Social Change and Age Hypergamy:
The shift in spousal age preferences in Taiwan, 1976-2012

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Compared to assortative mating by education, the age patterns of marriage are relatively less studied in past research. In many societies, age hypergamous marriages where the husbands are older (often times much older) than the wives have been a common practice. In times when women are not as educated as men and when women rely on men for financial support, men's older age is often equivalent to more socioeconomic resources as a provider. However, with development and educational expansion, a trend toward more age hypogamy has emerged in many Western and Asian countries over the past three to four decades, despite many women still tend to form unions with older men. Although this phenomenon is not well-documented in scholarly research, it has attracted media attention and reports have been published (Coontz 2012, Kershaw 2009). Based on macro-level government statistics, increasingly more unions are formed between women who marry younger men in the advanced Asian economies when compared to a few decades ago (shown in Table 1). By 2010, the prevalence of age hypogamous marital unions ranged from roughly one tenth to a quarter of all marriages in these societies.

From the social exchange perspective of marriage, as socioeconomic differences between men and women diminish over time, deviations or reversals from traditional patterns of marriage choice likely ensue. That is, well-educated women have traits other than youth and physical attractiveness for exchange in the marriage market, resulting in a shift away from hypergamy. In the case of Taiwan, educational expansion has taken place along with industrialization since the 1970s. Increasingly more women advance to tertiary education and the improvement in human capital among women has propelled a surge in labor force participation rates at prime-working ages.[1] Such an advancement in women's status indeed brings about changes in partner choice. A recent study by Tsai (2005) who used the 1990 and 2000 census data of Taiwan indicated that hypogamous marriages formed between older women and younger men have increased across age groups between 1990 and 2000, from 8.3% to 9.8% for adults in ages 15 to 54 (Tsai 2005). There is good reason to believe that the trends observed in 1990 and 2000 is a continuation from previous decades and a trend toward more age hypogamy after the millennium is very plausible. Hence, this study hypothesized that age hypogamous marriages have increased between 1976

[1] The proportion of female college students has risen from 21% in 1960 to 36% in 1970 and further to 50% in 2010 (Ministry of Education 2012) and labor force participation rates increased from 56% to 84% at ages 25 to 29 and from 55% to 77% at ages 30 to 34 between 1987 and 2010 (DGBAS 1987-2010).

and 2012 (H1).

On the other hand, educational expansion has also improved women's socioeconomic status. Extended years of schooling and higher labor force participation rates tend to increase the chances for a woman to meet her future partner, who is more likely to possess similar sociodemographic traits as she does. In a similar vein, a recent study that analyzed a nationally representative adult sample shows that while about a third (32.1%) of the respondents in older cohorts (those born before 1956) met their current spouse through friends/colleagues, the comparable figure for the younger cohorts (born in 1956 and after) has increased to 53.5% (Wu, Yeh and Tsay 2014). In other words, more than half of younger Taiwanese who came of age during an era of rapid industrialization are less likely to have known their current spouse through parents/relatives, which tends to decrease the likelihood of traditional age hypergamous marriages. This weakening of parental authority to impose preferences on offspring's mating process and the rise of romantic love are very likely to lead to a decline in large age differences between spouses among the younger generations. Thus, this study hypothesized that age homogamous marriages have also increased between 1976 and 2012 (H2). To sum up, this study aims to investigate the changing age preferences in marital unions over a span of about four decades in Taiwan.

Research Design

Data

This study will make use of the detailed age matching tables (crosstabulations of brides and grooms) published in the Statistical Yearbook of Taiwan from 1976 to 2012 to depict marriage patterns by age overtime. A total of 529 (23x23) cells of marriage match data (23 age categories for brides and grooms from age -18, 18,…, 34, 35-39, 40-44, 45-54, 55-64, 65+). These marriage counts include marriages of all orders and are used (1) to describe the distribution of marriage pattern by age overtime; and (2) as the numerators for calculating age-specific marriage rates for both men and women. The exposure marriageable population data for calculating the occurrence-exposure age-specific marriage rates were acquired from the 1976-2012 Statistical Yearbooks. Given that the age format of the exposure population was only available in five-year interval for data published in the 1970s to the 1990s, the single-age marriage counts were combined and marriage propensities were calculated based on five-year marriage rates. Additionally, to reconcile the different ending age intervals used for the marriage count data and the exposure population, the last age group for the analyses of marriage propensities by age is an open interval of age 45+.

In addition, complete marriage registration data (person files) are only available for years 1998 to 2012. A total of 2,245,867 marriages were formed between 1998 and 2012. The

registration data include information of husband and wife on birth date, education, marital status prior to marriage, marriage type (i.e., regular marriage or uxorilocal marriage), nationality, and aboriginal status. These data are used to analyze age pairing patterns and their determinants for recent marriage cohorts.

Analytical Strategies

Descriptive statistics based on distributions of marriage count data will first be generated to portray the changing patterns of marriage by age, ignoring the exposure population. Then, harmonic mean propensity approach (Schoen 1988) will be used to investigate the intensities of marriage across different types of age matching patterns to better show the rise and fall of the traditional age hypergamous unions. Finally, marriage registration data for 1998-2012 will be used to examine the individual characteristics that are associated with age homogamy, hypergamy, and hypogamy for recent marriage cohorts.

Preliminary Findings and Planned Analyses

The proportions of age homogamous and hypogamous marriages have been increasing over the past few decades, as can be seen in the upper graph of Figure 1. Nearly 85% of all marriages formed in 1976 are between older men and younger women. By 2012, the comparable share has decreased to only 67%. If we loosen the definition of age homogamy to marriages between brides and grooms with an age difference of 1 year (older, younger, or same age) or 3 years, there are still long term patterns of increasing homogamy, particularly after the millennium (see lower graph of Figure 1). In contrast, marriages where the grooms are 5-9 years older than the brides have been on a decline from roughly a quarter in 1976 to 8.5% in 2012. For marriages involving husbands who are more than 10 years older than the bride, the share in recent years have gone down to the level observed in 1976. The temporary increase in this type of marriage with large age differences in the late 1990s and early 2000s was largely due to the surge of foreign brides from mainland China and Vietnam marrying older men in Taiwan, and many of these unions were actually sham marriages.[2]

The results from the harmonic mean two-sex propensity approach are presented in Figure 2, with the exposure population eligible for marriage considered. The patterns revealed by both graphs tell the same story as earlier analyses—a fall in age hypergamy and a rise in age hypogamy over the past four decades. In particular, Table 2 shows the mean age differences (absolute age distance) across marriage cohorts and marriage orders have decreased over the past 15 years. The only exception is that first marriages with older wives tend to have increasingly

[2] The number of sham marriages has been largely curtailed after the government implemented pre-nuptial interviews with couples in September 2003, which serve to screen out suspicious unions with other illegal intentions.

larger age differences over time. When the exposure population is considered in the harmonic mean two-sex approach, for men and women in prime-marrying ages of 20 to 44, the share of hypergamous marriages is decreasing and hypogamy rising, as revealed in Figure 2. When education is considered, Table 3 shows that age hypogamous marriages are more likely to cluster in educationally hypogamous unions in 2010, when compared to those observed in 2000. Substantial increases in the share of age hypogamy are also observed among highly educated homogamous unions in 2010 than in 2000. In the next steps, this study will make use of the detailed marriage registration records from 1998 to 2012 to examine the socio-demographic characteristics that are associated with the emerging new trend of age matching.

References

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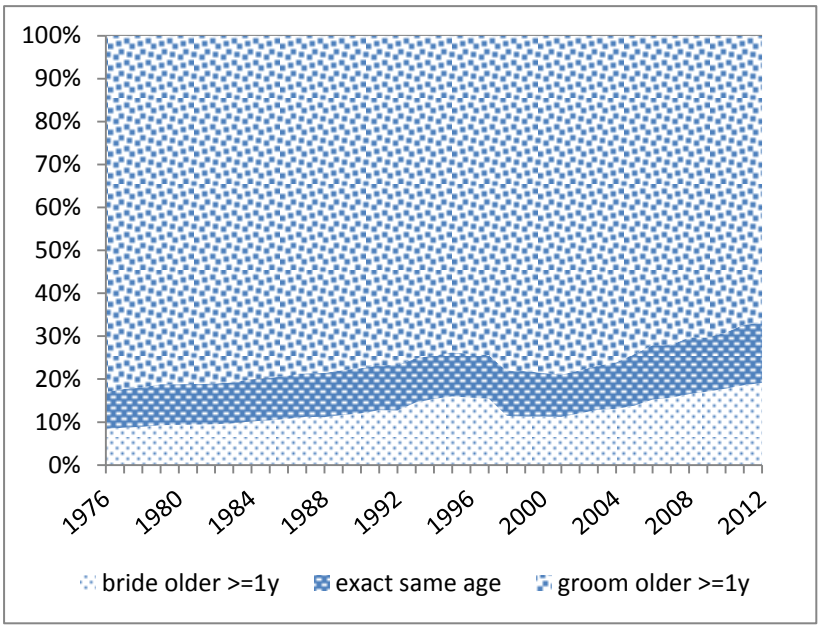
Table 1. Proportions of age hypogamous marriages in five Asian Societies†

	1975	1980	1985	1990	1995	2000	2005	2010	2012
Singapore							14.0[1]	16.7	17.2
Hong Kong		12.5[2]	14.3	15.2	15.8	16.5	17.6	18.0	18.3[3]
Japan	12.5	11.7	12.1	14.3	17.7	21.9	23.4	23.6	24.1
South Korea					8.7	10.7	12.2	12.8[4]	

Sources: The above vital statistics data are acquired from Demographic Trends in Hong Kong 1981-2011 for Hong Kong (URL:http://www.statistics.gov.hk/pub/B1120017032012XXXXB0100.pdf), from Vital Statistics of Japan (http://www.e-stat.go.jp/SG1/estat/CsvdlE.do?sinfid=000021997019), from Statistics on Marriages and Divorces, 2012 for Singapore (URL:http://www.singstat.gov.sg/Publications/publications_and_papers/marriages_and_divorces/smd2012.pdf), and from 2004 Marriage and Divorce Statistics and 2006 Marriage Statistics for South Korea (URL:http://kostat.go.kr/portal/english/news/1/8/index.board?bmode=read&aSeq=67229; http://kostat.go.kr/portal/english/news/1/1/index.board?bmode=read&bSeq=&aSeq=273508&pageNo=1&rowNum=10&navCount=10&currPg=&sTarget=title&sTxt=marriage+).

Notes: [1]data from 2002; [2]data from 1981; [3] data from 2011; [4] data from 2006

Figure 1. Proportions of marriage in different types of age matches in Taiwan, 1970-2012



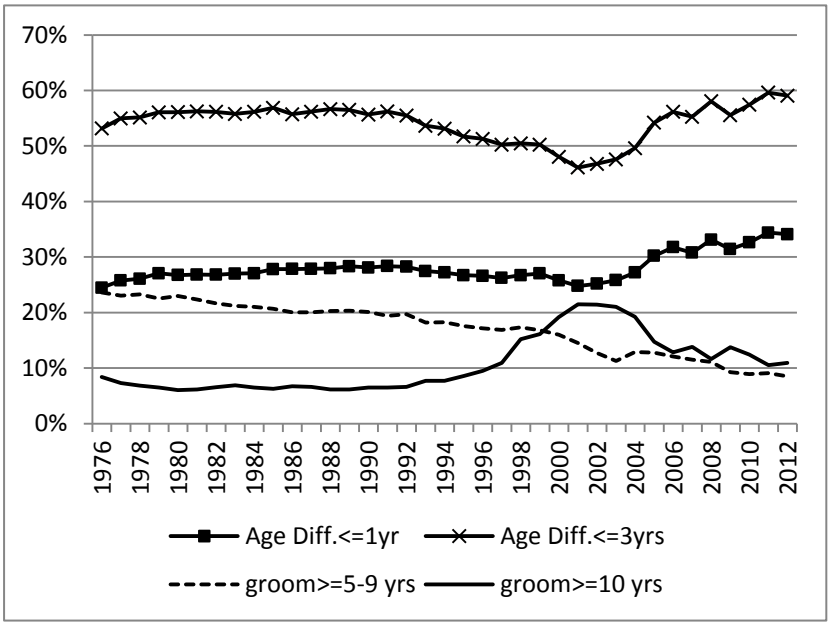
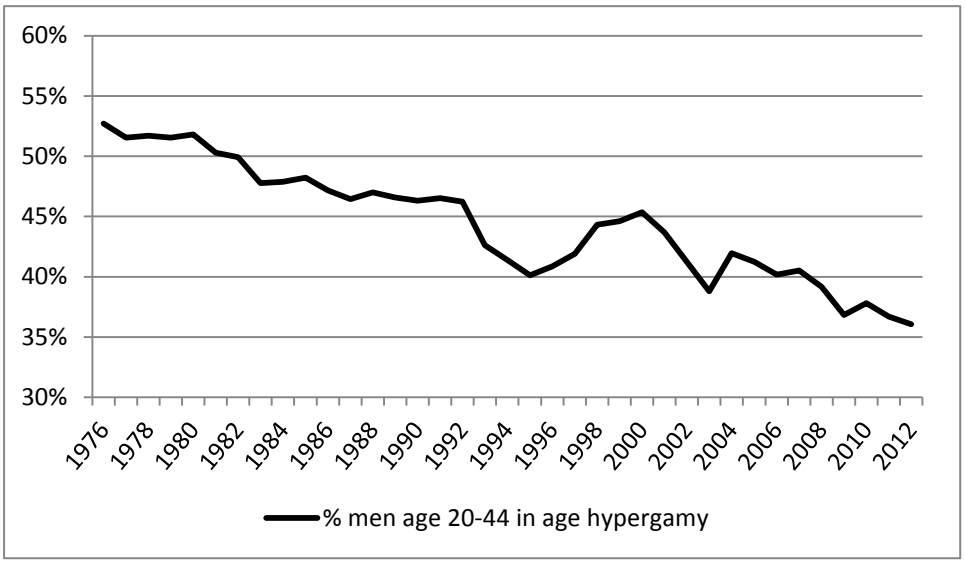
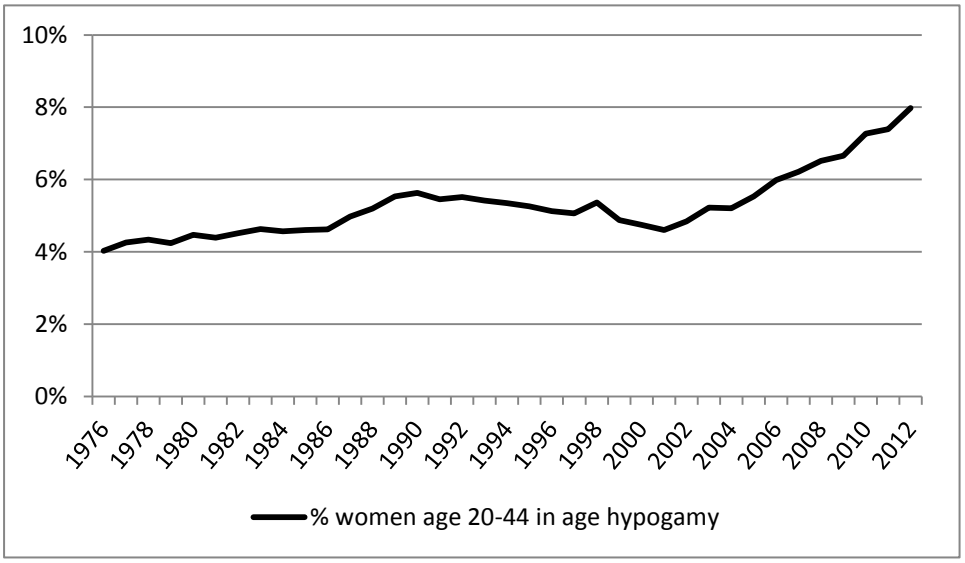


Table 2. Mean age (absolute age difference) between husbands and wives by marriage order

Marriage Cohort	All Marriages		First Marriages		First marriages				Remarriages			
					Wife older		Husband older		Wife older		Husband older	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
1998	5.28	0.02	4.46	0.02	2.19	0.02	5.41	0.02	4.36	0.07	10.65	0.07
1999	5.40	0.02	4.53	0.01	2.17	0.02	5.52	0.02	4.73	0.07	11.07	0.06
2000	5.84	0.02	4.87	0.02	2.17	0.02	5.94	0.02	4.38	0.06	11.50	0.06
2001	6.32	0.02	5.15	0.02	2.24	0.02	6.27	0.02	4.44	0.06	12.18	0.06
2002	6.38	0.02	5.01	0.02	2.26	0.02	6.18	0.02	4.34	0.05	12.54	0.06
2003	6.33	0.02	4.78	0.02	2.28	0.02	5.96	0.02	4.18	0.05	12.53	0.05
2004	6.06	0.02	4.67	0.02	2.27	0.02	5.85	0.02	4.09	0.06	11.89	0.06
2005	4.95	0.02	3.88	0.01	2.19	0.01	4.92	0.02	3.81	0.05	10.44	0.05
2006	4.60	0.02	3.62	0.01	2.19	0.01	4.67	0.01	3.83	0.05	9.65	0.05
2007	4.62	0.02	3.68	0.01	2.27	0.02	4.73	0.02	3.73	0.05	9.50	0.05
2008	4.27	0.01	3.42	0.01	2.24	0.01	4.45	0.01	3.77	0.04	9.06	0.05
2009	4.58	0.02	3.54	0.02	2.32	0.02	4.62	0.02	3.86	0.05	9.37	0.05
2010	4.34	0.02	3.39	0.01	2.32	0.01	4.44	0.01	3.80	0.04	9.11	0.05
2011	3.98	0.01	3.20	0.01	2.32	0.01	4.25	0.01	3.83	0.04	8.39	0.05
2012	3.91	0.01	3.18	0.01	2.39	0.01	4.22	0.01	3.99	0.04	7.99	0.05
N	2,245,875		1,763,069		246,355		1,284,124		74,151		381,204	

Figure 2. Percentage trend of men and women age 20-44 who are in age hypergamous/hypogamous marriages in Taiwan, based on marriage intensities revealed by harmonic mean propensity approach





Note: Percentage changes between 1976 and 2012 are -31.6% for men in hypergamy and 98.2% for women in hypogamy.

Table 3. Proportions of age hypogamous marriages within each type of education matches between 2000 and 2010, based on marriage intensities revealed by harmonic mean propensity approach

2000	<HS	HS	Junior College	College+
<HS	11.06%	10.62%	8.18%	9.22%
HS	9.68%	10.06%	8.14%	6.41%
Junior College	9.32%	10.46%	10.85%	9.65%
College+	5.38%	7.58%	9.88%	10.78%

2010	<HS	HS	Junior College	College+
<HS	12.51%	10.99%	6.53%	8.52%
HS	18.73%	16.31%	11.85%	12.06%
Junior College	19.81%	18.31%	14.77%	15.70%
College+	18.90%	18.83%	14.73%	15.45%