TRANSFORMATION OF MARRIAGE PATTERNS IN THAILAND

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Foreword

Thailand is undergoing rapid social and economic changes. These changes have affected most institutions of Thai society, including marriage. Up to now relatively little attention has been paid by researchers to marriage patterns in Thailand. An exception has been staff from the Institute for Population and Social Research at Mahidol University, who have produced several research articles and a monograph on this important topic. The research reported upon in this study continues this tradition.

The results of the study show that marriage is increasingly being delayed by Thai men and women and that a substantial proportion of the population are remaining unmarried through their thirties and into their forties. The effects of these changes on other aspects of Thai life, including fertility patterns, life styles and living arrangements are significant and require further study. One of the research objectives of The Institute for Population and Social Research is to continue monitoring the changes occurring in marriage behavior and to investigate the effects of these changes on other areas of social life. The knowledge gained through this research is fundamental for developing effective family policies in Thailand.

Professor Dr. Pradit Charoenthaitawee
President
Mahidol University

Preface

The Institute for Population and Social Research (IPSR), Mahidol University is involved in research in a variety of fields. Marriage and family formation are central to much of the ongoing research taking place. This volume includes two research papers on Thai marriage patterns. The research upon which the papers are based was supported by IPSR and the Center for Demography and Human Ecology at the University of Washington as part of ongoing attempts to understand the fertility transition in Thailand.

The research presented in this publication involves analysis of census data from the last three Thai censuses. The focus on the first paper is describing patterns of celibacy among the Thai population while the second paper examines determinates of celibacy. Together the two papers provide the most comprehensive overview of celibacy available from census data.

The main findings of the papers are that levels of celibacy are increasing in Thailand. The increases are greater for women than for men and are occurring across most social groups. Changes in population composition are not a complete explanation for increased celibacy. Nor it seems, are marriage squeezes a major explanatory factor. A persistent and pervasive transformation of individual behavior towards marriage is suggested by the data.

IPSR has always given priority to research that both describes population trends and attempts to link these trends to broader patterns of social change. The two papers in this volume continue this research tradition.

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Both papers were written during the summer of 1993 when Philip Guest was visiting the University of Washington. We wish to thank Professor Charles Hirschman and support staff at the Center for Demography and Human Ecology, University of Washington for their help in facilitating the research. Additional revision of the papers has been undertaken at IPSR. Comments on the papers by Professors Aphichat Chamratrithirong and Kritaya Archanvintkul at IPSR are acknowledged. We also wish to thank Lindy Williams for reading of the manuscripts.

Philip Guest
JooEan Tan

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THE EMERGENCE OF CELIBACY IN THAILAND: SOCIAL AND SPATIAL PATTERNS, 1970 to 1990

JooEan Tan
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Introduction

Increases in ages at marriage and proportions never-married have been observed in both developing and developed countries (Salaff, 1978; Caldwell et al., 1983; Rodgers and Thornton, 1985; Carmichael, 1987; Caldwell et al., 1989; Xenos and Gultiano, 1992). Changing marriage patterns have invariably been linked to fertility. An early explanation for these trends was that delayed marriage or celibacy is used as a strategy to reduce the effects of population pressure (Davis, 1963). Davis illustrates his arguments with the example of Ireland, a society where the proportions remaining unmarried reached sustained levels which have not been observed in other large populations. More recent increases in delayed marriage have occurred in the context of low or declining fertility. Caldwell et al. (1989) argue that the factors associated with changing marriage patterns are precisely the same ones that have also led to declining fertility in developing countries.

Just as there is no agreement as to the specific factors relating to lower fertility, there is no consensus regarding the factors associated with delayed marriage. There is also considerable disagreement over whether delayed marriage will eventually result in celibacy. Explanations for delayed marriage range from the purely demographic `marriage squeeze' effects on marriage probabilities to those that view celibacy as an increasingly legitimate option in modern society. Bumpass (1990) notes that in the West other forms of relationships in which sexual and parental desires can be accommodated,

particularly cohabitation, are providing options to marriage. Carmichael (1987) also argues that women's expectations regarding the quality of the marriage relationship have risen and is likely delay marriage.

The literature on delayed marriage in developing countries has been more reluctant to link delayed marriage and changing marital expectations. The work of Caldwell and his colleagues in South India and Sri Lanka (Caldwell et al., 1983;1987) indicates that reduced parental involvement in spousal choice plays a role in changing the age at first marriage of women. They relate this to transformations in family structure that are associated with social and economic development. Development plays a key role in other explanations of delayed marriage, especially as it relates to improved economic opportunities for women and their higher educational attainment. Among other factors, labor force participation has also been related to delayed marriage in developed countries (Carmichael, 1987; Oppenheimer, 1988; Bennett et al., 1989) and may also be relevant in developing countries due to increases in employment opportunities for women. The argument is that women (men are rarely discussed in this framework) gain independence and security from high levels of education and employment and hence they do not need marriage. Oppenheimer (1988) modifies this argument to suggest that the independence gained by women through education and employment does not have to lead to a decline in the desire to marry, rather expectations for a suitable partner increase.

At the most basic level, structural arguments linking social and economic change to changing marriage patterns recognize that there are differences in marriage probabilities for women, and possibly men, in different social strata. Changes in aggregate probabilities of marriage over time relate to shifts in the composition of the population across the various social strata rather than fundamental changes in the behavior of persons within social strata that define marriage chances. An alternative or supporting

explanation is that development not only reorders people among social categories, it also fundamentally changes behavior through the transformation of norms relating to marriage behavior.

The aims of this paper are modest. We take advantage of microdata samples from the last three Thai censuses to describe an accelerating trend in Thai marriage patterns -- increasing proportions never married at ages 30-44. The data do not provide the opportunity to examine the changing bases of nuptiality behavior but we can examine the extent to which period changes in the proportions married are related to changes in the composition of the population. This is undertaken through a descriptive presentation of variations in the proportions never married over time for a range of socio-economic and geographic variables. The analysis is conducted for both sexes.

Thai Marriage Patterns

Marriage patterns in Thailand have traditionally been intermediate between those of the West and those of other developing countries. Mean age at marriage has been later than most Asian societies yet the pattern of almost universal marriage found in other Asian societies has also been evident in Thailand (Chamratrithirong, 1978). Several factors have contributed to this relatively late age at marriage. Choice of spouse is largely left up to the persons marrying with minimal direct involvement of immediate kin in spousal choice (Kanjanapan, 1985; Chamratrithirong et al., 1986, Cherlin and Chamratrithirong, 1987) although there are important differences by region and by socio-economic class (see Podhista, 1985). Courtship patterns are in many cases elaborate (Potter, 1979), and women can have numerous suitors (Potter, 1979; Montgomery et al., 1988).

Studies also indicate that somewaht of a dilemma exists for parents who wish for their children to marry but also for them to remain in the household. Evidence from anthropological studies, which have been primarily carried out in rural settings, show that marriage is an important life course event which accords full adult status to a person (Potter, 1979; Podhista, 1985). But Chamratrithirong et al. (1986) also observe that parents, particularly in rural areas, wish to retain daughters in the household for as long as possible. This reflects the matrilineal nature of much of Thai society in which daughters have a self-interest in contributing to their parents' household as they will eventually inherit the property.

The relative freedom that Thai youth have in choosing a spouse has been related to the central role of Buddhism in Thai social life. Keyes (1987) maintains that Buddhism stresses individual responsibility for actions. Compared to other societies in Asia this philosophy provides the support for considerable female autonomy. This autonomy is linked by Knodel et al. (1987) to the fertility declines that been a feature of Thai demographic change during the last two decades.

The high levels of women's involvement in the labor force has been linked to female autonomy, and is probably also an outcome of it. Women make up a relatively large proportion of workers in the professional, administrative and clerical occupations as well as high and increasing levels of participation in industrial employment (Wong and Cheung, 1987). Women have also been increasingly drawn into modern sector employment, a trend which is associated with female dominated migration from rural to urban areas (Guest et al., 1993). Gaps in educational attainment between males and females have diminished as educational levels have risen. Females are now almost as likely to start secondary school, the first level of schooling after the end of compulsory education, as are males (Knodel and Wongsith, 1989).

Given all these changes that have occurred in Thai society it is perhaps surprising that previous studies have reported relatively little change in marriage patterns. Knodel et al. (1987), in an analysis of census data, note that there has been steady although small increases in proportions never ©married at each age from 1960 through 1980. Limanonda (1992), presents data from census and surveys for the time period 1947 to 1984 and concludes that changes in age at marriage and proportion never-married have been minimal. For example, the Singulate Mean Age at Marriage (SMAM) increased from 21.1 to 22.4 for females and from 24.3 to 24.5 for males over the 37 year period analyzed. Differentials in mean age at marriage have been observed by rural-urban place of residence and for a variety of social variables (Pejaranonda and Chamratrithirong, 1985; Knodel et al., 1987).

Knodel et al. (1987) argue that increases in age at marriage during the decades of the 1960s and 1970s were relatively small in Thailand because of the high ages at marriage at the start of this period. They note that the increasing proportions remaining single at younger ages in the 1960s and 1970s may result in increasing future levels of celibacy at older ages. Xenos and Gultiano (1992), utilizing data from the 1970 and 1980 censuses, also point to a rising trend in celibacy among Thai women but note that no such trend is evident for Thai men.

Data Sources

The results reported in the paper are taken from microdata samples of the 1970, 1980 and 1990 Thai censuses. The sample sizes are between one and two percent of the respective census year populations. Sample weights are applied to account for differential sampling fractions among regions and to match full-count age-sex distributions within regions. The weights inflate the sample to equal the total population, however in all analyses reported here we deflate the sample weights so that the number of weighted observations equals

the number of actual observations. For the 1970 sample there are 124,096 persons aged 30-44, while for the 1980 and 1990 censuses there are 63,344 and 102,673 persons respectively. In the few instances where there were fewer than 50 observations in a particular cell of a table, the results are not reported. In the provincial analysis results are presented for provinces based on the 1970 provincial boundaries.

The marital status variable in each of the three censuses includes two categories which we exclude from the analysis. The first category -- the `unknown' marital status -- contained few observations, ranging from 0.0 percent of all observations aged 30-44 in 1970 to 0.3 percent in 1990. The second category excluded is monks. Monks, as coded in the census, are all male and were 0.7 percent of men aged 30-44 in 1970 and 1990 and 0.6 percent in 1980. Monks were excluded from the analysis as it was not possible to determine if they were currently or formerly married. Missing values on the social and economic variables have also been excluded from the analysis on a variable by variable basis. Hence the total magnitude of change in proportions never-married may vary among variables due to different numbers of observations. These variations are, however, small.

A major difficulty in attempting to relate individual characteristics measured in the census to marriage is that most characteristics refer to current status while decisions regarding whether or not to marry relate to some past period. Occupation, work status and geographic variables used in this analysis all share this problem. The mixing of current status indicators with past behavior reduces the extent to which causal links can be postulated. However, on most of the variables employed in the analysis current status is likely to be a reliable measure of past status.

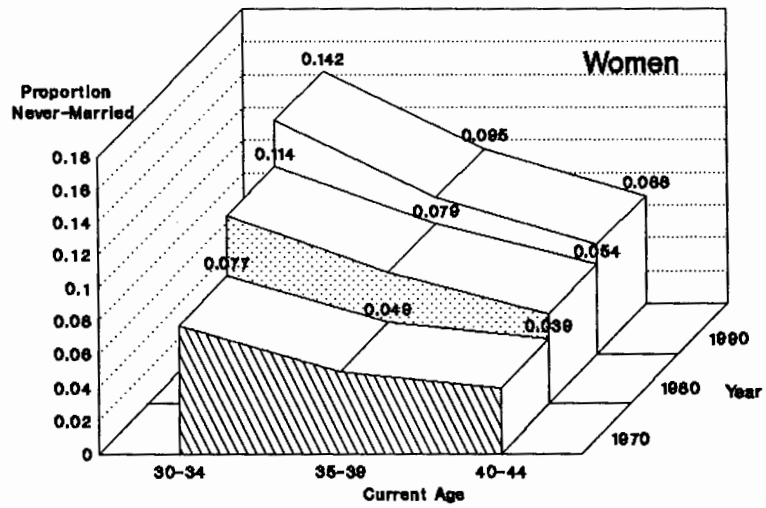
The Emergence of Celibacy

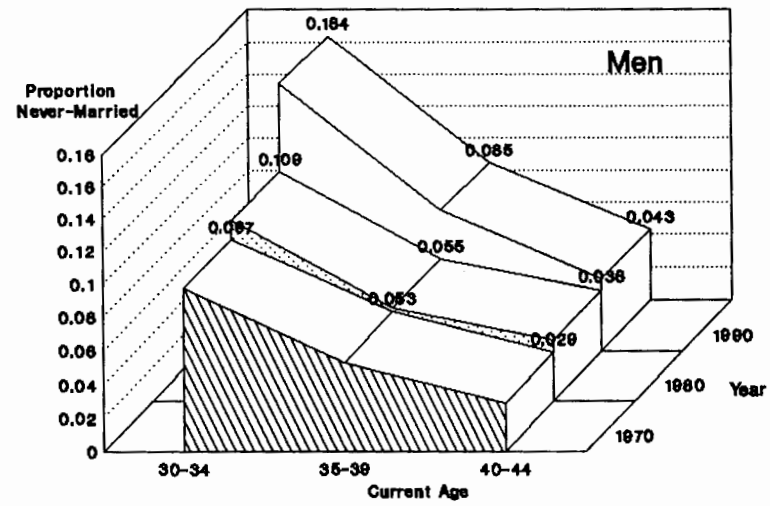
The proportions never-married increased substantially from 1970 to 1990. The increases occurred at all ages and were greatest for women (see Figure 1). In 1970 8 percent of women aged 30-34, 5 percent aged 35-39 and 4 percent aged 40-44 were never-married. By 1990 these percentages had increased to 14, 10 and 7 for the three respective age groups. For men, the proportion never-married are generally higher than women at the youngest ages (30-34) but rapidly decline so that by ages 40-44 the proportions never-married are one-third or more lower than that of women. At ages 40-44 there has been relatively little change in the proportion of men never-married, with the increase over the period 1970-1990 being 1.4 percentage points. For women the change has been more substantial, involving an increase of 2.5 percentage points. Although the data used here are cross-sectional and hence any interpretation made within a life-course framework should be treated with caution because of the possibility of confounding period and cohort trends, the patterns indicate that marriage patterns over the last 20 years for males have involved a substantial delaying of marriage but that most men do eventually marry. For example, in 1990 the proportions unmarried for men were approximately halved for each successive age group, declining from 16.4 for ages 30-34, to 8.5 at ages 35-39 and 4.3 at ages 40-44. For women the decline over age was much less steep.

The data provided in Figure 1 also provide a partial cohort comparison which supports the interpretation of the period contrast between male and female marriage patterns. Persons aged 30-34 in one census will be aged 40-44 at the time of the following census. A comparison of change from 1970 to 1980 and 1980 to 1990, indicate that while approximately 30 percent of never-married women aged 30-34 in 1970 had married by 1980 and 40 percent never-married in 1980 had married by 1990, for men the proportion

FIGURE 1

Proportion Never-Married by Current Age, Census Year and Sex





never-married declined within cohorts by almost two-thirds in both inter-censual periods.

The levels of celibacy existing in 1990 for females are high both by Thai historical standards and internationally. For example, for those American whites born in 1949, and hence aged 41 in 1990, Rodgers and Thornton (1985) projected that 6 percent of females and 7 percent of males would remain unmarried by age 44. Similar levels were observed for age groups 45-49 in Australia in the early 1980s (Carmichael, 1990). The American and Australian levels are much lower than those that these two countries experienced at the turn of the century, but are also higher than levels in the `baby boom' years of the 1950s and 1960s (Rodgers and Thornton, 1985; Carmichael, 1990). The variation between fertility levels and levels of celibacy in western countries suggests that as fertility declines marriage becomes less valued, although it is also possible that processes common to both are operating.

Social Patterns of Celibacy

The celibate are not distributed equally among social categories and geographic space. In Table 1.1 the proportions never-married are shown for categories of educational attainment. The patterns among educational categories have remained constant at each of the three censuses. For males the pattern is U-shaped, with the highest levels of celibacy found for those without any education and for those with a tertiary education. For females the proportion celibate is much higher for those with more than primary schooling. At ages 40-44 in 1990 approximately 5 percent of women with no education or with a primary school level of education were celibate. For this age group, 12 percent with a secondary education and 19 percent with tertiary education were not married. There is a much less variation in proportions never-married for males than there is for females.

TABLE 1.1

Proportion Never-Married by Age, Sex and Level of Educational Attainment: 1970, 1980 and 1990

Education Level	Year	Male			Female		
		30-34	35-39	40-44	30-34	35-39	40-44
None	1970	.123	.085	.054	.062	.041	.039
	1980	.148	.095	.078	.086	.076	.048
	1990	.240	.126	.080	.132	.097	.053
Primary	1970	.075	.042	.021	.070	.046	.033
	1980	.085	.044	.028	.092	.068	.048
	1990	.115	.056	.033	.010	.075	.052
Secondary	1970	.152	.091	.054	,217	.154	.111
	1980	.158	.069	.042	.232	.152	.111
	1990	.217	.137	.063	.199	.153	.117
Tertiary	1970	.290	.120	.037	.330	.278	.316
	1980	.237	.115	.065	.322	.203	.158
	1990	.277	.147	.071	.327	.217	.191

Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Notes: Primary refers to Grades 1 to 4.

A number of explanations for educational differentials in female marriage probabilities in Thailand have been advanced. Limanonda (1992) argues that at higher levels of education a `marriage squeeze' could be operating. There are cultural norms that make it unlikely for women to marry men with less education than them, and there is also a preference for older

men marrying younger women. Therefore, the relevant comparison when examining the marriage squeeze is the numbers of unmarried men who are 3-5 years older with the same or higher levels of education (see Knodel et al., 1987 for a discussion of spousal age differences). The 1990 census data shows that at ages 40-44 there were more than twice as many never married women with tertiary education as there were never-married men. As educational opportunities at higher levels for women expand relative to men, this squeeze will become greater unless women are willing to marry men with less education than them and men reduce their preference for marrying women who have less education than they do. Aside from a marriage squeeze men may prefer not to marry women who are more highly educated than themselves (Bennett et al., 1989). Montgomery et al. (1988) use a particularly rich set of data on marriage and courtship patterns in the Central region of Thailand to examine some of these issues. They found that for older women in the sample there was a negative relationship between education and the number of suitors. But even controlling for the number of suitors, they found that higher education was related to delayed marriage. This was interpreted as education increasing acceptability standards set by women for a respective spouse. This interpretation is consistent with the theoretical framework on spousal search advanced by Oppenheimer (1988).

Differentials across time within education categories are consistent for men but change for women. For all educational levels for men, and for the lower levels for women, there are increases in proportions never-married over the three census periods. While for women at higher levels of education, there have been decreases in proportions never-married, especially for the oldest age-group. This does suggest that there has been a change in marriage prospects for more highly educated groups. It must also be recognized that composition in terms of social background of the group of women with higher levels of education becomes more diverse over time. It is possible that norms concerning marriage vary among social classes and that the declines in

proportions never-married in the higher education groups is a result of a reduction in the social class homogeneity of high educational categories.

Tables 1.2 and 1.3 show marriage patterns related to the work status of the principal occupation during the last year and of the sector of the principal occupation respectively. Occupational security and retirement benefits in Thailand are primarily limited to government sector employment. This sector also has high status and most parents express a wish for their children to enter into government sector employment, even though levels of pay are usually much lower than comparable work in the private sector which does not offer the same security and benefits.

Employment security and economic security after retirement are higher in the government sector than in other employment sectors. If marriage is viewed in part as one means of insuring against future economic difficulties, secure employment with retirement benefits may place less pressure of persons to marry. The results in Table 1.2 provide strong support for this hypothesis for women, with approximately 16 percent of women in government employment never-married at ages 40-44 in 1990. The only other category in which proportions never-married exceed 10 percent for women is "private employee". For women the proportion never-married increase over time in most employment categories. Perhaps this is an indication that economic security can increasingly be found in most employment sectors. For men the patterns are markedly different from those of women. As might be expected, employment in the modern sector (government and private employee) is associated with higher proportion never-married compared to those who are self-employed (the largest category), although the differentials in terms of percentage points is not as great as those for women. The two categories with extremely high levels of never-married for men are `unpaid family worker' and `not in the labor force'. In both cases these categories involve few men and in the former case may be

TABLE 1.2

Proportion Never-Married by Age, Sex and Work Status of Primary Occupation: 1970, 1980 and 1990

Education Level	Year	Male			Female		
		30-34	35-39	40-44	30-34	35-39	40-44
Employer	1970	.126	.023	.029	---	---	---
	1980	---	---	---	---	---	---
	1990	.152	.074	.050	.236	.170	.102
Self-employed	1970	0.29	.019	.011	.137	.079	.062
	1980	.031	.020	.013	.144	.115	.084
	1990	.056	.029	.017	.144	.118	.097
Government	1970	.133	.063	.027	.252	.187	.148
Worker	1980	.112	.058	.035	.249	.167	.131
	1990	.161	.091	.042	.245	.175	.155
Private	1970	.156	.099	.056	.160	.085	.069
Employee	1980	.147	.080	.055	.217	.130	.106
	1990	.210	.132	.057	.250	.167	.115
Unpaid	1970	.275	.216	.198	.060	.039	.027
Family	1980	.290	.218	.212	.086	.057	.032
Worker	1990	.317	.235	.180	.099	.061	.037
Not in	1970	.333	.294	.191	.053	.042	.037
	1980	.516	.394	.289	.083	.069	.063
	1990	.590	.388	.298	.107	.081	.062

Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Notes: --- Less than 50 weighted observations

more a result of non-marriage while in the latter cases probably identifies persons who are physically incapable of working. Caldwell et al. (1989) in their study of delayed marriage in Sri Lanka found that a major reason for celibacy was physical disability. Occupational differentials in proportions never-married are as we expected. For women the highest proportions never-married are found in modern-sector employment. The highest percentage in 1990 for women aged 40-44 was approximately 17 percent in the professional/administrative category while the lowest was the 4 percent for women in agriculture. For those modern occupational sectors (Professional/ Administrative and Clerical), the proportions never-married have generally declined over time as these sectors have expanded to include a more diverse group of women. For example, the teaching profession contributes the greatest number of women to the professional sector and this profession has become female dominated (Keyes, 1987) with rural women viewing it as a good profession to enter.

It is interesting that the proportions non-married among service sector workers more than doubles at ages 40-44 between 1970 and 1990. This may be a result of service sector employment, which is concentrated in urban areas, becoming dominated by migrants. Migration itself could lead to higher levels of non-marriage by removing women from networks that allow them to meet prospective spouses.

Apart from those few men not in the labor force, variation among categories in proportions of unmarried are small compared to the variation seen for women. For example, for males aged 40-44 in 1990 there were only 3 percentage points difference in proportions never-married between the category with the lowest level (agriculture) and the category with the highest level (sales). The corresponding difference for women was 12 percentage points.

TABLE 1.3

Proportion Never-Married by Age, Sex and Primary Occupation: 1970, 1980 and 1990

Occupation	Year	Male			Female		
		30-34	35-39	40-44	30-34	35-39	40-44
Agriculture	1970	.070	.037	.020	.061	.041	.032
	1980	.077	.040	.025	.079	.059	.037
	1990	.113	.056	.030	.094	.066	.044
Production	1970	.126	.083	.053	.176	.090	.091
	1980	.106	.052	.038	.189	.127	.097
	1990	.174	.096	.043	.196	.142	.114
Sales	1970	.152	.056	.034	.122	.064	.052
	1980	.164	.078	.042	.169	.095	.071
	1990	.242	.119	.061	.182	.115	.084
Service	1970	.129	.072	.033	.237	.145	.070
	1980	.101	.048	.042	.264	.170	.125
	1990	.165	.098	.043	.299	.209	.163
Clerical	1970	.248	.104	.070	.301	.217	.185
	1980	.177	.094	.039	.332	.280	.224
	1990	.240	.158	.056	.344	.237	.147
Professional	1970	.164	.077	.023	.300	.236	.194
& Administrative	1980	.178	.079	.053	.273	.203	.141
	1990	.218	.121	.056	.282	.201	.165
Not in	1970	.333	.294	.191	.053	.042	.037
Labor Force	1980	.516	.394	.289	.083	.069	.063
	1990	.590	.388	.298	.107	.081	.062

Data Source: Microdata samples from 1970, 1980 and 1990 censuses

Spatial Patterns of Celibacy

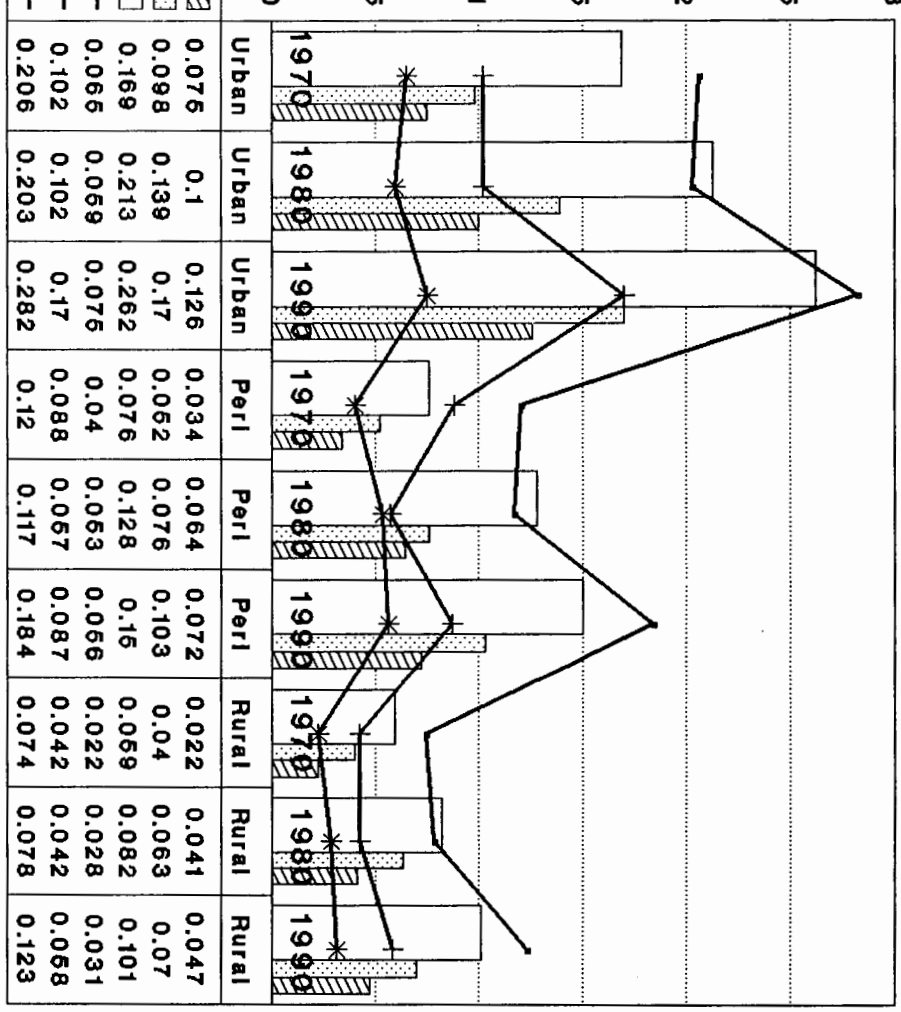
i) Rural-Urban Patterns

Xenos and Gultiano (1992) note that urbanization as an indicator of changing lifestyles and economic influences is often linked to delayed marriage. The results for Thailand shown in Figure 2 clearly support this relationship. Current place of residence is separated into three categories: urban, peri-urban and rural. The corresponding English language designations in official Thai documents are: Municipal Areas, Sanitary Districts and Non-Municipal Areas. For females the increases in proportions never-married within categories over the three time periods is linear and substantial. There is approximately a doubling of proportions never-married in peri-urban and rural areas between 1970 and 1990, and slightly lower increases in urban areas. There are also consistent differences between categories with the highest proportion of never-married in urban areas and the lowest proportion in rural areas. For example, almost 13 percent of women aged 40-44 living in urban areas in 1990 never-married, 7 percent in peri-urban areas and 5 percent in rural areas.

The pattern for men is rather different. Differentials among categories of place of residence are smaller than those for women, at least at older ages, and the within-category changes have not been linear over time. In fact in each of the three categories there was relatively little change in proportions unmarried between 1970 and 1980 but very pronounced changes between 1980 and 1990. The exception is for the 40-44 age group where increases have been small over both inter-censual periods. As noted earlier, age differences among men can be seen in terms of patterns of delayed marriage while those for women are related to increasing levels of celibacy.

FIGURE 2

Proportion Never-Married by Age, Sex, Year and Residence



Female - 40 to 44	0.076	0.1	0.126	0.034	0.064	0.072	0.022	0.041	0.047
Female - 35 to 39	0.098	0.139	0.17	0.052	0.076	0.103	0.04	0.063	0.07
Female - 30 to 34	0.169	0.213	0.262	0.076	0.128	0.15	0.059	0.082	0.101
Male - 40 to 44	0.065	0.059	0.075	0.04	0.053	0.056	0.022	0.028	0.031
Male - 35 to 39	0.102	0.102	0.17	0.088	0.057	0.087	0.042	0.042	0.058
Male - 30 to 34	0.206	0.203	0.282	0.12	0.117	0.184	0.074	0.078	0.123

Peri - Refers to Peri-urban centers

ii) Provincial Patterns

The large sample sizes of the microdata Census file provide the opportunity to examine variations in the proportions never-married at the provincial level. In this analysis we only present information for ages 40-44 as the patterns are similar to those of the other two age groups. The patterns are presented in the forms of thematic maps for the three census years (see Maps 1 to 3). The map scales are standardized in order that changes in levels and geographical patterns can be compared over time.

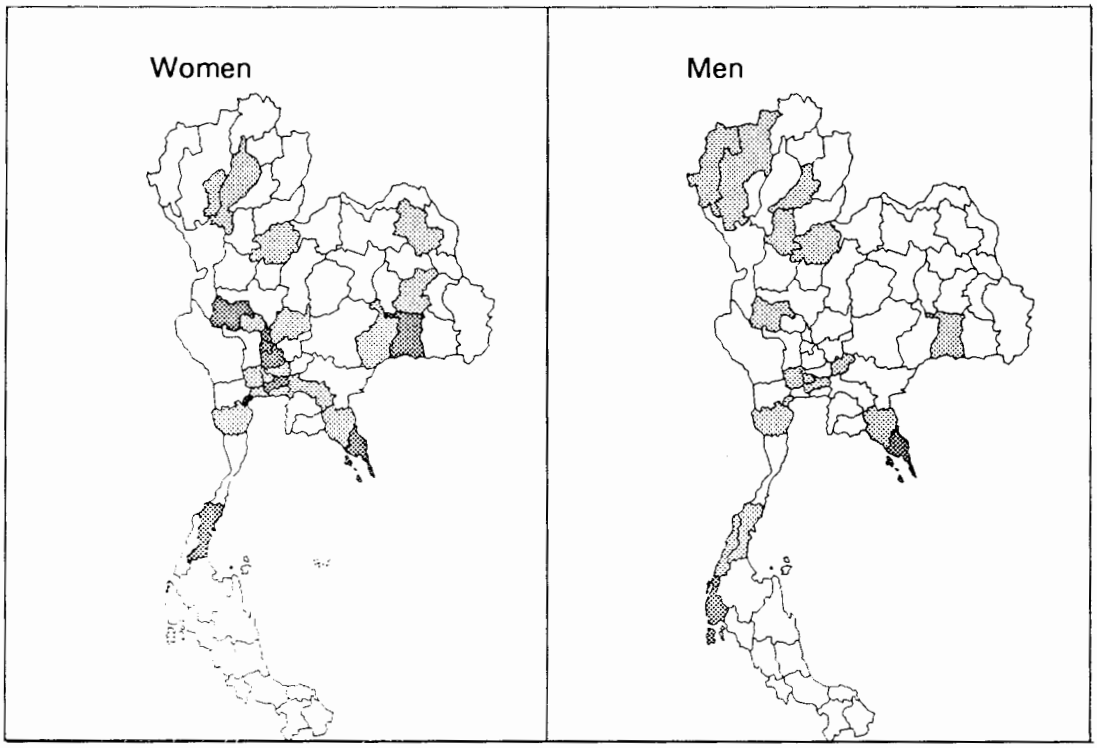
In 1970 there is no clear geographical distribution of the proportions never-married. In general, for women, the provinces with the highest levels of proportions never-married were located in the Central region while for men relative high rates were found in some upper Central and Northern provinces.

By 1980 clear patterns had begun to emerge for both sexes. For females the proportions never-married are highest in Bangkok and the surrounding provinces. Almost all central region provinces have more than 4 percent of women aged 40-44 never-married. In contrast proportions never-married are much lower in the Northeast and the South. For men the patterns is somewhat different. Apart from a few small provinces in the South and Northeast, the highest rates of never-married are found in provinces in the North. There are also clusters of provinces along the Eastern Seaboard and the South with moderately high levels of proportions never-married.

The increases in proportions never-married can be clearly seen in comparing the 1970 and 1980 maps with that of 1990. By 1990 the majority of provinces have more than 4 percent of women who never married. Most provinces within a 150 mile radius of Bangkok have more than 8 percent unmarried, while two -- Nonthaburi and Samut Songkram -- have more than

MAP 1

Proportion Never-Married Aged 40-44 in 1970 by Sex

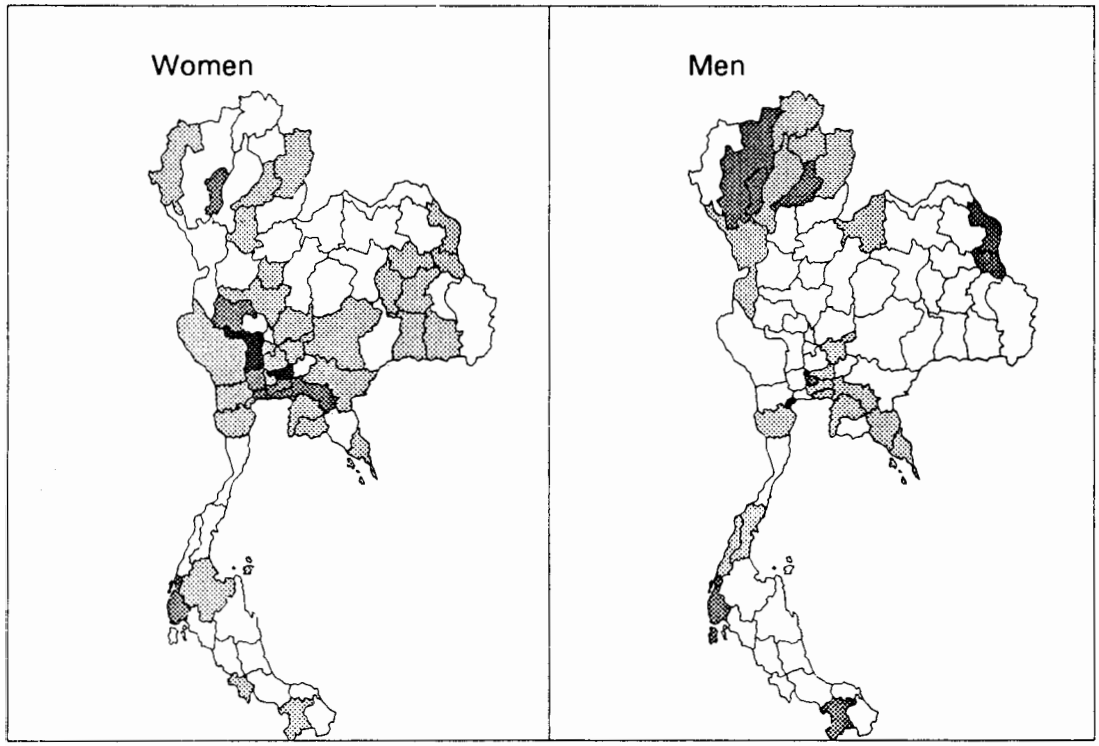


Proportion Never-Married in 1970
Men and Women Aged 40-44

- 0.12 to 0.16
- 0.08 to 0.12
- 0.04 to 0.08
- 0.00 to 0.04

MAP 2

Proportion Never-Married Aged 40-44 in 1980 by Sex

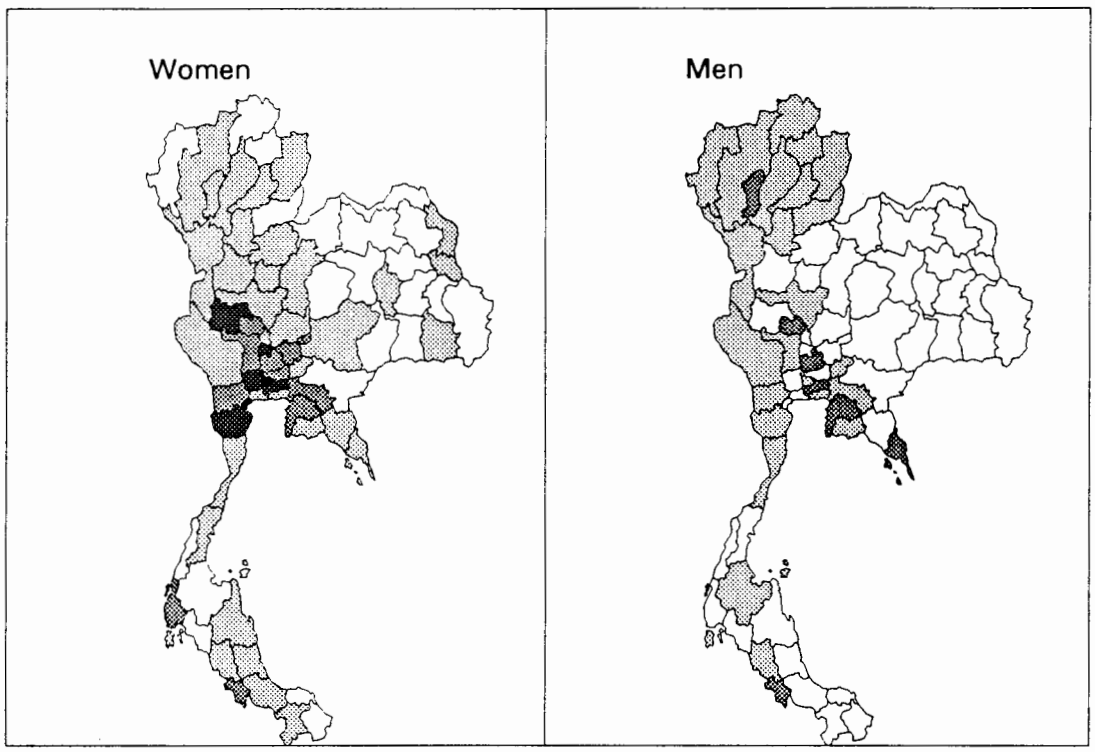


Proportion Never-Married in 1980
Men and Women Aged 40-44

- 0.12 to 0.16
- 0.08 to 0.12
- 0.04 to 0.08
- 0.00 to 0.04

MAP 3

Proportion Never-Married Aged 40-44 in 1990 by Sex



Proportion Never-Married in 1990
Men and Women Aged 40-44

- 0.16 to 0.20
- 0.12 to 0.16
- 0.08 to 0.12
- 0.04 to 0.08
- 0.00 to 0.04

16 percent never-married. Only in the Northeast region are there clusters of provinces with low proportions never-married.

The variations among provinces are not as pronounced for men as they are for women, but the Northeast stands out as an area in which celibacy among men is rare. In fact no Northeastern province in 1990 had more than 4 percent of men aged 40-44 who were never married. In contrast, almost all Northern provinces had levels between 4 and 8 percent, while several central provinces had proportions unmarried between 8 and 12 percent.

The spatial patterns in the proportions never-married over the three census periods exhibit a clear strengthening of regional patterns. For women the never-married are becoming more concentrated in the Central region provinces within the economic sphere of Bangkok while for men there are scattered provincial pockets of high proportions never-married among Central region provinces and a clearly higher levels in Northern provinces. Spatial variations in proportion never-married are much greater for women than for men.

Migration patterns, fueled by geographical variations in economic growth clearly are related to these geographic patterns. The export-led growth strategies of the 1970s and 1980s concentrated economic opportunities in Bangkok and surrounding provinces. This was associated with female-dominated migration to these areas (Leenothai, 1991; Guest et al., 1993). Not only are there more females than males of marriageable age in these areas, but women are more likely to be in modern sector employment than in other areas. The patterns of relatively high proportions never-married among men in Northern provinces, may be related to the out-migration of women from those provinces.

Sources of Change

While the main purpose of this paper is to provide a descriptive analysis of changing patterns in celibacy over the three censuses used in the analysis it is also possible to examine whether the source of change in marriage patterns has been related to changing social and geographic composition of the population or whether other changes are taking place. A companion paper will addresses this question within a multivariate framework, but results based on an initial decomposition analysis is shown in Table 1.4. The inter-census change is decomposed into two parts: that component due to changes in the composition of the population among categories of the variable of interest and the residual.

One clear conclusion can be drawn from the results, changes in composition of the population were not the major sources of change in proportions never-married over the two time periods. Even so, changes in the composition of the population, especially in education and the occupational variables, were not inconsequential sources of change. For males changes in composition contributed most to the increase in changes in proportions never-married during the period 1970 to 1980. For both inter-censual periods changes in composition were more important at younger ages. We interpret this as evidence of improvements in levels of education and movement into modern sector employment contributing to delayed marriage. At ages 40-44 the increases in proportions never-married were not due to higher proportions of men in high-incidence categories of the social and regional variables, and probably reflect changing marriage behavior within groups.

For women the patterns are somewhat different from those of males. Compositional changes are more important at younger ages but also have a substantial effect at ages 40-44. In contrast to males, changes in social and geographic composition of the population have a greater effect on the

TABLE 1.4

Source of Change in Percentage Celibate by Socio-economic Characteristic: 1970-1980 and 1980-1990

Characteristic	MALE				FEMALE			
	1970-1980		1980-1990		1970-1980		1980-1990	
	Compis-tion	Other	Compis-tion	Other	Compis-tion	Other	Compis-tion	Other
Age 30-34								
Education	0.80	0.37	1.63	3.96	1.63	2.10	2.33	0.51
Work Status	0.75	0.39	1.79	3.72	1.10	2.62	1.38	1.38
Occupation	0.64	0.48	0.71	4.79	1.60	2.10	1.26	1.49
Region	0.27	0.84	0.10	5.48	0.40	3.34	0.05	2.75
Residence	0.82	0.17	0.08	5.50	0.78	2.94	0.18	2.57
Age 35-39								
Education	0.17	0.04	0.40	2.42	0.74	2.25	0.90	0.76
Work Status	0.13	-0.01	0.95	2.05	0.65	2.30	0.75	0.88
Occupation	0.08	-0.04	0.31	2.66	0.91	2.08	0.71	0.90
Region	0.12	-0.01	0.07	2.93	0.25	2.75	0.12	1.51
Residence	0.38	-0.26	0.14	2.76	0.40	2.65	0.19	1.38
Age 40-44								
Education	-0.21	0.89	0.02	0.67	0.20	1.21	0.83	0.35
Work Status	0.29	0.44	0.34	0.30	0.23	1.21	0.51	0.70
Occupation	0.15	0.56	0.07	0.59	0.45	0.94	0.42	0.77
Region	0.11	0.59	-0.12	0.79	0.18	1.23	-0.05	1.24
Residence	0.21	0.44	0.08	0.59	0.26	1.20	-0.13	1.02

Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Notes: The amount of change among categories varies because of differences in the numbers of missing values.

proportion of never-married among females in the period 1980-1990 compared to 1970-1980. We believe that this reflects the rapid improvements in the social and economic position of women, as measured by access to education and modern sector employment, that occurred during the 1970s and 1980s when most of the women aged 40-44 in 1990 were at the ages when most of their age peers married. Even after the composition effect, however, there remains a substantial amount of unexplained change in proportions never-married.

Comparison across variables indicate that changes in educational composition accounted for a higher proportion of the total change in never-married for women, particularly in the period 1980-1990. For the 1970-1980 period changes in the occupation distributions were also important. The spatial variables had little effect. For men, changes in distributions on the occupation and work status variables generally had stronger impacts than education on changes in proportions never-married. In future analysis we analyze these changes within a multivariate framework.

Conclusion

There are fundamental changes occurring in Thai marriage patterns. Marriage is being delayed and an increasing proportion of the population are remaining unmarried through their thirties and into their forties. We do not argue that all these persons, who we refer to as the celibate, will never marry but we expect that significant proportions will not. Even if late marriage does occur the effects on fertility patterns, life styles and living arrangements will be significant. There are clear gender differences in the emerging patterns. More men appear to be delaying marriage until their early or late 30s but most eventually marry. There is also a pattern of delayed marriage among women, but a significant proportion remain unmarried into their 40s. Part of the changes in marriage patterns can be attributed to transformations in Thai

society that have increased the access of women to higher levels of education and more modern sector employment. This has also been related to urbanization and increased migration of women. Women are increasingly concentrated at educational levels and in occupational sectors where proportions never-married have traditionally been high. While these social transformations have also affected men, the limited initial variation in proportions never-married among social categories has resulted in less of a compositional effect of economic and social changes on marriage behavior. Attributing increases in the proportion unmarried to changes in the composition of the population begs the question of why there are variations among groups in marriage behavior.

Marriage squeezes provide one part of the answer. The marriage squeeze in Thailand, as in most societies, is not a purely demographic phenomenon. Marriage markets are highly differentiated by norms of acceptable marriage partners. Over the last several decades the marriage squeeze has operated against the marriage prospects of women. It is more socially acceptable for men in Thailand to marry spouses of lower social status than it is for women to do so. The expansion of educational and employment opportunities for women, relative to men, has created larger pools of `high' status women. It is these women who have the highest rates of celibacy. As long as population growth continues to produce larger successive cohorts men will be able to maintain their marriage preferences. However, the fertility declines that occurred during the 1970s and 1980s have the potential to change the numerical equation. If the spousal age gap is maintained there will be fewer men than there are potential marriage partners early in the next decade.

The analysis presented in this paper has also indicated that there have been large changes in proportions ever married within categories of social and economic variables. These changes have been occurring even for those

groups who we might expect would not be effected by marriage squeezes such as women with low and moderate education. There is undoubtedly changes in individual behavior occurring in Thai society that make marriage a less valued, or less necessary, option in life for women. What these changes are is a topic that requires more detailed data than are available from censuses.

SOCIAL CHANGE AND CELIBACY IN THAILAND

Philip Guest
JooEan Tan

Introduction

Celibacy, abstention from formal marriage, is increasing in many developed and developing societies (Salaff, 1978; Rodgers and Thornton, 1985; Carmichael, 1987; Xenos and Gultiano, 1992). In many developing countries childbearing still takes place almost entirely within marriage and a substantial increase in celibacy can impact on fertility. Also the family continues to be the basic social unit around which society is organized (Smith, 1980). An increase in celibacy may foretell fundamental changes to the organization of society in these countries.

Despite its potential effect on society, the reasons for the increases in celibacy are not well understood (Jelin, 1992). Dixon (1978) argues that the decision to marry is related to the feasibility of marriage, the desirability of marriage, and the availability of suitable marriage partners. Changes in economic conditions, demographic processes that alter the balance of the sexes, and structural transformations that redistribute the population among social groups can affect all three of these dimensions. To understand how one or more of these macro changes alters the context in which marriage decisions are made requires time series data. Unfortunately such data is not available for most of the countries that are currently undergoing rapid social change. Thailand is one country where data on marital status and other social characteristics are available for several time periods during the last three decades. During this time social and economic change has been rapid. Per capita income, which was $1,440 in 1990, grew by an average annual rate of 4.4 percent between 1965 and 1990, one of the fastest rates of increase of any

country in the world. Attendance at secondary school has doubled during the last 25 years (World Bank, 1992). Fertility has declined from a Total Fertility Rate of over 6 in the late 1960s to below 2 by the late 1980s (Hirschman, Tan, Chamratrithirong and Guest, 1993). During this period there has also been a trend of increased celibacy (Tan and Guest, 1993).

This study takes advantage of the Thai data to examine correlates of celibacy for men and women aged 40-44 at three time points: 1970, 1980 and 1990. The issue addressed here is the extent to which increases in celibacy at these ages are a result of changing composition of the populations, and to which it is a reflection of new behavior. The data we use come from microdata samples of the last three decennial censuses of Thailand.

Social Change and Celibacy

While not inevitable, economic development is usually accompanied and aided by changes in gender roles. As societies develop, women gain greater access to education and larger proportions work for wages outside the home. These changes have been linked to a greater choice for women in determining their marital status. Economic independence and education have been related to a decline in parental influences on marriage and an increase in delayed marriage across a range of social contexts (Thornton and Fricke, 1987; Domingo and King, 1992). It has also been associated with increases in the probability of women initiating divorce (Cherlin, 1979; Popenoe,1988). Much of the literature on celibacy also views increases in celibacy as a result of changes in female roles. Xenos and Gultiano (1992) analyzed nuptiality trends for men and women in 17 Asian countries. For the 11 out of 15 countries where complete data was available they found increasing levels of celibacy for women. They argue that social change has made available roles to women outside the family and this has made late marriage or celibacy more acceptable options. Jelin (1992) views economic independence as providing

the means for women to break away from gender norms that dictate that women continue to perform domestic roles even as they take on new economic roles.

In contrast, Oppenheimer (1988) argues that the effects of economic independence of women on celibacy are overstated. While not dismissing the importance of women's labor force participation in providing independence, she proposes that other explanations are consistent with observed trends in celibacy and delayed marriage. The search for a marriage partner becomes more complicated when both men and women are in the labor force as both partners need to establish themselves in the workforce while also searching for a potential mate. She notes that the independence gained by women through education and employment does not have to lead to a decline in the desire to marry, rather expectations of a suitable partner increase.

Social change does not seem to have had the same effects on levels of celibacy for men as it has for women. An examination of celibacy trends in both Latin America and Asia showed marked divergences between the experiences of males and females (Jelin, 1992; Xenos and Gultiano, 1992). Xenos and Gultiano argue that celibacy to males is determined more by changes in availability of potential spouses than by underlying social changes. For Jelin (1992) marriage in the Latin American context means very different things to males and females: for females it is subordination, for males a multiplication of social links. In this situation males desire marriage more than females.

One way that variation in levels of celibacy between the sexes can be examined is in terms of the expectations that men and women have of each other in marriage and how these expectations are altered by social change. Male celibacy is affected less because they continue to perform their traditional roles inside and outside of the family. Although in most societies women

continue to be primarily responsible for the maintenance of the household, there has an increasing egalitarianism in gender roles within marriage in many developed countries (Gershung and Robinson, 1988; but see review by Turner, 1990, about the barriers to change).

However, in many developing countries social change has been so rapid over the last two decades that the pace of structural change may have outstripped changes in norms concerning gender roles. In many developing societies women's educational attainment have approached that of men. Women are entering the paid labor force at higher rates than are men, and in many societies are receiving levels of pay that, while less than those of men, are sufficient to provide an independent living. These changes have occurred within a normative context where men are still considered the dominant partner within marriage. Men's economic interests, especially their jobs, take precedence over that of their spouses' interests.

When women have the potential to establish a secure and independent place in the labor force they may be less likely to accept a subservient role in a marital relationship. Oppenhieimer (1988) argues that the desire of women to have greater equality in marital relations causes them to raise their expectations in their search for a marriage partner. This can lead to delayed marriage and, in cases where a suitable partner cannot be found, celibacy.

Increasing levels of female celibacy may also have an effect on male levels of celibacy through the creation of `marriage squeezes' in some marriage markets. These will be mainly the markets involving men with high levels of education or those working in the modern wage labor sector. While these men normally marry women of similar educational or socioeconomic levels, the propensity of men to marry down in terms of socio-economic characteristics (Schoen, Wooldredge and Thomas, 1989) would result in smaller increases in male celibacy compared to female celibacy. Although the

underlying macro social changes that result in increased celibacy are reasonably well established, a question that is rarely addressed is if increases in celibacy are a direct results of these changes. If celibacy is higher in certain groups of women, such as the more highly educated, as these groups become to constitute a higher proportion of the population the level of celibacy will rise. Or are these changes the result of individual behavioral changes that are not particular to any one group? For example, as society is transformed with education and modern sector employment becoming more accessible to women, attitudes towards marriage may change such that celibacy becomes a more attractive option.

If economic independence was the only factor operating to change levels of celibacy then the changing composition of the population on those characteristics that index female economic independence should adequately explain changes in the probability of celibacy occurring. Consistent with the argument that changes in levels of female celibacy are primarily a result of the expansion of opportunities, while changes in celibacy for men result from reduced availability of women (Xenos and Gultiano, 1992), we expect that changing composition will account for more of the shift in female levels of celibacy than it will for change in celibacy levels of men.

An alternative explanation, that social change has affected individual behavior, is consistent with the approach that relates changes in celibacy to changes in what can be expected from marriage. Without variables that directly measure expectations it is difficult to find direct evidence of these processes. Increases in the probability of celibacy after holding constant population composition is an indirect indicator of behavioral change.

More specific hypotheses can be generated about changes for particular groups. For example, consistent with findings from developed countries, we expect that men at upper socio-economic levels are likely to

develop positive attitudes towards egalitarian roles before men from lower socio-economic levels (Huber and Spitze, 1983). As men from high socio-economic levels are most likely to marry women from similar levels, we expect that during periods of rapid change this would result in decreases in celibacy for women in higher socio-economic groups. They would be better able to find a partner who suited their expectations. For women at lower socio-economic levels, however, the reverse would be true.

Marriage squeezes, the standard demographic explanation for increases in celibacy, can be investigated by comparing relative changes in celibacy across groups over time. In a society with a balanced sex structure marriage squeezes are as much social as demographic. Changes in the age-sex composition of social groups provide the potential for marriage squeezes. Hence marriage squeezes, in so far as they cause changes in levels of celibacy, will have different impacts on groups over time. This process can be examined by comparing the relative changes in celibacy over time among social groups.

Thai Marriage

Marriage age in Thailand has traditionally been intermediate between those of the West and those of other developing countries. Mean age at marriage has been later than most Asian societies yet the pattern of almost universal marriage found in other Asian societies has also been the pattern in Thailand (Chamratrithirong, 1978). Several factors have contributed to this relatively late age at marriage. Choice of spouse is largely left up to the persons marrying, with minimal involvement of direct kin in spouse choice (Kanjanapan, 1985; Chamratrithirong, Morgan and Rindfuss, 1986, Cherlin and Chamratrithirong, 1987). Courtship patterns are in many cases elaborate (Potter, 1979), and women can have numerous suitors (Potter, 1979; Montgomery, Chueng and Sulak, 1988).

Also linked to late female age at marriage, and probably also an outcome of it, has been the high levels of involvement of women in the labor force, with relatively large shares of women in the professional, administrative and clerical occupations as well as high and increasing levels of participation in industrial employment (Wong and Cheung, 1987). Women have been increasingly drawn into modern sector employment, a trend that is associated with female dominated migration from rural to urban areas (Guest, Richter and Archanvintkul, 1993). Gaps in educational attainment between males and females have also been closing as educational levels have risen. Females are now almost as likely to start secondary school, the first level of schooling after the end of compulsory education, as are males (Knodel and Wongsith, 1989).

Increases in Thai age at marriage during the decades of the 1960s and 1970s were relatively small (Limanonda, 1992). However, Knodel, Chamratrithirong and Debavalya (1987) note increasing proportions remaining single at younger ages in the 1960s and 1970s may result in increasing levels of celibacy at older ages in the future. Xenos and Gultiano (1992), utilizing data from the 1970 and 1980 censuses, also point to a rising trend in celibacy among Thai women but note that no such trend is evident for Thai men. More recent analyses that include data from the 1990 census indicate that the trends in female celibacy are continuing (Tan, 1993; Tan and Guest, 1993).

The little research that has been undertaken on the Thai family indicates that women continue to be expected to undertake most domestic functions and are also expected to be subservient to their husbands (Wongsith, 1991). In rural settings the gender division of labor may be appropriate as men carry out many of the heavier agricultural tasks. However, in urban areas where men and women are increasingly performing the same

occupational roles tension between spouses may result from the uneven allocation of domestic responsibilities.

Edwards, Fuller, Vorakitpokatorn and Sermsri (1992) report findings for a Bangkok sample of couples that women were more likely than were men to have thought of divorce. They also note that among working class couples female employment may provide women with the opportunity to divorce. Change has also pervaded rural areas where agriculture now provides a smaller proportion of household income than before. Limanonda (1991) provides results from a rural survey that show that a much lower proportion of females than males are satisfied with married life and, as was seen in Bangkok, that more women than men had thought of divorce.

Although results are not provided broken down by sex of the respondent, results from two rural surveys indicate that there is a wide acceptance of celibacy. In one survey approximately 21 percent of respondents responded in the affirmative when asked to respond to the statement `It is good that more young people today prefer to lead single lives on their own instead of getting married' (Wongsith, 1991). In the second survey a question asked about what respondents thought about women remaining single did not elicit negative responses (Chamratrithirong, 1984).

Data Sources

The data used in the analyses are taken from microdata samples of the 1970, 1980 and 1990 Thai censuses. The samples are between one and two percent of the respective census year populations. Sample weights are applied to account for differential sampling fractions among regions and to match full-count age-sex distributions within regions. The weights inflate the sample to equal the total population, however, in all analyses reported here we deflate the sample weights so that the number of weighted observations equals the

number of actual observations. For the 1970 sample there are 34,290 persons aged 40-44, while for the 1980 and 1990 censuses there are 18,910 and 27,086 persons respectively.

We take as our measure of celibacy the proportion never-married as ages 40-44. This age group has traditionally been used as the base for indexes of the universality of marriage (Dixon, 1971). Although first marriage may occur after age 40, in the Thai context marriage after this age is a rare event. Celibacy refers to never having married. Celibacy does not require, or imply, chastity. The marital status variable in each of the three censuses includes two categories of persons whom we exclude from the analysis. The two categories, `unknown' marital status and `monk', contained less than 1 percent of the sample in any year.

A major difficulty in attempting to relate individual characteristics measured in the census to marriage is that most of the characteristics refer to current status while decisions regarding whether or not to marry relate to some past period. Occupation, work status and geographic variables used in this analysis all share this problem. The mixing of current status indicators with past behavior reduces the extent that causal links can be postulated. However, on most of the variables employed in the analysis current status is likely to be a reliable measure of past status.

Findings

The proportions never-married increased substantially from 1970 to 1990. The increases occurred for most social groups and were greatest for women (see Table 2.1). In 1970 4 percent of women aged 40-44 were never-married. By 1990 this percentages had almost doubled to 7 percent. The proportion of men age 40-44 never-married increased from about 3 percent to 4 percent over the same period.

TABLE 2.1

Percent Celibate at Ages 40-44: by Sex and Year

Characteristic	Men			Women		
	1970	1980	1990	1970	1980	1990
Total	2.9	3.6	4.3	3.9	5.4	6.6
No Education	5.4	7.8	8.0	3.9	4.8	5.3
Primary	2.1	2.8	3.3	3.3	4.8	5.2
Secondary	5.4	4.2	6.3	11.1	13.9	11.7
Tertiary	3.7	6.5	7.1	31.6	21.7	19.1
Agriculture	2.0	2.5	3.0	3.2	3.7	4.4
Production	5.3	3.8	4.3	9.1	9.7	11.4
Sales	3.4	4.2	4.3	7.0	12.5	16.3
Service	3.3	4.2	4.3	7.0	12.5	16.3
Clerical	7.0	3.9	5.6	18.5	22.4	14.7
Professional & Admin	2.3	5.3	5.6	19.4	14.1	16.5
Not in the Labor Force	19.1	28.9	29.8	3.7	6.3	6.2
Self-Employed	1.1	1.3	1.7	6.2	8.4	9.7
Government Employee	2.7	3.5	4.2	14.8	13.1	15.5
Private Employee	5.6	5.5	5.7	6.9	10.6	11.5
Unpaid Family Worker	19.8	21.2	18.0	2.7	3.2	3.7

Data Source: Microdata samples from 1970, 1980 and 1990 censuses

Compared to men, there was much more variability for women among social categories in levels of celibacy. Women with no education or with a

primary school education were two to three times more likely than women with a secondary education to be celibate, and over 4 times more likely to be celibate as women with a tertiary education. Lowest levels of celibacy were found for women working in agriculture, which is the largest group of women. Around 15 to 20 percent of women working in clerical or professional and administrative occupations had never-married. Even in sales and service occupations, which are generally urban-based but include many `traditional' occupations such as petty trading, rates of celibacy were more than double those found in agriculture.

The main change in celibacy levels over time for men has been the emergence of higher celibacy for men in high socio-economic positions. In 1970 no clear pattern was evident. Men in professional occupations had levels of celibacy that were similar to those in men in agriculture. By 1990 men in professional and clerical occupations had the highest levels of celibacy. This change may be a responses to the more rapid increases in celibacy for women. As more women with higher levels of education and who participate in modern sector occupations remain celibate, the potential number of spouses of men in high socio-economic positions is reduced. Men can overcome this marriage squeeze by marrying women from lower socio-economic levels. Changes in levels of celibacy for women have been much greater than those for men. For some social categories celibacy has fallen while for most it has increased. The largest decreases occurred between 1970 and 1980 and involved women at the highest socio-economic levels. In 1970 almost one-third of these women aged 40-44 were never-married, by 1980 this had declined to about 22 percent and declined a further three percentage points between 1980 and 1990. Similar changes also occurred for women in professional and administrative occupations.

One explanation for these changes is declining homogeneity of the population with these characteristics. There were few female professionals

and women with a tertiary education in 1970. Over time the size of these groups has increased, and the social origins of the women in these groups have become more diverse. At the highest socio economic levels the population is becoming less homogeneous and, it is presumed, includes a higher proportion of women who grew up in situations where female expectations from marriage were not high.

An alternative explanation that women of higher status who were looking for a spouse found it easier to find partners, perhaps because the expectations they had of suitable partners were more likely to be met. Expectations of men may have also changed. Women with high levels of education and modern sector employment, both of which are associated with high levels of income, may have become more attractive on the marriage market.

For most social categories levels of celibacy for women increased, and at much faster rates than for men with the same characteristics. This is most noticeable for women in sales and service sector occupations, and those with a primary level of education. If 1970 levels of celibacy by occupational category were dichotimized one distinct group would have been women in professional and clerical occupations who had high levels of celibacy. In 1990 the distinct group was women in agriculture and out of the labor force who had low levels of celibacy. Levels of celibacy were over 10 percent for all other groups.

Education, occupation and geographical variables are all inter-related. In an attempt to establish the net effects of each of these variables we estimated a number of logistic regression models. The data sets for the three time periods were pooled and a variable indexing the year of the census was included in the merged file. The dependent variable is whether the person was never-married (1=celibate, 0=not celibate). Two models were estimated

for each sex and for the entire sample. The first model includes only the time variables. The coefficients of the year variables can be interpreted as the change in probability of being celibate relative to 1970. In the second model a series of socio-economic and geographic variables were added. Religion was also added to model 2. The results of estimating these models are shown in Table 2.2. The models for both sexes includes a variable that indexes sex. The coefficient for this variable indicates that after controlling for changes in time (the year variables) and other variables the odds of a female being celibate was approximately 1.2 times that of a male.

Changes in the variables for year show that some of the increase in celibacy can be explained by changing composition of the population over the three time periods. For both men and women there was a narrowing of the probabilities of celibacy when the socio-economic and geographic composition of the population was controlled. The declines were greater for women than for men. From model 1 the odds of a man being celibate in 1980 relative to 1970 were 1.23. For 1990 the odds were 1.49. After controlling for the variables included in model 2 the odds for 1980 dropped to 1.15 and to 1.36 for 1990. For women the odds based on model 1 were 1.38 for 1980 and 1.72 for 1990. For model 2 the 1980 odds were 1.27 and were 1.40 for 1990.

Therefore, in relative terms the extent of change in celibacy between 1970 and 1990 was similar for both sexes after controlling for the changing composition of the population. Over this period higher proportions of women were located in those social categories that are associated with high levels of celibacy. These results are consistent with the claim by Xenos and Gultiano (1992) that changes in levels of celibacy for women are primarily related to access to new roles while changes in celibacy for men are typically responses to other factors.

TABLE 2.2

Additive Logistic Regression Models of Celibacy:
Men and Women Aged 40-44

Variable	Both Sexes		Male		Female	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Year[1]						
1980	0.28**	0.19**	0.21**	0.14**	0.32**	0.24**
1990	0.49**	0.23**	0.40**	0.30**	0.54**	0.33**
Region[2]						
Bangkok		0.24**		0.04		0.39**
Central		0.22**		-0.19*		0.44**
Northeast		-0.35**		-0.82**		-0.03
South		-0.16*		-0.25*		-0.14
Urban[3]						
Urban		0.33**		0.28*		0.30**
Periurban		0.20**		0.37**		0.04**
Region[4]						
Buddhist		0.74**		0.88**		0.68**
Other		0.71**		0.65*		0.65*
Occupation[5]						
Production		0.30**		0.41***		0.43**
Sales		0.26*		-0.05		0.36**
Service		0.38*		0.43**		0.62**
Clerical		0.41		0.46*		0.66**
Professional & Administrative		0.33		0.22		0.46**
Not in the Labor Force		2.68**		-0.13		0.97**

TABLE 2.2
(Continued)

Variable	Both Sexes		Male		Female	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Work Status[6]						
Employer		0.05		0.13		0.04
Self - employed		0.29**		-0.23		0.57**
Private Employee		0.57**		0.26**		0.26 *
Unpaid Family						
Worler		0.37**		2.62**		-0.22
Education[7]						
None		-0.48**		0.25		-0.94**
Primary		-0.89**		-0.57**		-1.09**
Secondary		-0.48**		-0.29		-0.48**
Sex[8]		0.19**				
Constant		-3.37**		-1.72**		-3.26**
Model						
Chi-square	144**	1240**	38**	1949**	107**	997**
Improvement						
Chi- square		1096**		1911**		890**
N		76,670		37,651		30019

* $p < 0.05$. ** $p < 0.01$.
Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Note: Reference Categories are: [1]1970 [2]North [3]Rural [4]Muslim [5]Agriculture [6]Government Employee [7]Tertiary [8]Female

The characteristics associated with a high probability of being celibate are different for men and women. For women the highest probabilities of being celibate occur for women living in Bangkok and the Central regions while for men, the highest probability of celibacy is for men living in the North. Tan (1993) found that at the aggregate level sex ratios are a powerful predictor of Thai provincial levels of celibacy. As women are more likely than men to migrate into Bangkok and the Central region (Guest, Richter and Archanvintkul, 1993) this might contribute to higher levels of celibacy for women in these areas.

Education is a strong predictor of celibacy for women but has relatively small effects for men. The contrast between working in agriculture and other occupations are also much better at predicting celibacy for women than it is for men. We expect that this is a result of large differences in gender-based divisions of labor in agriculture and in other occupations. In agriculture a clear and well-established set of tasks associated with domestic and productive responsibilities for each sex. In other occupations, particularly in `modern occupations' domestic responsibilities are separated from those associated with market work. Men can concentrate on market activities, as they do in agriculture, while women are forced to take on additional roles. An alternative explanation is that women are recruited into the agricultural labor force through marriage. Unfortunately the timing of the measurement of occupation does not provide a way to discriminate between these two explanations.

Although change in population composition explains a large proportion of the increases in celibacy for both men and women, for neither sex does it account for the majority of the change. To examine whether relative probabilities of being celibate among categories varied over time we estimated a series of interactions between year and other independent

variables. Measures of the goodness of fit of these interactions are shown in Table 2.3.

TABLE 2.3

Logistic Regression Models with Interactions with Time

Model	Male				Female			
	Chi Square /df		Improvement Chi Square/df		Chi Square /df		Improvement Chi Square/df	
Null Model	11395	37651	---	---	15641	39019	---	---
Additive[1]	1950	37360	1950**	23	997	38568	997**	23
Additive+								
Year* Region	1967	37352	17*	8	1010	38560	13	8
Additive+								
Year* Urban	1957	37356	7	4	1000	38564	3	4
Additive+Year								
*Occupation	1970	37348	20	12	1024	38556	27**	12
Additive + Year								
*Education	1953	37354	3	6	1015	38562	18**	6
Additive+Year								
*Work Status	1967	37350	17	10	1010	38558	13	10
Additive+Year								
*Religion	1952	37356	2	4	1014	38564	17**	4

* $p < 0.05$. ** $p < 0.01$.
Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Notes: Interactions were evaluated in separate models.
[1]The additive model contains the variables shown in Model 2 of Table 2.2.

Only one of the interactions for males significantly adds to the fit of the additive model. This interaction, between year and region, indicates that probabilities of being celibate varied within regions over time. An examination of the coefficients show that the significant interaction terms involved Bangkok. In 1970 the probability of a man aged 40-44 living in Bangkok being celibate was not significantly different from the probability of a man of the same age and living in the Northern region being celibate, other things held constant. By 1990 men in Bangkok were significantly less likely to be celibate than were men in the North. In 1990 levels of celibacy were similar in all regions except the North, which had significantly higher levels.

The failure of most of the interactions to significantly improve the fit of the additive model for men suggests that marriage squeezes were not a major cause of change in celibacy for men over the period 1970 to 1990. While such squeezes may have affected differentials among social groups, the effects, if existing, remained constant over time. There were several significant interactions between the variables indexing year and other variables for the sample of women. The addition of interactions between year and education, occupation and religion all significantly improved the fit of the model. The interaction between religion and year provided the greatest improvement in model fit (measured as Chi-square per degree of freedom), followed by education and occupation.

In order to examine the changes in the probability of being celibate between 1970 and 1990 within social categories the predicted probabilities of being celibate for women were calculated from a model that included the basic additive model plus the three significant two-way interactions shown in Table 2.3. The predicted probabilities are shown in Table 2.4.

For the two lowest education categories levels of celibacy increased across the three time periods. The increase was largest for women with a

TABLE 2.4

Predicted Percent of Women Celibate by Education, Occupation and Religion: 1970, 1980, 1990

Characteristic	Percent Celibate		
	1970	1980	1990
Education			
None	3.85	4.44	4.86
Primary	2.96	4.20	4.58
Secondary	6.66	6.49	7.70
Tertiary	12.88	7.74	14.45
Occupation			
Agriculture	3.36	4.15	5.02
Production	5.67	5.98	7.15
Sales	2.97	4.55	4.68
Service	3.70	7.01	8.65
Clerical	6.30	12.29	6.22
Professional and Admin	5.87	6.38	4.83
Not in the Labor Force	2.84	4.78	4.37
Religion			
Buddhist	3.61	4.64	5.06
Buslim	0.81	2.55	4.14
Other	5.56	1.39	3.10

Data Source: Microdata samples from 1970, 1980 and 1990 censuses
Note: Predicted percent from full additive model with interactions between year and education, year and occupation and year included. For predicted percent celibate the value of categories were set at their sample proportions.

primary level of education, the largest group of the population. For secondary and tertiary educated women, however, holding constant other variables, there was a decline in celibacy between 1970 and 1980 and then an increase between 1980 and 1990. Although the sharp increase for tertiary educated women is difficult to explain, the results provide some support for the hypothesis that divergence in expectations of a spouse, and the probability of meeting those expectations, is occurring mainly at the lower socio-economic levels of the population.

Further support for this hypotheses is obtained from examining the patterns of change occurring among occupational groups. Increases in celibacy occurred for all occupation groups, except the clerical and professional occupations, where initial changes for the period 1970 to 1980 turned into declines in the following decade.

In 1970 a very small proportion of Muslims were predicted to be celibate. Increases in celibacy for Muslims, however, occurred much faster than for the other two religious groups. By 1990 there was little difference in predicted levels of celibacy for the Buddhists and Muslims, the two largest religious groups. Of these two groups Muslims have, until recently, been largely bypassed by social change (Keyes, 1987). As Muslim women gain access to education and employment it appears that not only their has their levels of celibacy increased in response to the new roles available to them, their expectations of partners may also have changed and in an increasing proportion of cases these expectations are not being met.

Conclusion

Celibacy in Thailand is on the increase. The increases are occurring for both sexes but are most pronounced for females. Part of the changes in marriage patterns can be attributed to transformations in Thai society that have

increased access of women to higher levels of education and more modern sector employment. Women are increasingly concentrated at educational levels and in occupational sectors where proportions never-married have traditionally been high.

Although these social transformations have also affected celibacy among men the impacts have been much less than for women. The increases in celibacy for men also cannot be ascribed to a marriage squeeze. Changes in celibacy over time for men have been similar among all social categories. It is unlikely that a marriage squeeze that affected groups in 1970 would have persisted for over two decades without adjustments in behavior. There has been no shortage of potential spouses for men in the postwar period. Fertility did not start falling until the late 1960s and because on average men marry women several years younger than themselves, there has been an ample supply of eligible women.

The relative amount of change in celibacy for women did vary across social categories. The levels of celibacy consistently rose over the three time periods for women at lower socio-economic levels while declining or remaining stable at higher levels. We suggest that this may be a result of increasing heterogeneity in the composition of higher status groups or because the expectations of the qualities required in a spouse are increasingly being met for these groups of high status women because of changes in attitudes among the men who comprise their pool of eligible spouses. For the vast majority of women, however, it is likely that new experiences and exposure to new ideas through the media were creating expectations that were not being met.

Census data do not provide the opportunity to explore questions about the behavioral underpinnings of the changes we have identified. Using the range of social indicators available, however, it has been possible to show

that there are increases in celibacy that are independent of population composition and also do not appear to relate to imbalances in the numbers of available partners. More focused research is required to identify what are the factors causing these changes.

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