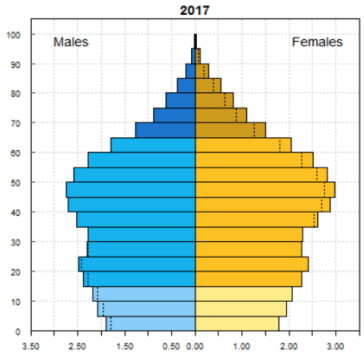

Figure 1: Thailand's present demographic pyramid.

Source: United Nations, Department of Economic and Social Affairs, Population Division (2017)

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As previously mentioned, having a child In Thailand is costly, Pattarakijkusol and NaRanong (2020) found that having a child between the ages of 0 and 6 would lead to expenses totaling between 1,500 and 20,00 baht per month with an average of 7,405 baht. Middle and upper middle-income earners in Bangkok receive between 12,500 and 36,500 baht every month (National Statistic Office, 2018). Thus, the group of people who earn less than this amount would face additional burdens if they have children or are encouraged to have children since the expected expenses is too high.

Hence, this study aims to investigate the relationships between institutional factors and fertility intentions within the group of middle-income earning married women from Generation Y who plan to have a child or children.

Literature review

Institutional theory

Studies on fertility intention have adopted Institutional theory to examine the relationships between fertility intentions and social institutions. Miller (1994) suggests that norms and values are associated with social institutions; thus, social networks such as friends and families influence the fertility intentions of women in the network. Other scholars such as Zucker (1987), Urpelainen (2011), Parsons (1990), and S. Miller (2019) define the institution in a similar manner, stating that the institution consists of the values, norms, and beliefs in a particular society which influence the members of that society to make decisions or influence the members' behaviors.

Although there are numerous Thai institutions, only the following factors with empirical evidences to support will be investigated in this study.

1) Age at first marriage: Marriage is the process which facilitates the extension of the social institution unit. The aim of marriage is to strengthen families' security and to ensure continuation of the family from one generation to the next (Chuanwan & Katewongsa, 2014). However, the younger generation have decided to postpone marriage and children and focus first on employment and financial stability (Bhubate Samutachak & Niphon Darawuttimaprakorn, 2014).

The share of births outside of marriage increased across the OEDC countries ranging from 2 – 3 percent in Japan and Korea to 71 per cent in Iceland (OEDC, 2018). Therefore, age at first marriage in this paper refers to the age a woman agrees to build family with a man regardless to their legal marital status. Rasheed and Al-Dabal (2007) found that 66 per cent of married women prefer a birth interval of at least three years (the time between previous and next births); however, it was not specified how many children each woman would like to have. Thus, we may assume that younger aged married women would have a greater number of birth intervals before they feel that they have reached an age which they would consider to be too old to have children.

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Women's age at first marriage and women's age are inter-related in terms of their fertility intention. There is evidence that young married couples in low and middle-income countries who are sexually active are less likely to use modern contraceptive methods (de Vargas Nunes Coll, Ewerling, Hellwig, & de Barros, 2019). Hence, this will likely result in the total number of children among women whose age at first marriage is low would have to be high.

There is no evidence that women whose age at first marriage is high will have fewer children. Nevertheless, there is evidence that women's age is an important factor when it comes to fertility intentions. Studies in developed countries suggest that the higher age groups have a negative relationship with fertility intentions (Fehr & Ujhelyiova, 2013). Billingsley and Ferrarini (2014) studied the fertility intentions in 21 European countries and found that women aged 40 years and above tend to lower their fertility intentions for their first child. Korea, Park, Cho, and Choi (2010) found similar results for fertility intentions when it comes to the second and third child. However, they did not find any relationship among age groups and the fertility intentions for the first child.

In conclusion, women marry early, there will be greater opportunities for them to have more children earlier due to a longer birth interval between children.

2) Family Type, family support, and division of labor in the family: Modernization has transformed Thai families from extended to nuclear ones because the young generation migrate from their hometowns to work in industrialized areas. The elderly are left behind, and the younger population raises their family elsewhere, resulting in smaller family sizes (Shoichiro, 1997).

Skipped generation household is another form of family where parenting is absent because of migration for employment. As a result, children would then be left with grandparents who take care of them. Even though grandparents in Thailand are willing to look after their grandchildren, they expect remittances. If the remittances received are not what was previously agreed, there would be conflicts in the family (Ingersoll-Dayton, Tangchonlatip, & Punpuing, 2020).

Subsequently, couples will have to spend more time on childcare; thus, family support would influence their fertility intentions (Snopkowski & Sear, 2012). Luo and Mao (2014a) found that there is a tendency that women would have higher fertility intentions if mothers have childcare support.

Couples who cohabitate must share their domestic tasks. The family's division of labor does not consider skills, educational level or husband's/wife's qualifications (Soriano, 1991). Billingsley and Ferrarini (2014) found that family support affects fertility intentions across Europe. In addition to family support, the hours of shared housework between husband and wife play an important role in the fertility decision. The fertility intentions for a second child would increase according to the husband's shared housework and childcare hours (Park et al., 2010).

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3) Gender Equality and Income: There are changes in the family institution from being male dominated with female subordination to one which features more female domination (Soriano, 1991). Previously, most women participated less in the labor market because they were responsible for housework and childcare (Scanzoni, 1975). The increase in the number of women participating in the labor market is directly correlated with the decline in many countries' total fertility (Brewster & Rindfuss, 2000; Goedele Van Den & Miet, 2015; Soriano, 1991). Woman who are in the labor market are more likely to postpone their motherhood (Davia & Legazpe, 2014). Ultimately, some of these women may feel that they are too old and decide not to have children (Billingsley & Ferrarini, 2014; Fehr & Ujhelyiova, 2013).

Many studies also dealt with income (Christoph, 2008; Haan & Wrohlich, 2011; Liu & Lummaa, 2019; McNown & Ridao-cano, 2004). McQuillan et al. (2015) asked their research sampling: "During the past 12 months, how often did it happen that you had trouble paying bills?" or "During the past 12 months, how often did it happen that you did not have enough money to buy food?" Park and Cho (2011) posed questions regarding the household income without reporting any results. It is frequently thought that a person's income plays an important role in gender equality. Those who earn less assume subordinating role. There is worldwide evidence that female employees are paid less than male employees (Ortiz-Ospina & Roser, 2019).

Bhattacharyya (1975) suggested that income inequality affects fertility. Raymo and Shibata (2017) found that the fertility rate is reduced when males' unemployment rate reduces, and fertility rates increase when females' unemployment rates increase.

4) Educational Level: Women with a higher level of education tend to be more modernized and gain better access to a career with better benefits from society (Scanzoni, 1975; Soriano, 1991). The higher educational level would lead to a better income level, and these people might not have a higher level of fertility intentions if they feel that having children is not worthwhile because it may affect their chances of obtaining career progression. Such evidence can be found in many European countries (Hayford, 2009; Heiland, Prskawetz, & Sanderson, 2008; Mills, Begall, Mencarini, & Tanturri, 2008). Some women in high-status occupations may intend to have fewer children from the beginning of their reproductive careers (Friedman, Hechter, & Kanazawa, 1994), while others may later decide to forgo having some of the children they had initially planned to have over the course of their reproductive careers (Tavares, 2010). Better educated women are more prone to postponing the idea of having children than less educated women (Heaton, Jacobson, & Holland, 1999; Schoen, Astone, Kim, Nathanson, & Fields, 1999).

5) Urbanization: The data shows that the rural childbearing rate is much higher than the urban rate because of differences in the working styles between rural and urban dwellers. Urbanites tend to spend more time at work than at home. Additionally, rural dwellers participate more in agriculture. Hence, parents hope that their children can help them work (Soriano, 1991). Feng and Mason (2008) revealed in 2000 that

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China's life expectancy of their rural population is six years lower than that of their urban population. *China Daily* reported that there was a large gap in the fertility rate between rural and urban dwellers.

In summary, this research argued that the institutional factors that is norm and values influence women fertility intention. The changes in society have delayed the age at first marriage of women; as a result, their fertility intentions have declined. Urbanization has also transformed living arrangements. Many people no longer live with their extended families like before and live with their nuclear families only. In some cases, there is an emergence of skipped generation households. Furthermore, parents in these nuclear families lack the support of grandparents to help take care of newborn babies. This is because nowadays they often do not reside in the same house. Grandparents in skipped generation households expect remittances from the couples when they are asked to raise the children. Such situations may lead to conflicts in the family which play a role in reducing women's fertility intentions.

Women today have more access to education which leads to more varied employment opportunities. However, men still play a dominant role in many families which make women have to be responsible for working both inside the house as well as outside. Such dual responsibilities create excessive burden on women. Hence, the desire to have children is reduced because women do not wish to add additional burden on top of what they have to already deal with.

Conceptual Framework

The conceptual framework (see figure 1) is influenced by the theory of planned behavior initiated by Ajzen (1991). The framework shown in figure 1 is in accordance with the institutional factors. The nine observed variables are marriage age, family type, family support, division of labor in the family, gender equality, personal income and household income which reflect the gender equality, educational level, and urbanization which will be investigated to determine their influence on Thai women's fertility intentions.

Fertility intentions and fertility behavior differ. Fertility intentions entail an individual's desires to have babies. The fertility intentions will be measured by the desired number of babies which the individuals plan to have. The fertility behavior is the actual number of babies individuals have (Luo & Mao, 2014a). Fertility intentions do not necessarily result in the fertility behavior as other factors may influence the couple's parenthood. Thus, the dependent variable is the fertility intentions which will make it possible to determine which variables have the most influence on Thailand's fertility intentions. Finally, the correlation between fertility intentions and fertility behavior will be tested to explore if Thai women's fertility intentions reflect their fertility behavior.

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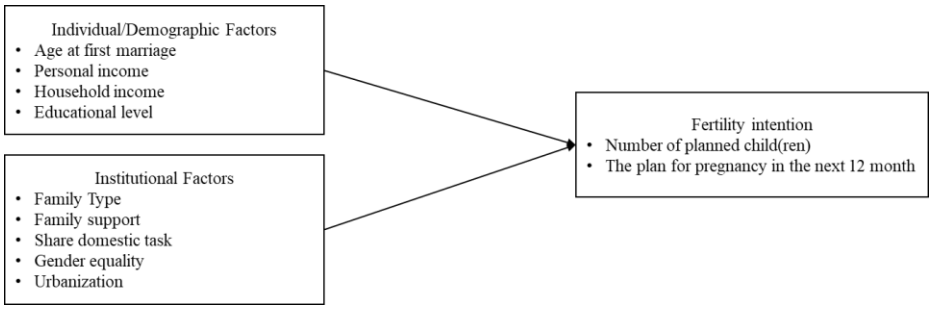

Figure 2: Conceptual Framework

Methodology

Bangkok and Metropolitan were selected as the area of the study with a total population of 1,065,042 women aged between 25 and 39 years old (Department of Provincial Administration, 2018). The population for this research had to earn between 12,500 - 36,500 baht per month, which is the income level of middle and upper middle income earners (quintiles 3 - 4) in the Bangkok Metropolitan Region (National Statistic Office, 2018).The researcher determined the sample size by consulting the Krejcie and Morgan (1970) sample size formula at a five percent confidential level. The number of the sampling was determined according to the proportion of the Bangkok and the Metropolitan's total population. Hence, the sampling size for this research consisted of 384 participants. To allow room for missing data or errors such as miss-reporting during the data collection process, the researcher decided to collect 404 samples which is a difference of five percent from the formula. For the sample's sampling, the researcher employed the stratified multistage sampling approach with quota technique.

To conduct the face-to-face interviews, the data collector randomly visited residential areas within the pre-determined locations. These three provinces were separated, and each province was further subdivided into urban and suburban areas. Bangkok was divided into three parts: inner, outer and central. The number of samples was determined by the quota of the number of female population as a percentage of the total number of women in each area. These locations were selected by tossing printed postal codes on pieces of paper from Bangkok and Metropolitan areas into the air and randomly selecting those which fall on the ground. No official lists of population who are 25 – 39 years old exist. Consequently, data collectors searched for females who appeared to be between 25 and 39 years old, and then approached them for their permission to complete the questionnaires. Three screening questions were asked: 1) "How old are you?", 2) "What is your monthly income?", and 3) "Are you married, or are you living with your partner?" If the answer for 1) is 25 – 39, for 2) is 12,500 – 36,500, and for 3) is Yes, data collector will process to further interview. These questions were used to ensure that the respondents came from the population who was qualified to complete the research survey. A maximum of three female participants came from every alternate lane (Soi) who were interviewed

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face-to-face. Data was thoroughly collected from the sample population in all areas as planned between October - December 2019.

Data analysis

The Ordinary Less Square (OLS) techniques was employed through the correlation function in the IBM SPSS Statistics Version 24 software. There were two models which were tested in this research: 1) The correlation between institution factors and fertility intentions were tested to find out whether the current institution influence women's fertility intentions, and 2) the correlation between fertility intentions and fertility behavior was also tested to investigate the relationships between fertility intentions and fertility behavior. The following are regression models for this research.

Framework regression model

$$Yi = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 D_{1i} + \beta_7 D_{2i} + \beta_8 D_{3i} + \beta_9 D_{4i} + \varepsilon$$

Where Yi is the average number of planned child that middle income Gen-Y women in Bangkok and the metropolitan areas planned to have.

X_{1i} is the age when middle income Gen-Y women in Bangkok and the metropolitan areas got married.

X_{2i} is the ratio of shared household tasks between husband and wife.

X_{3i} is the level of woman's income.

X_{4i} is the level of household income (husband plus wife's income).

X_{5i} is the level of middle-income Gen-Y women's educational level.

D_{1i} is 1 if the woman's is living in extended family, and 0 if the woman is living in nuclear family.

D_{2i} is 1 if the woman's family can help take care of the newborn babies, and 0 if her family cannot help with the care of newborn babies.

D_{3i} is 1 if the woman feels there is gender equality, and 0 if the woman does not feel there is gender equality.

D_{4i} is 1 if the woman is living in an urban area, and 0 if the woman is living in a rural/suburban area.

Finally, path analysis was conducted to understand how each independent variable affects the dependent variable which is women's fertility intentions. The AMOS software was adopted to analyze the path analysis among variables. The fitness of the model was tested. The overall fit statistics must be acceptable (x2/df < 5, NFI > 0.90, IFI > 0.90, CFI > 0.90, and RMSEA < 0.08); otherwise, the model would be dropped. The analysis was done in accordance with the standardized coefficient output from the AMOS software.

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Findings

The results of statistical testing concerning frameworks are shown in the following table. The aim is to evaluate the correlation between fertility intentions which was measured by the number of children that a particular woman planned to have as a dependent variable and nine independent variables: 1) marriage age, 2) type of family, 3) family support for the new born child, 4) ratio of domestic tasks between wife and husband, 5) gender equality, 6) personal income, 7) household income, 8) educational level, and 9) urbanization. Please note that the researcher transformed the educational level from categorical variables (primary school, secondary school, high school, diploma, bachelor's degree, and master's degree) to years of schooling which are scale variables (6 years, 9 years, 12, years, 14 years, 16 years, and 18 years). This is because the use of multiple regression analysis requires all variables to be scale variables. Otherwise, the research would have to analyze the educational level variables separately.

The following table represents the characteristic of the sample of the study.

Table 2 Respondents' characteristics

Characteristics	Women Selected	Percentage
Age		
25 – 29 Years old	165	40.84
30 – 34 Years old	145	35.89
35 – 39 Years old	94	23.27
Total	404	100.00
Age at first marriage		
16 – 20 Years old	40	9.90
21 – 25 Years old	181	44.80
26 – 30 Years old	163	40.35
31 – 35 Years old	17	4.21
36 – 39 Years old	3	0.74
Total	404	100.00
Family type		
Living in extended family	173	57.18
Living in nuclear family	231	42.82
Total	404	100.00
Family support		
	352	87.13

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Characteristics	Women Selected	Percentage
Family is able to help the mother take care of newborn children.	52	12.87
Family is unable to help the mother take care of newborn children.	404	100.00
Total		
Share domestic tasks		
Wife takes care of domestic tasks	115	28.46
Wife takes care of … domestic tasks		
80 – 90 %	54	20.85
60 – 79 %	101	39.00
40 – 59 %	89	34.36
20 – 39 %	15	5.79
Husband takes care of domestic tasks	30	7.34
Total	404	100.00
Perceived gender equality		
a		
My husband is the family leader	369	91.34
I am the family leader	35	8.66
Total	404	100.00
b		
Husband earns more than wife	271	67.08
Wife earns more than husband	77	19.06
Husband and wife earn equal amounts.	56	13.86
Total	400	100.00
Personal income		
12,500-15,000 baht per month	90	22.28
15,001-20,000 baht per month	157	38.86
20,001-25,000 baht per month	70	17.33
25,001-30,000 baht per month	71	17.57
30,001-36,000 baht per month	16	3.96
Total	404	100.00
Household income		
Below 34,000	80	19.80

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Characteristics	Women Selected	Percentage
34,000 - 39,999	72	17.82
40,000 - 47,999	84	20.79
48,000 - 56,999	84	20.79
Above 57,000	404	100.00
Total		
Educational level		
Primary School (or equivalent)	15	3.71
Secondary School (or equivalent)	121	29.95
Associate's Degree (or equivalent)	77	19.06
Bachelor's Degree (or equivalent)	181	44.80
Master's Degree (or equivalent)	10	2.48
Total	404	10.00
Urbanization	See table 2	-->add the variable here.
Bangkok		
Central	79	19.55
Inner	79	19.55
Outer	79	19.55
Nonthaburi		
Urban	28	6.93
Suburban	28	6.93
Pathum Thani		
Urban	26	6.44
Suburban	26	6.44
Samut Prakan		
Urban	30	7.43
Suburban	29	7.18
Total	404	100.00
Number of planned children		
No desire to have any children.	21	5.20
1 Child	125	32.64
2 Children	242	63.18
Above 3 Children	16	4.18

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Characteristics	Women Selected	Percentage
Total	404	100.00
Number of existing children		
0 Child	95	23.51
1 Child	169	54.69
2 Children	118	38.19
3 Children	20	6.47
4 Children	2	0.65
Total	404	100.00
Use of contraceptive method in the past 12 months		
Yes		
No	139	34.41
Total	265	65.59
	404	100.00

Source Researcher's survey n = 404

The researcher also validated the data to check if it violates the regression assumption and to ensure that there is no data which goes against the assumption set out when employing the multiple regression technique. The data validation included the fact that 1) the relationships among variables are linear, 2) there is no multicollinearity in the data, 3) the values of data are normally distributed, 4) the variance of the residuals is constant, 5) the values of residuals are independent, and 6) there is no influential case biasing model. The test also shows that the relationships between independent variables and the plan for the pregnancy in the next 12 months violate the regression assumption. Therefore, the model that consists of the plan for pregnancy in the next 12 months as a dependent variable will be omitted. For the data validation between independent variables and number of children that women planned to have as a dependent variable, the data is valid for regression analysis because of the following factors: 1) the relationships among variables are linear, 2) the multicollinearity in the data is acceptable – VIF value's range is between 1.029 and 3.253, 3) the values of data are normally distributed, 4) the variance of the residuals are constant – P-Plot is not illustrated triangle shape, 5) the values of residuals are independent - Durbin-Watson values is 1.865, and 6) there is no influential case biasing model – all Cook's value is less than 1.000.

According to table 1, a multiple linear regression was calculated to predict fertility intentions based on 1) marriage age, 2) type of family, 3) family support for the newborn child, 4) ratio of domestic tasks between wife and husband, 5) gender equality, 6) level of income 7) educational level, and 8) urbanization. A significant regression equation was found ($F(9,394) = 4.366$, $p < .000$), with a R^2 of .100. The multiple regression found four statistically significant variables: 1) marriage age, 2) family support for the newborn child, 3) household

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income, and 4) urbanization. Participants' predicted fertility intentions are equal to 1.895-0.035 (marriage age) + 0.206 (family support) + 0.000011 (household income) - 0.164 (urbanization), where marriage age is measured in the age when the female first got married, family support is coded as 1 = both husband's family and wife's family are unable to help care for the newborn child, 0 = either husband's family or wife's family is able to help care for the newborn child, household income is measured in baht, and urbanization is coded as 1 = family is living in urban area, 0 = family is living in suburban area. The fertility intentions are reduced by 0.035 child for each year marriage increases, while those whose family is able to help care for the newborn child have 0.206 more children than those whose families are not able to do so. Additionally, the level of fertility intentions increases by 0.000011 with every baht increase in household income, and families living in urban areas have 0.164 fewer children than those families living in suburban areas.

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Table 3 Results of the multiple regression which applied all social institutional factors

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	S.E.	Beta		
Constant	1.895	.351		5.401**	.000
Marriage age	-.035	.011	-.187	-3.184*	.002
Extended family	.025	.065	.019	.387 ns	.701
(Nuclear family is the reference group.)					
Family is able to help the mother take care of newborn children.	.206	.099	.107	2.085*	.037
(Family is unable to help the mother take care of newborn children is the reference group.)					
Ratio of domestic tasks between wife and husband	-.001	.001	-.053	-1.098 ns	.277
Level of personal income	-.000	.000	-.069	-.796 ns	.523
Level of household income	.000	.000	.232	2.678*	.007
Wife feels she is equal to her husband.	.020	.034	.030	.610 ns	.533
(Wife does not feel equal is the reference group.)					
Level of education	-.002	.015	-.007	-.132 ns	.684
Family is living in an urban area.	-.164	.071	-.125	-2.332*	.026
(Family is living in a suburban area is the reference group).					
R^2 = .100, SEE = .621, F = 4.366, Sig of F =.000					

Note: [1] is -.000008, [2] is .000011

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Table 2 illustrates the results of multiple regression between fertility intentions and fertility behavior.

The multiple regression shows that there is a correlation among fertility behavior, age, and fertility intentions. Therefore, the variability of the fertility behavior can be predicted by age and fertility intentions.

Table 4 Results of multiple regression between fertility intention and fertility behavior

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	S.E.	Beta		
Constant	-2.050	.309		-6.627**	.000
Age	.082	.009	.383	8.785**	.000
Fertility intentions	.402	.058	.302	6.918**	.000
R^2 = .238, SEE = .754, F = 62.558, Sig of F =.000					

Discussion

Marriage and fertility intention

Marriage age has a negative effect on middle-income earning generation Y's fertility intentions. This means that the older the women get married, the lower the level of fertility intentions or the lower number of children

they plan to have. This finding is consistent with previous studies such as that of Fehr and Ujhelyiova (2013) which suggests that higher aged people have low intentions to start a family. Billingsley and Ferrarini (2014) found that European women feel that they are too old to get pregnant after they are in their 40s. In some geographic areas, this psychological age limit is reduced to 35 years such as in China (Luo & Mao, 2014b) and in the United States of America (McQuillan, Greil, Shreffler, & Bedrous, 2015).

However, this study did not explore how middle-income earning generation Y women feel about pregnancy. The research only explored marriage age and fertility intentions. Therefore, the reason why people who wed at a younger age have higher fertility intentions could be explained by the increase in the number of birth intervals. According to Rasheed and Al-Dabal (2007), most women (66 per cent) prefer a birth interval to cover

a period of more than three years while only 5.2 per cent of the women prefer a period of less than two years to give birth to their additional child. The remaining women prefer 2 – 3 years between births.

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Most women between 35 – 40 years of age are less likely to get pregnant, and the mean marriage age of middle-income earning generation Y women is 25.29 (n=404). This signifies that these women will have around three birth intervals from 25.29 years old to 35 years old when they will feel too old to have an additional child.

The study collaborates this finding that as women get older, their fertility intentions decrease. The researcher proved this by finding a correlation among three factors: current age, use of any form of contraception, and a 12-month plan for a child. The analysis shows that the older the women are, the more likely they are to use contraception with a significant level of $p = 0.00$ and $n = 404$. However, age has a reverse relationship with the 12-month plan to have a child: the younger the women, the more likely they are to plan for the next 12 months to have a child with a significance level of $p = 0.00$ and $n = 404$. These findings confirmed that the younger these women get married, the greater the possibility that they will have higher fertility intentions.

Family support and fertility intention

The family support factor refers to whether grandparents (regardless of husband's or wife's side) can help the middle-income earning generation Y women's family care for their newborn child. Receiving the support of family members would influence the fertility intentions (Snopkowski & Sear, 2012). The survey also showed the correlation of family type (nuclear or extended family) to family support ($p = 0.000$). The analysis shows that those who are in an extended family are more likely to gain better family support. Around 57 per cent of Thai families are nuclear and 43 per cent are extended.

The study focuses on those middle-income earning generation Y women who are active in the labor market and are entitled to 90 – 150 days of maternity leave depending on their employment benefits. Nevertheless, they are most likely to receive 90 – 98 days while still being paid. When they return to work, someone will have to care for their newborn child.

The Thai policy toward working mothers is unable to support the care of their newborn children. Examples include France's child credit policy (Laroque & Salanié, 2014), Japan's financing child care policy (Ishida, Oguro, & Takahata, 2015; Masaya, 2013), United States' childcare tax policy (Ridao-Cano & McNown, 2005), or Germany' childcare subsidies policy (Haan & Wrohlich, 2011). Although there is empirical evidence that facilitating working mother to raise their children in the work place does not weaken working mothers' performance, there are still issues in facilitating working women in Thailand's work places (Susanha Yimyam, Pikul Thapphansan, & Srivieng Chumphan, 2012).

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Urbanization and fertility intention

Urbanization refers to whether they dwell in an urban or suburban area. According to the study, these women who dwell in suburban areas tend to have higher fertility intentions than those dwelling in urban areas.

Previously, those in rural areas were more likely to participate in the agricultural sector. Hence, the parents hope that they would benefit from having children to help them on their farm (Soriano, 1991). The development of the industrial sector increased the migration of the younger generation to the industrial sector.

Migration results in the change of family forms from an extended to a nuclear family. The research tested the correlation among fertility intentions, urbanization, family type, family support, and household income to explain the reasons why urbanization is a predictor of fertility intentions. The statistical significance between urbanization and middle-income earning generation Y women's fertility intentions is $p = 0.000$. The statistical significance between urbanization and family type, family support, and household income are also $p = 0.000$. The analysis shows that suburban women tend to have higher fertility intentions even if their households earn less than urban women. The analysis also shows that suburban women live in an extended family and receive better support to care for their newborn child and will have greater fertility intentions.

While the regression analysis showed that there are only four variables which directly affect middle-income earning generation Y women's fertility intentions, other variables also play an influential role. Thus, the research conducts an additional path analysis to explain the entire picture of institution factors which influence these women's fertility intentions as illustrated in the following figure.

To determine the path analysis, the researcher employed the bivariate correlation function found in SPSS to identify the relationships among the variables. Subsequently, a new structural model was made. To ensure the validity of the structural model of the path analysis, the researcher employed the IBM SPSS AMOS software to analyze the structural model fitness test to ensure that the path analysis is able to explain the relationships among the variables. The overall fit statistics ($x2/df = 3.071$, NFI = 0.941, IFI = 0.960, CFI = .0959, and RMSEA = 0.072) suggested an acceptable level of model fit with the survey data.

The path analysis results, as shown in figure 2, suggest that the educational level leads to a postponement of middle-income earning generation Y women's marriage, and the educational level allows these women to earn better personal income and household income. Once these women feel that they

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have financial stability, they will wed which will increase their fertility intentions. However, their marriage age negatively affects their fertility intentions.

Furthermore, the analysis also suggests that the indirect effect of the educational level in the suburban area affects middle-income earning generation Y women in another way. Women in the suburban areas would have a lower educational level which will lead to lower income level, but they would have higher fertility intentions when compared with women in urban areas because of the form of their family. Suburban women are more likely to live in an extended family. Either living vitriolically or uxorilocal affects women's fertility intentions. It is more likely that these women will gain better support from the family to care for their newborn child. Furthermore, they have fewer concerns when it comes to expenses and enjoy greater financial stability because their family members can care for their newborn child while they are at work. Consequently, they will have greater fertility intentions even if they earn less than women in urban areas due to the lower childcare expenses.

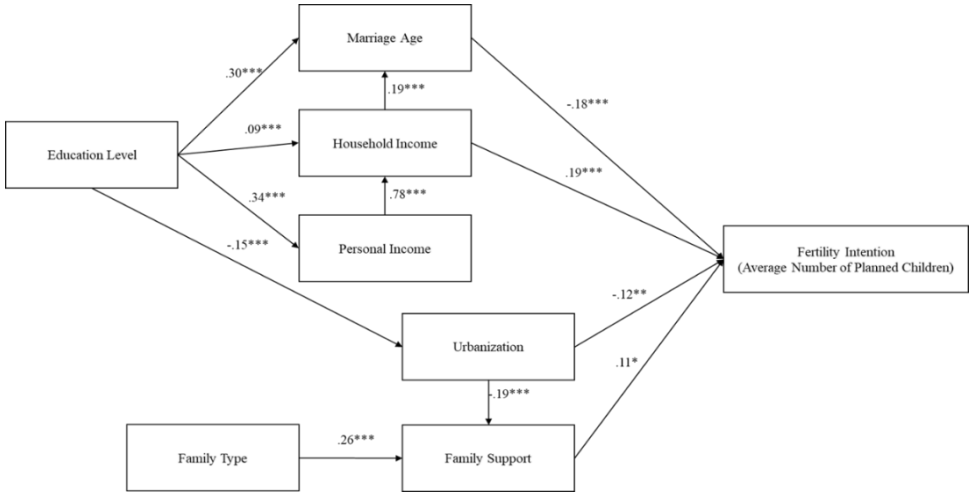

Figure 3 Path analysis for Social Institutional Factors and Middle-Income Earning Generation Y's Fertility Intentions
Note: ***p = 0.00, **p < 0.01, *p < 0.05

Recommendations

The study showed that the marriage age, family support, household income and urbanization were key predictors for middle-income earning Generation Y women's fertility intentions which can be predicted by the following equation:

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Fertility intentions = 1.895 – 0.035 (marriage age) + 0.206 (family support) + 0.000011 (household income) – 0.164 (urbanization)

According to the equation, the marriage age negatively affects women's fertility intentions because most women would feel that they were too old to become pregnant when they are 35 - 40 years old or older. The study suggested that the women's age negatively affects their 12-month plan for pregnancy. Furthermore, the women's age positively affects the use of contraception. The older the women become, the less likely they would plan for pregnancy. The study revealed that the younger the women wed, the longer the birth interval would become. Previous studies suggested that 66 percent of women preferred birth intervals of more than three years, while 29 percent of women preferred birth intervals of two to three years. Plus, only five percent of women preferred birth intervals of less than two years. Hence, on average women married at 25 years of age; hence, they would have a maximum of three children.

Women in this study tended to plan to have a greater number of children when their household earned more. Although household income was the best predictor that could be used to explain the variability of fertility intentions, the fertility intentions could be increased to two children per women, which was the optimal point, when both the husband's and wife's combined monthly earnings were more than 70,000 baht. Moreover, urbanization negatively affected fertility intentions. Those who lived in suburban areas tended to plan for a greater number of children because of better access to family support.

Finally, educational level and family type have indirect effects on the women's fertility intentions. Women in extended families tend to receive better support for the care of their newborn children which would eventually result in higher fertility intentions.

Based on the aforementioned points, the researcher has the following recommendations:

1. Policymakers should find a way to encourage citizens to wed at an earlier age by offering a monetary bonus and incentives to encourage people to think about marriage sooner.

2. Currently, places of employment are concentrated in urban areas; therefore, many people from outside major cities migrate into urban areas. The study showed that women with lower income levels from suburban areas would have higher fertility intentions because of family support. Thus, the government should try to expand work opportunities and create employment outside major cities.

3. The study showed that Thais are not confident in childcare services because of their poor quality or the lack of and accessibility to such services. Thus, existing childcare services do not contribute to fertility intentions. However, family support, which is similar to childcare services, could help to increase their fertility intentions. Hence,

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the government should develop improved standards of childcare services in urban areas to meet the needs of working mothers.

Limitations

1. Due to the lack of an official list of middle income earning Generation Y population, the researcher could not use the random sampling technique to select samples. Therefore, the research results are based only on the opinion of those who responded to the face-to-face interviews.

2. The husbands also have a role in planning for their wives' pregnancy, but they did not have a chance to complete the survey.

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