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Marriage, Religion, and Women's Happiness

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Do Religious People's Marriage Decisions Reflect Their
Preferences?

By

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ABSTRACT

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This thesis studies the effect of six major religions (Catholicism, Protestantism, Orthodoxy, Islam, Buddhism, and Hinduism) on the gender marriage gap and the gender gap in the happiness payoff associated with marriage. Becker (1974) developed a theory on marriage claiming that individuals seek to maximize their utility through marriage. However, in some religions, individuals are coerced into marriage or have an arranged marriage, and thus, it is unlikely that such individuals' marriage choices reflect their preferences. This paper uses data from the World Values Survey to examine whether religious people's marriage decisions are consistent with their preferences. The results show that religious females are 1.4 percentage points more likely to get married than nonreligious females. For example, Hindu women, the group of women who are most likely to get married, are 9.9 percentage points more likely to get married than nonreligious women. As to the gender marriage gap, in general, females are less likely to get married than males; the gap is largest among Orthodox (9.3 percentage points), and smallest for Muslims and Hindus (close to 0). The results on life satisfaction show that Hindu, Catholic, and Islamic females receive lower marriage happiness premium compared to females in other religions. Finally, my results indicate that Buddhists' and Hindus' marriage choices are consistent with their preferences, while for Muslims and Christians, their marriage choices do not fully reflect their preferences.

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CHAPTER ONE

INTRODUCTION

Subjective well-being (SWB) reflects how we think and feel about our lives. In practice, it is usually measured by one's self-reported happiness or overall life satisfaction (Dolan, Peasgood, & White, 2007). Emerging literature on "economics of happiness" has provided evidence that a range of personal, economics and social factors could influence SBW, such as age, health, income, religion, education, employment, and marriage. For example, unemployed individuals tend to be significantly more unsatisfied with his/her life than are employed people (e.g. Rudolph, 2015; Di Tella et al., 2001; Frey & Stutzer, 2000; Helliwell, 2003; Stutzer, 2004; Lelkes, 2006). Another component that influences life satisfaction is income and the perception of economic classes. Individuals who perceive themselves to be associated with the middle class rather than the lower class are more satisfied with life (Elmslie, 2014), and there seems to be a positive correlation between income and SWB (Clark, Frijters, & Shields, 2008). Existing literature regarding marriage and happiness suggests that marriage can provide spouses with additional utility (e.g. Helliwell, 2003; Lee, 2012). Becker's (1974) theory on marriage also indicates that voluntary marriage yields an increase in utility. Lastly, religious affiliation and engagement in religious activity have been associated with increases in both marital happiness and in one's SWB (Perry, 2016; Clark & Lelkes, 2005; Hayo, 2004).

Although the literature has provided evidence that marriage and religion are associated with a higher level of satisfaction and religion may increase marital happiness, very few studies explicitly compare the happiness associated with

marriage across religions and across genders simultaneously, and none of them specifically focus on exploring the interactions between marriage, religion and life satisfaction. In addition, no study tries to address the normative issue raised by these findings; that is, whether the differences in marital rates across religions reflect the different happiness obtained from marriage.

In attempt to explore the interactions between religion, marriage, and life satisfaction, this paper seeks to answer three research questions: 1) do religious females have a greater likelihood of marriage relative to non-religious females? 2) Does the gender gap in marriage happiness premium (MHP) vary across six of the world religions studied (Catholicism, Protestantism, Orthodoxy, Islam, Hinduism, and Buddhism)? And 3) is marriage decision consistent with the happiness associated with marriage or does religious people's marriage choice reflect their preferences? The gender gap in MHP can be defined as the gap in additional utility gained from marriage between males and females. I hypothesize that religious females will have a greater likelihood of being married compared to non-religious females, and that gender gap in MHP is larger between spouses in religions that are more conservative or restrictive on females, such as Islam.

Data in this research come from the World Values Survey—a representative global survey that covers almost 100 countries, which represent 90 percent of the world's population. This paper includes data from all six available waves during the period from 1981 until 2014. The surveys provide information on respondents' social attitudes, political beliefs, and individual characteristics. I utilize various Ordinary

Least Squares (OLS) models to examine the correlations between religion, marriage, and people's subjective well-being, which is measured by life satisfaction.

The results of this paper include three parts. First, I find that having religious affiliation and frequent attendance to religious services are both associated with a greater likelihood of getting married. In almost all cases, religious females are more likely to be in a marriage than their non-religious counterpart. In particular, Hinduism produces the largest gap in marriage between religious women and non-religious women, as Hindu women are 9.9 percentage points more likely to get married than non-religious women. The only exception is Orthodox women, who are 2.2 percentage points less likely to get married than non-religious women.

Second, the results on gender marriage gap indicate that in general, females are less likely to get married than males. The largest gender gap in marriage is seen in Orthodoxy, where females are 9.3 percentage points less likely to get married than Orthodox males. The gender marriage gap is almost close to zero for Hindus and Muslims. When accounting for the effect of the dominant religion on the likelihood of getting married, I find that the gender gap in marriage is enlarged for people living in societies dominated by Protestantism, Orthodoxy, or Buddhism, but that the gap is reduced for those living in a society dominated by Catholicism.

Third, the results on life satisfaction indicate that Hindu, Catholic, and Islamic females receive lower levels of marriage happiness premium compared to females in the other religions. Moreover, I find that Buddhist and Protestant females and males receive the most additional satisfaction from marriage compared to respective males and females in the other religions. As to the gender gap in marriage happiness

premium, I find a significant gap among Muslims and Buddhists. Islamic females receive higher happiness payoffs from marriage than Islamic males; while Buddhist females, on the contrary, obtain less happiness payoffs from marriage than their male counterpart. According to Becker's marriage theory, if females were acting rationally I would expect to see Islamic females marry at a higher rate than males, and Buddhist females to marry at lower rates than males. For Buddhists, results are consistent with my expectation. However, Islamic females' marriage choice is not consistent with the marriage happiness payoff.

This paper seeks to contribute to existing literature by exploring the role of religion on the gender marriage gap, and by analyzing religion's role on the gender gap in marriage happiness premium, which have never been studied before. Furthermore, the content of this paper can potentially help to explain profound systemic issues, such as gender inequality. Religious beliefs can exacerbate gender roles, and these gender roles then yield gender inequality differences, most prevalently wage discrepancy. Thus, by identifying potential sources of gender roles, perhaps the effects of gender inequality could be mitigated.

The next chapter of this paper reviews literature on marriage, happiness, religion, and gender roles. Chapter three presents Becker's theory of marriage. A description of the data and empirical methods are presented in chapters four and five respectively. The results are analyzed in section six, with a conclusion presented in chapter seven.

CHAPTER TWO

LITERATURE REVIEW

A: Marriage and Happiness

As was aforementioned, many studies explore the association between religion, marriage, and life satisfaction. When discussing marriage, cohabitation and happiness, Lee and Ono (2012) observes various factors that impact the happiness associated with marriage—namely societal and religious contexts. Specifically, this article examines whether different degrees of religiosity in different countries affect male and female happiness through multilevel models and whether married individuals are more satisfied than cohabitating individuals. In conclusion, it is discovered that regardless of the religiosity, religious context affects the happiness of cohabitating women more than it affects happiness of men. However, cohabitating women's happiness is negatively correlated with strict religious laws. Thus, in countries where the religious context is stricter, cohabitating women are more likely to be unhappy. It is also concluded that both males and females are happier in marriage than in cohabitation, suggesting that additional utility is gained from formal marriage. While this demonstrates that religion somewhat influences happiness received from marriage, it fails to describe how individual religions contribute to the gender happiness gap.

Similarly, utilizing OLS estimations, Bessey (2015) shows that marriage provides utility to both individuals with "traditional" attitude beliefs, and those who hold "non-traditional" attitudes. The variables evaluated in this research consist of marital status, traditional attitudes, and marital satisfaction. Other control variables

are gender, age, health, education, number of family members, country of residence, employment status, number of children, and household income. He found that marital satisfaction positively affects happiness for non-traditionalists, while traditionalists seem to be less satisfied during their marriage, suggesting that their marriages involve worse match quality. It is also found that traditionalists gain utility from the merely getting married.

Elmslie (2014) examines determinants of marital happiness. Data are taken from GSS, and two sets are analyzed via a cost-benefit utility model. Specific characteristics of the costs and benefits are considered, including education, social class, spousal education, age, race, and population of current residence. The independent variable is marital status with a dependent variable of life satisfaction. The results show that viewing oneself as middle class rather than lower class is associated with women being 8.7% happier in general with life, but only 3.5% happier in marriage. Other determinants include infidelity, which lowers happiness in marriage; age, as elderly people tend to be less happy both in marriage and in life; and religion—Protestant and Catholic men are usually happier in marriage than individuals who are either from a different religion or non-religious. Interestingly, he found that unemployment negatively affects marital happiness for men. He also found that children have a strong and negative effect on women's marital happiness, while housewives are generally happier with marriage than women who work.

B: Religion and Happiness

A significant amount of work has also been completed to explore religion's role on happiness. Sander (2017) focuses on specific religion's correlation to individual happiness in the United States. Utilizing data from GSS, Sander observes how the most popular religions with the United States—Catholicism, Protestantism, Judaism, Buddhism, Islam, and no religious identification—impact happiness. Based on the GSS data, contrarily to Elmslie (2014), it was determined that Jews and Protestants are most likely to respond as "happy," followed by Muslims and Catholics. In order to analyze the data, the author uses Ordinary Least Squares (OLS). The results indicate that Catholics are slightly less happy than Protestants, and that religion does not have an effect on Buddhist or Islamic individuals' happiness. Similarly, Judaism is correlated with a small reduction in happiness if synagogue attendance is infrequent. It is also determined that those with no religious affiliation tend to be less happy than those who identify with a religion.

Perry (2016) seeks to explain whether having a religiously devout partner enhances happiness within a marriage. Perry claims that a small majority of previous studies conclude that men and women benefit from having a devout partner, but women benefit more. Explanations have been that this is a result of gender norms, in which women benefit from high-quality marriages, whereas men benefit from all marriage, regardless of its quality. Thus, the authors predict that as a spouse's religious commitment increases, returns to marital quality will be greater for women than for men. With data analyzed via OLS and logistical regressions, the authors determine that marital quality generally improves with religious devotedness. The

authors state that respondents with a more religious spouse report more positive interactions, such as affection, compliments, and acts of kindness from their counterpart, as well as a reduction in insults or harsh criticisms; overall, religion yielded happier spouses. Finally, it is concluded that women are more likely to reap these benefits of a religiously devout spouse than are men.

Lu (2017) seeks to determine if there is a correlation between religion and happiness for Chinese individuals. This article collects data from the 2007 Spiritual Life Study of Chinese Residents, with a dependent variable of life satisfaction. The main independent variable, religious faith, incorporates religious identity, beliefs, and practices; the religions analyzed are Buddhism, Daoism, Confucianism, Protestantism, Catholicism, and Islam. The data are analyzed using multinomial logistic regression models, controlling for gender, marital status, ethnicity, age, education level, employment status, political affiliation, and health. Once the regressions are completed, it is determined that overall, on average, identifying with a religion is not associated with happiness; however, identifying as Buddhist increases one's happiness, while identifying as Protestant correlates with lower levels of happiness. Interestingly, religious beliefs and practices—including prayer and service—are negatively associated with happiness.

In 2016, Ortegahugh looked to determine the correlation between religious homogamy and marital happiness. The data are taken from 276 married Catholics and 794 married Protestants from a 1981 representative interview from individuals in Nebraska. There are numerous control variables, including: age and age at marriage, religiosity, socioeconomic status, gender, previous marriages, children in the

household, wife's employment, discrepancies in education and age, and whether religious homogamy was a result of conversion. After using multiple classifications analysis, it is determined that religious homogeny of Catholics has a happiness of 2.59, while Catholic and Protestant marriages were 2.67 out of 5. Homogenously married Protestants demonstrate happiness of around 2.63. Thus, it is concluded that religious homogamy yields greater happiness in marriages, while heterogamous marriages prove to hinder happiness.

Lastly, Carey (1967) seeks to determine the correlation between Protestant marriages and happiness. Through the use of the National Opinion Research Center and subsequent indexes (devotional, ethical, doctrinal, religious knowledge, and Catholic schooling), happiness is determined. It is discovered that higher devotional index scores correlate with happier individuals. Similar trends are also encountered for the other four indexes, but religious knowledge and Catholic schooling's correlations are insignificant. Therefore, it is concluded that there is a positive correlation between happiness of married Catholic spouses with an increased intensity of devotional practices and ethical attitudes. However, religious knowledge and Catholic schooling and happiness are deemed insignificant.

<div align="center">C: Gender Roles and Happiness</div>

There has also been a lot of work conducted regarding gender roles and marital happiness. Bauer (2016) seeks to explain the connection between some traditional gender roles and marriage happiness by comparing homosexual couples to heterosexual couples. It is determined that heterosexual couples face comparative advantages: men usually receive higher salaries and so they work, while women tend

to be more productive domestically so they stay at home; same-sex couples do not encounter this comparative advantage. After analyzing data from GSS and composing equality, segregation, and balances indices, it is determined that homosexual couples exhibit a higher level of task sharing and less segregated activities relative to heterosexual couples. Similarly, data suggest that specialization and gender norms affect household activities (i.e. female tends to prepare meals while males complete repairs) for heterosexual couples. Interestingly, this cycle is maintained as it is discovered that the more equally individuals contribute to household income, the more equally tasks are shared; it is difficult for females to contribute equally to the household income in heterosexual households where traditional gender roles are displayed (women remain at home).

Similarly, Rudolf (2015) discusses the correlation between gender roles and marriage happiness focusing on South Korea. The authors discuss that Koreas maintain strong Confucian values, especially involving social and family beliefs, resulting in gender inequality. In 2010, Korea had one of the lowest women's labor force participation rate amongst OECD countries. Rudolf also explains that women face other challenges such as "domestic responsibilities, discrimination in pay and promotion, long working hours in full-time work, shortage of childcare facilities, and the absence of part-time work opportunities outside the low-skilled sector." This article determined that when one is unemployed, average life satisfaction of women drop by 0.15 (on a 0 to 1 scale), while men drop by 0.27 one or two years into unemployment. However, women adapt more quickly as they seem to return to their baseline level of happiness roughly one year after unemployment, whereas men may

only partially recover after two or more consecutive years of unemployment. Moreover, it is determined that while women experience a strong and statistically significant happiness effect of 0.267 in their first year of marriage, diminishing returns exists as they usually return to their baseline level of happiness after two years of marriage. Marriage for men also positively increases happiness by about 0.332; yet, men too, experience a return to baseline in their second year. It is concluded that marriages established between 1998 and 2008 were more likely to benefit men than women in Korea.

Finally, Qian (2015) seeks to determine the effects of gender roles in China by testing how marital happiness reacts to male and female employment. Using data from the Chinese General Social Surveys with a dependent variable of overall happiness, the authors perform a logistic regression analysis. The independent variables used are gender, employment status, and spouses' economic contribution to income. The data reveal that women are more than twice as likely to be unemployed than are men. Individuals who were unemployed are also 29% less likely to feel happy; similarly, people who report their spouse as unemployed are 36% less likely to report a sense of happiness. Moreover, it is concluded that non-employment more negatively affects men's happiness than women's happiness, and that a man's household income contribution has a greater effect on his happiness than does a women's contribution have on her happiness. Thus, in urban China, gender roles are seen to play a role in marital happiness—the husband serves as the breadwinner, while the wife is generally seen at home.

D: Other Factors Influencing Happiness

More broadly, Herbst (2016) seeks to find a correlation between parental happiness and children utilizing cross-section surveys from the GSS and LSS and analyzing data via a standard SWB equation. He ultimately determines that parental happiness has, and continues to increase over time relative to non-parents. Moreover, it is suggested that in general, non-parents' happiness is declining. Lastly, Herbst states that there is insufficient evidence to conclude that either age or number of children is associated with parental happiness.

Mookerjee (2005) discuss the effect of numerous variables on individual happiness across 60 countries; the variables used are: quality of life (measured via life factors, including, human development index, Gastil Index, Economic Freedom, Income Inequality, Corruption), religion (measured by religious fragmentation), and gender (measured by women in Parliament). The author uses a method of OLS, with data coming from the World Database of Happiness. After analyzing the OLS, it is determined that the more political fragmentation in a country, the lower individual happiness in that country. Contrarily, in countries that possess a higher percentage of women in government, happiness is generally higher. Interestingly, when the variables of religion and gender are run simultaneously, gender's impact on the degree of happiness is positive, but the religious fragmentation variable is statistically insignificant.

Pichler (2006) suggests that membership in organizations expand one's social network, yielding an increase in one's SWB. Furthermore, volunteering in a

community is also associated with a higher level of SWB, as individuals receive a sense of belonging and integration.

Work has also been done on the effects of health on individuals' SWB (Shields & Price, 2005). It is concluded that better health is correlated with higher levels of SWB, and long-term conditions such as a heart attack and stroke are associated with significant reductions in SWB. Lastly, recent issues of severe illness have a larger negative impact on SWB than do on-going medical issues.

CHAPTER THREE

GARY BECKER'S THEORY OF MARRIAGE

To understand why people choose to get married, it is important to note the work of Nobel Prize-winning economist's Gary Becker's theory on marriage. In attempt to identify determinants of marriage, Becker (1973) makes two major assumptions: people are always rational and maximize their utility, and that there is an existing marriage market.

Becker applies the existing preference theory into marriage. When deciding whether or not to marry, individuals must decide if such an action would increase their utility. People choose to get married because marriage can increase their utility, and some choose to divorce later on when their relationship leads to unhappiness, or disutility. In Becker's model, utility is defined as the goods produced by each household, including "quality of meals, quality and quantity of children, prestige, recreation, companionship, love, and health status." Becker also argues that having, raising, and identifying with a child is one of the main variables that increases utility, and helps explain one of the driving forces of marriage. Contrarily, Becker believes that "persons desiring relatively few or low-'quality' children either marry later, end their marriages earlier, or do both."

Another factor that raises utility, and thus serves as an indicator of marriage is an increase in income. With his model, Becker argues that if male and female property incomes rose exogenously, both male and female utilities would rise, raising the incentive to marry. Similarly, Becker predicts that a rise in wage rates for a male and a female could potentially increase incentive to marry. However, if a female's

wage is higher than a possible male spouse, there is a reduced incentive. Becker also acknowledges that traits like beauty and intelligence would increase the counterpart's utility from marriage, helping to explain why more attractive and more intelligent individuals tend to be married relative to less attractive and less intelligent people.

Becker further examines this case, attempting to decipher whether individuals with different demographic characteristics mate. He concludes that mating will occur when the utility is raised relative to other marriages; Becker explains that "the association of likes is optimal when traits are complements and the association of 'unlikes' is optimal when they are substitutes." Since most situations involve like-characteristics, Becker suggests this as evidence that traits are usually complements.

In summary, Becker's theory is based on two assumptions: individuals try to maximize utility, and that a "marriage market" exists and is in equilibrium. As previously explained, different variables shape one's utility, such as the desire to have children, and spouses' incomes and wages. Finally, it is believed that men and women marry with similar, or like characteristics, enabling for the conclusion that traits are generally complements.

CHAPTER FOUR

DATA DESCRIPTION

The World Values Survey consists of a number of social scientists seeking to collect data to determine individuals' beliefs, morals, and motivations. The World Values Survey is considered the largest non-commercial, cross-national time series data, covering about 100 countries that represent 90 percent of the world's population. Engendered in 1981, "waves" are conducted over five-year periods; 1981-1984 (wave 1), 1990-1994 (wave 2), 1995-1998 (wave 3), 1999-2004 (wave 4), 2005-2009 (wave 5), and 2010-2014 (wave 6). The data utilized in this study are taken from all six currently available waves. Respondents answer questions regarding demographics, such as health, age, gender, education, and income; religious beliefs; and social and economic values and views.

The dependent variables in this paper are whether or not the respondent is married and the respondents' satisfaction with life. I use these two variables because the goal of the study is to determine if religion has an effect on both the likelihood of marriage and on the happiness payoff received from marriage. I gather information about the current state of marriage for the respondent, and use a dummy variable to indicate respondents' current marital status: married ("1") or not married ("0"). When determining if an individual is satisfied with their life, responses were provided on a 1-10 scale, with 1 being "completely dissatisfied," and 10 being "completely satisfied."

Independent variables are broken down into three categories: religion, gender and other demographic characteristics. Respondents are asked their religious

denomination, how often they pray (1-8; 1 being the most and 8 being the least), and the frequency of service attendance (1 being the most and 7 being the least). I use a series of dummy variables to indicate whether the respondent is Catholic, Protestant, Orthodox, Muslim, Hindu, and Buddhist. I create a variable called monthly to indicate whether respondents attend religious services at least once a month. In assessing whether individuals were religious or not, a survey question was asked whether or not respondents were "religious," measured by either "yes," "atheist," or "no." I recode "yes" to 1 and "atheist" and "no" to zero. Other factors taken into consideration were country of origin, age, level of education, and number of children.

The descriptive statistics are presented in Table 1. My sample includes 279,746 individuals from the World Values Survey. As shown in Panel I, the average response to the question of life satisfaction is 6.6 out of 10, with roughly half (51.8%) of the respondents being female. The average age of respondents is 40.8, with the youngest 15 years old and the eldest being 98 years old. 63.7 percent of the respondents are currently married, and the average level of education is 4.5 out of a maximum of eight. The average number of children per respondent is two; the maximum recorded is eight, and the lowest is zero. Out of the respondents, 82.7 percent claim that they were religious, attending services monthly; 22.6 percent are Catholic; 14.6 percent report as Protestant; 11.1 percent are Orthodox; 24.0 percent identify as Islamic; 3.0 percent are Buddhist; 3.3 percent report as Hindu; and 4.2 percent claim to align with "other religions."

Panel II of Table 1 highlights the summary statistics for only females; thus, the number of observations decreases to 144,978. The average reported life

satisfaction is 6.6 out of 10, and 62.8 percent report as married. The average level of

schooling is 4.4 out of eight, and the average age is 40.1. The average number of

children for each female respondent is 2.0, and 84.6 percent identify as religious.

Moreover, 23.6 percent are Catholic, 15.4 percent identify as Protestant, 12.2 percent

are Orthodox, 23.2 percent are Islamic, 3.0 percent report as Buddhist, 2.9 percent

identify as Hindu, and 4.3 percent are affiliated with another religion.

CHAPTER FIVE

EMPIRICAL MODEL

A: Empirical Model for Marriage

To begin with, I examine how religions affect the gender gap in the chances of getting married, using the following OLS model:

$$Marriage_{ijt} = \beta_0 + \beta_1 Religiosity_{ijt} + \beta_2 Dom\_religion_{ijt} + \beta_3 X_{ijt} + C_j + T_t + \epsilon_{ijt} \qquad Equation\ (1)$$

where *X* includes various individual characteristics, such as age, number of children, and education. *Religiosity* is measured in two ways: 1) a dummy variable indicating whether the person is religious or not; and 2) six dummy variables indicating whether one belongs to one of the major religions: Catholicism, Protestantism, Orthodoxy, Islam, Hinduism, and Buddhism. The frequency of prayer or service attendance is also controlled for. *Dom_religion* captures the historically dominant religion in the society in which an individual lives. The dependent variable of M*arriage* is a dummy variable for individual *i,* residing in country *j,* surveyed in wave *t*, where "1" represents married, and "0" represents not married. The country fixed effect, C_j, gathers systemic factors across different countries that may affect happiness, like national policies. Similarly, the wave fixed effect, displayed, T_t controls for wave-specific characteristics that could affect happiness for all individuals across a wave period; examples could include a global economic crisis, war, or natural disaster.

This model has three specifications. The first one compares religious people with non-religious people without differentiating various religions. The second specification investigates the gender gap in marriage across religious denominations. Lastly, because individuals who reside in an overwhelmingly religiously dominant

society may feel coerced into affiliating with that religion, results may get skewed. In attempt to rectify this issue, Equation (1) incorporates the variable *Dom_religion* to account for religiously dominated societies. This will ameliorate some of the unusually high correlation that exists from individuals residing in religion-dominant areas.

B: Empirical Model for Life Satisfaction

This model explores the relationship between life satisfaction, marriage and religion. After estimating the effect of religion on the gender marriage gap, I analyze the role of religion on the gender gap in marriage happiness payoff using the following OLS model:

$$SAT_{ijt} = \beta_0 + \beta_1 Fe_{ijt} + \beta_2 Marriage_{ijt} + \beta_3 Fe_{ijt} * Marriage_{ijt} + \beta_4 Marriage_{ijt} + \beta_5 X_{ijt} + C_j + T_t + \epsilon_{ijt} \qquad Equation\ (2)$$

where *SAT* is the level of life satisfaction for individual *i* residing in country *j* surveyed in wave *t*. *Fe* is a gender dummy variable, where "1" indicates female, while "0" indicates male. The variable *Marriage* is also a dummy, with 1 representing that an individual is currently married, and 0 denoting that an individual is not married. As seen in Equation (1), X_{ijt} denotes other individual factors that affect happiness, including age, number of children, and education. C_j and T_t are country and wave fixed effects. This model is estimated using sub-samples defined by each religion. In other words, I estimate the marriage happiness premium for Catholics, Protestants, Orthodox, Muslims, Hindus, and Buddhists separately.

In the aforementioned equation (2), β_2 represents the marriage happiness premium for males, while $\beta_2+\beta_3$ is the marriage happiness premium for females. β_3

represents the marriage happiness premium gap between females and males. One

drawback of this model is that marriage is endogenous. While I try to control for

many individual characteristics that may affect life satisfaction (age, number of

children, and education), there are other factors that are uncontrollable but may affect

marital status and life satisfaction simultaneously, inevitably creating some biases.

For example, parental background from respondents is something that cannot be

controlled for, and could affect both one's marital status and happiness.

CHAPTER SIX

RESULTS

A: Results on Marriage

Table 2 presents results on marriage estimated using Equation (1). I first seek to find the correlation between marriage and religion, age, education, and the number of children. I use a religious dummy variable to determine whether each respondent is affiliated with a religion or not. As seen in column 1, religious women are 1.4 (calculated using 0.027-0.013) percentage points more likely to get married than non-religious women. Women who attend religious services monthly see a 0.6 percentage point increase in the probability of marriage compared to religious women who did not attend service.

As to the gender gap in marriage, the results show that in general, females are less likely to get married than males. More specifically, non-religious women are 2.7 percentage points less likely to get married than are non-religious men. The gender gap in marriage is enlarged to 4.0 percentage points among religious people. The results on demographic variables indicate that individuals younger than 25 have a greater likelihood of getting married than those aged 25 or older. Education has a minor, but significant effect on marriage; one year of education increases the likelihood of being married by 0.1 percentage point. The number of children a respondent possesses is also positively correlated with the likelihood of getting married.

To test whether all religions intensify gender gap in marriage, I regress the likelihood of marriage on the six world religions. Column 2 presents the results. By summing the coefficients of specific religion and the *Female*Religion* interaction

variables, I derive the difference in the likelihood of marriage between religious and

non-religious females. The results show that for almost all of the religions studied,

there is an increased likelihood for religious females to get married relative to non-

religious females. The largest gap I encounter is with Hindu women, who are 9.9

percentage points more likely to get married than non-religious women. The only

exception is Orthodoxy: Orthodox women are 2.2 percentage points less likely to get

married than non-religious women.

Next, I compare the gender gap in marriage across different religions by

adding of the coefficients of the *Female* and *Female*Religion* interaction

variables. The results are varied by religious denomination as well. Figure 1 outlines

the gender gap in marriage. As can be seen, in almost all cases, religious women are

less likely to get married than their male counterpart. The only exception is for

Hinduism: Hindu females are slightly more likely to get married than males. The

largest gap is seen with Orthodoxy, where women are 9.3 percentage points less

likely to get married than Orthodox men; the smallest gap is seen in Islam and

Hinduism, where the gap between males and females is smaller than 1 percentage

point.

Because I anticipate that results may vary depending on the dominant religion

in each society, I estimate a similar regression as above, but incorporate societal

influence. The results are presented in column 3 of Table 2. Figure 2 outlines the

gender gap in marriage. The red bar shows the gender gap in marriage for religious

people residing in a dominant religious area (for example, Catholics living a society

that is dominated by Catholicism), while the blue bar is the average gender marriage

gap for religious people, no matter what kind of society they reside in, which just repeats Figure 1 for comparison. For Protestantism, Orthodoxy, and Buddhism, people affiliated with one of these religions living in a society dominated by the same religion experience a larger gender gap. In Catholic-dominated areas, the gender gap in marriage appears to decrease slightly. Again, similar to the small gender marriage gap for Muslims and Hindus, the gender gap for Muslims living in an Islam country and for Hindus living in a Hinduism country continues to be close to zero.

B: Results on Life Satisfaction

Table 3 presents the results on individuals' life satisfaction estimated by equation (2) using subsamples defined by each individual religion. The coefficient on the variable *female* indicates that unmarried Catholic and Orthodox women are less satisfied with life than are their unmarried male counterparts, while Protestant, Islamic, and Buddhist women appear more satisfied than males. The results on Hinduism are insignificant, indicating that unmarried females and males exhibit roughly equivalent levels of satisfaction.

The positive coefficient on the variable *Current Married* demonstrates that in all of the world religions studied, married males are significantly more satisfied than are unmarried males. The largest marriage happiness premium (MHP) for males is in Buddhism, where married males are 0.8 points more satisfied with life than unmarried males.

The sum of the coefficients of *Current Married* and *Current Married*Female* interaction represents the female MHP throughout the different religions. Again, Buddhist and Protestant females receive the highest happiness payoff from marriage,

while the marriage happiness payoff is relatively low for females who are adherent to Muslim, Hinduism, or Catholicism.

The coefficient on the Current Married*Female interaction variable indicates the gender gap in marriage happiness premium across various world religions. The gaps for Catholicism, Protestantism, Orthodoxy, and Hinduism are insignificant, suggesting that the MHPG is virtually nonexistent. However, there is a significant gender gap for Islam and Buddhism, but in opposite directions. In other words, Islamic males receive less satisfaction from marriage than Islamic females, while the Buddhist males receive more satisfaction from marriage than Buddhist females.

Combing results from Table 2 and Table 3, I find that for Buddhists and Hindus, their gender marriage gap reflects their gender gap in the happiness associated with marriage. Buddhist men are more likely to get married than women, and men also receive more happiness from marriage relative to women. For Hinduism, men and women are almost equally likely to get married, and their satisfaction from marriage is about the same. However, for people from other religions, their preference is not consistent with their marriage choice. Although a gender marriage gap exists for Catholics, Protestants, Orthodox, I fail to the see the differences in marriage happiness payoffs between males and females. While the story for Muslim is the opposite—women receive more satisfaction from marriage than males—their likelihood of being married is almost the same as males.

CHAPTER SEVEN

CONCLUSION

In this paper, I explore the interactions between religion, marriage, and one's subjective well-being, as measured by life satisfaction. I compare the likelihood of getting married and the happiness payoffs associated with marriage across six major religions and across genders. Ultimately, I seek to answer whether religious people's marriage choices are consistent with their preferences. Analysis indicates that religious females are generally more likely to get married than non-religious females, and those who regularly attend service notice an even greater likelihood of marriage. Specifically, Hindu women are 9.9 percentage points more likely to get married than non-religious females, the group of women who are mostly likely to get married. Surprisingly, Orthodox women are actually less likely to get married than non-religious females.

As to gender marriage gap, I find that generally, males are more likely to get married than females, and this gap is intensified by three Christian religions, but reduced by Muslim and Hindu. The largest gap is seen in Orthodoxy, where women are 9.3 percentage points less likely to get married than males. The smallest gap is seen in Muslim and Hindu, where the gender gap in marriage is close to zero. I further examine the gender gap in marriage by accounting for the effect of living in a religiously-dominated society. The results indicate that living in a society dominated by Protestantism, Orthodoxy, or Buddhism, the gender gap is exacerbated, but living in a country dominated by Catholicism, the gap decreases. For Muslims and Hindus, the gender marriage gap continues to be small even after accounting for the effect of

the dominant religion. Because marriage is typically associated with higher levels of life satisfaction, the fact that males tend to get married more frequently than females suggests that theoretically, males should have higher levels of satisfaction compared to females.

When exploring the results on life satisfaction, I find that across six major religions, Buddhist and Protestant males and females receive the highest level of satisfaction from marriage, while Islamic, Hindu and Catholic females receive lower satisfaction from marriage. When comparing happiness payoffs associated with marriage between males and females, I find that there is no significant gender difference for three Christian religions and Hindu. However, Muslim females receive more satisfaction from marriage than Muslim males, while Buddhist females obtain less satisfaction from marriage than their counterparts.

Connecting results on marriage and life satisfaction, I come up with these conclusions: both Buddhists' and Hindus' marriage decisions are consistent with their preferences: Buddhist males receive higher levels of satisfaction from marriage and they are more likely to get married. The happiness payoffs associated with marriage are similar for Hindu men and Hindu women, and as a result their gender marriage gap is close to zero. However, for the three Christian religions, females receive similar levels of satisfaction from marriage as males but they are less likely to get married than males. The case for Muslims is different: Islamic females receive more satisfaction from marriage but they are married at a similar rate as Islamic males. Thus, it can be concluded that Islamic and Christian females' marriage outcomes do not fully reflect their preferences. One possible explanation for this is that Islamic

women face too much pressure from parents, friends, and society if they do not get married. Once they get married, they are released; in other words, they feel more satisfied with their life, while Islamic males may not have such feeling. This can explain why Muslim women are more satisfied than men. Note that in our model, we do not control for family income or employment status. Another explanation could be that Islamic females face difficulties in finding jobs, and their income could be significantly increased after marriage, which could explain their higher happiness from marriage than Islamic males.

This paper also contributes to the discussion on determinants of happiness in the existing literature. My results align with Blachflower & Oswald (2004a), Elmslie (2014), and Ferreri-i-Carbonell & Gowdy (2007) that age is negatively associated with life satisfaction. As seen in Blachflower & Oswald (2004b), my results also indicate that education is positively associated with life satisfaction. When testing the conclusions discovered in Lee (2012) that stricter religions yielded greater levels of unhappiness, I conclude that this is generally the case, as females in restrictive religions like Islam tend to be more unsatisfied. Both Elmslie and Sander (2017) find that Catholicism and Protestantism result in the largest levels of happiness. In this paper, I find that married Protestant individuals received the second largest life satisfaction premium from marriage, behind only Buddhism.

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Figure 1: Gender Gap in Marriage amongst Various World Religions

Gender Gap in Marriage by Individual Religious Denominations
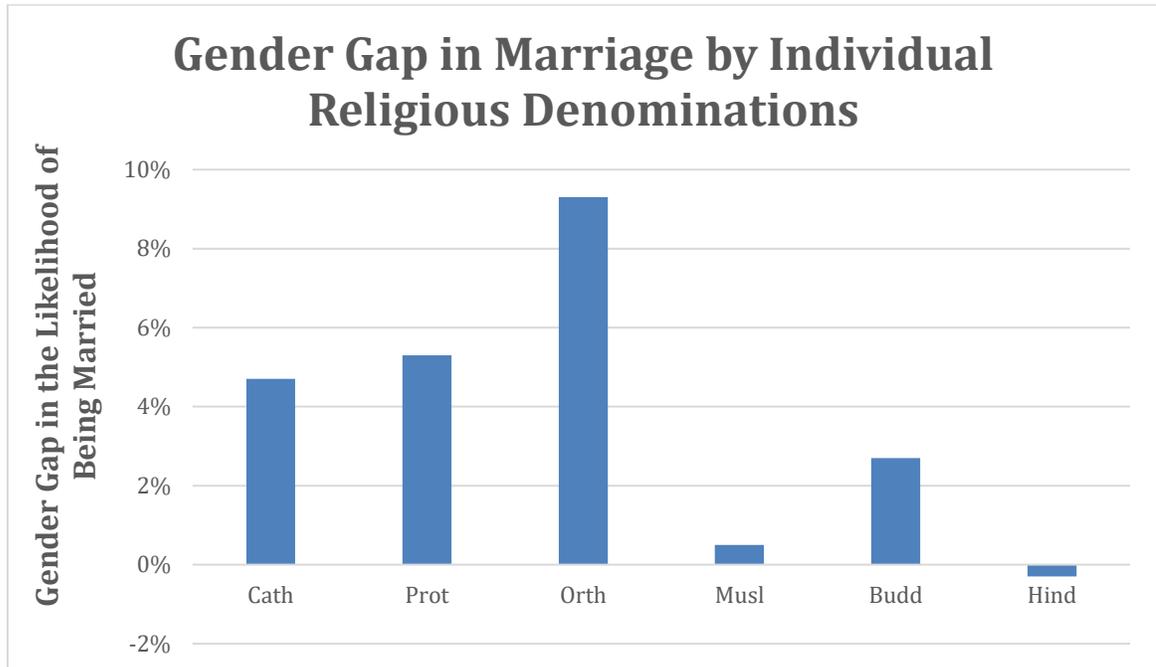
Notes: Results shown are the gender gap in the likelihood of being married across the six world religions studied.
Source: Data is from WVS. The chart reflects results from Table 2, Column 2.

Figure 2: Gender Gap in Marriage: Individual Religion vs. Individual +Social Religion

Gender Gap in Marriage
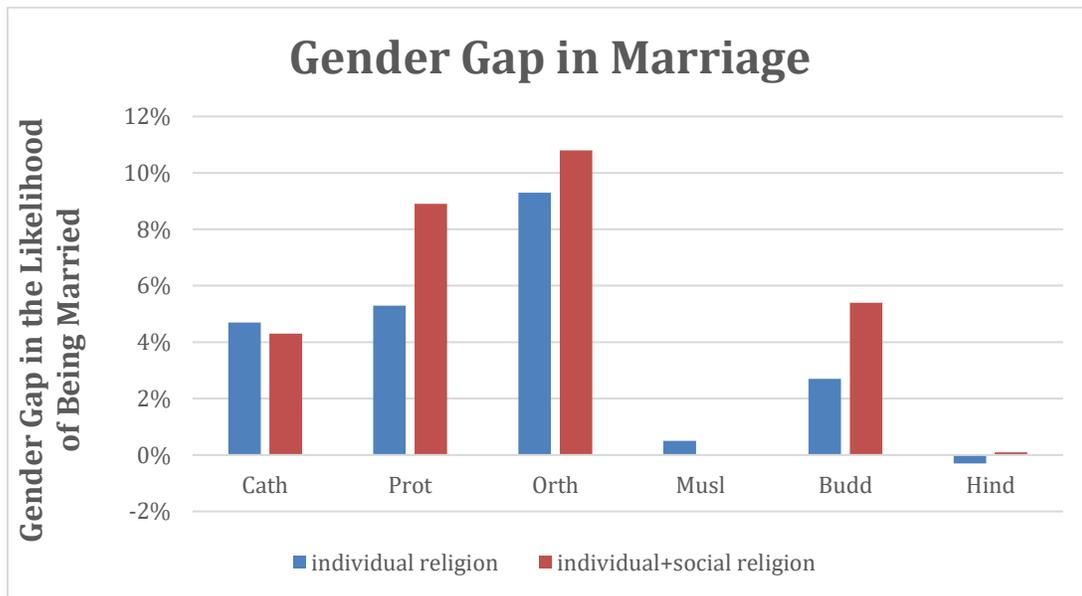
Notes: The blue bar represents the gender gap in marriage across the various religions, while the red bar represents the gender gap in marriage for religious individuals living in areas where that religion is dominant. For example, for Catholicism, the red bar is the gender gap in marriage when a Catholic resides in a Catholic-dominated society.

Source: Data is from WVS. The blue chart reflects results from Table 2, Column 2 and the red chart reflects results from Table 2, Column 3.

Table 1: Descriptive Statistics

Panel I: Whole Sample					
Variable	Obs.	Mean	Std. Dev.	Min	Max
Life Satisfaction	279,746	6.57663	2.448179	1	10
Current Married	279,746	0.637439	0.4807404	0	1
Female	279,746	0.5182487	0.4996678	0	1
Age	279,746	40.83221	16.13778	15	98
Education	279,746	4.487903	2.410474	0	8
Number of Children	271,192	1.936495	1.845839	0	8
Religious	279,746	0.827708	0.3776347	0	1
Catholic	279,746	0.2260443	0.418269	0	1
Protestant	279,746	0.1461183	0.3532254	0	1
Orthodox	279,746	0.11099	0.3141203	0	1
Islam	279,746	0.2397568	0.4269357	0	1
Buddhism	279,746	0.0297734	0.169962	0	1
Hinduism	279,746	0.0334875	0.1799061	0	1
Other	279,746	0.0415377	0.1995306	0	1

Panel II: Sample of Female					
Variable	Obs.	Mean	Std. Dev.	Min	Max
Life Satisfaction	144,978	6.605306	2.453989	1	10
Current Married	144,978	0.6280746	0.4833203	0	1
Female	144,978	1	0	1	1
Age	144,978	40.88613	16.12149	15	98
Education	144,978	4.355288	2.444778	0	8
Number of Children	140,759	2.029746	1.81437	0	8
Religious	144,978	0.8466043	0.3603697	0	1
Catholic	144,978	0.2356633	0.4244142	0	1
Protestant	144,978	0.1538164	0.3607739	0	1
Orthodox	144,978	0.1226393	0.3280238	0	1
Islam	144,978	0.2316765	0.4219049	0	1
Buddhism	144,978	0.0302874	0.1713775	0	1
Hinduism	144,978	0.0293976	0.1689187	0	1
Other	144,978	0.0431238	0.2031364	0	1

Table 2: Regression on Marriage

VARIABLES	(1) Current Married	(2) Current Married	(3) Current Married
Female	-0.027***	-0.027***	0.009*
	(0.004)	(0.004)	(0.005)
Monthly	0.006***	0.010***	0.010***
	(0.002)	(0.002)	(0.002)
Religious	0.027***		
	(0.003)		
Female*Religious	-0.013***		
	(0.004)		
Catholic		0.025***	0.030***
		(0.004)	(0.004)
Protestant		0.041***	0.044***
		(0.004)	(0.005)
Orthodox		0.044***	0.024***
		(0.005)	(0.006)
Muslim		0.026***	0.035***
		(0.005)	(0.006)
Buddhism		0.042***	0.049***
		(0.008)	(0.009)
Hinduism		0.069***	0.075***
		(0.009)	(0.010)
Other		0.008	0.018***
		(0.007)	(0.007)
Female*Catholic		-0.020***	-0.032***
		(0.005)	(0.006)
Female*Protestant		-0.026***	-0.035***
		(0.006)	(0.006)
Female*Orthodox		-0.066***	-0.025***
		(0.006)	(0.008)
Female*Muslim		0.022***	0.008
		(0.005)	(0.007)
Female*Buddhism		-0.016	-0.031***
		(0.010)	(0.011)
Female*Hinduism		0.030***	0.019
		(0.010)	(0.015)
Female*Other		-0.014	-0.035***
		(0.009)	(0.009)
Female*DomCath			-0.020***
			(0.006)
Female*DomProt			-0.063***
			(0.006)
Female*DomOrth			-0.092***

			(0.008)
Female*DomMusl			-0.017**
			(0.007)
Female*DomBudd			-0.032***
			(0.011)
Female*DomHind			-0.029**
			(0.014)
Age	0.050***	0.050***	0.049***
	(0.000)	(0.000)	(0.000)
Age Squared	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Education	0.001**	0.001***	0.002***
	(0.000)	(0.000)	(0.000)
# of Children	0.076***	0.076***	0.076***
	(0.001)	(0.001)	(0.001)
Constant	-0.449***	-0.458***	-0.455***
	(0.013)	(0.013)	(0.013)
Observations	271,192	271,192	247,148
R-squared	0.275	0.276	0.276

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Country and wave fixed effects are included in all regression.

Table 3: Regression on Life Satisfaction

VARIABLES	(1) Catholic Life Satisfaction	(2) Protestant Life Satisfaction	(3) Orthodox Life Satisfaction	(4) Islam Life Satisfaction	(5) Buddhist Life Satisfaction	(6) Hindu Life Satisfaction
Female	-0.082***	0.103***	-0.113**	0.122***	0.318***	-0.019
	(0.030)	(0.033)	(0.046)	(0.041)	(0.080)	(0.145)
Current Married	0.368***	0.746***	0.441***	0.291***	0.804***	0.266**
	(0.030)	(0.032)	(0.046)	(0.041)	(0.076)	(0.105)
CurrentMarried*Female	0.058	-0.007	0.100*	0.128***	-0.257***	0.184
	(0.038)	(0.041)	(0.056)	(0.050)	(0.093)	(0.156)
Monthly	0.294***	0.236***	0.149***	0.008	-0.049	0.315***
	(0.021)	(0.025)	(0.031)	(0.025)	(0.055)	(0.054)
Age	-0.043***	-0.064***	-0.100***	-0.057***	-0.044***	0.009
	(0.003)	(0.003)	(0.005)	(0.005)	(0.008)	(0.011)
Age Squared	0.000***	0.001***	0.001***	0.001***	0.000***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education	0.074***	0.069***	0.127***	0.088***	0.084***	0.145***
	(0.004)	(0.005)	(0.007)	(0.005)	(0.011)	(0.010)
Number of Children	-0.016**	0.025***	-0.024*	0.011	-0.020	-0.012
	(0.006)	(0.008)	(0.013)	(0.007)	(0.016)	(0.016)
Constant	7.595***	8.121***	5.612***	5.323***	6.241***	5.196***
	(0.104)	(0.101)	(0.107)	(0.370)	(0.197)	(0.253)
Observations	54,208	33,544	32,589	46,386	9,040	8,492
R-squared	0.113	0.137	0.175	0.087	0.048	0.102

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Country and wave fixed effects are included in all regression.