

KEERA ALLENDORF *Indiana University*ARLAND THORNTON, COLTER MITCHELL, LINDA YOUNG-DEMARCO, AND DIRGHA J. GHIMIRE
*University of Michigan**

Early Women, Late Men: Timing Attitudes and Gender Differences in Marriage

Around the world, women marry earlier than men, but it is not well understood why this gender gap exists. Using panel data collected in Nepal, the authors investigate whether attitudes about marital timing held by unmarried youth and their parents account for women marrying earlier than men. They also examine whether the influence of timing attitudes differs by gender. On average, unmarried youth and their parents viewed 20 to 25 as acceptable ages for women to marry, whereas ages 23 to 30 were appropriate for men. In turn, women entering the acceptable marriage age range earlier than men accounted for a third of the gender gap in marital timing. The influence of youth and parents' timing attitudes did differ by gender, but only at the extreme. When they were much too young for marriage, both genders were less likely to marry, but this dampening effect was substantially larger for women.

Marital timing differs by gender, with women marrying earlier in life than men. This gender differential holds across contexts. The singular

mean age at marriage is higher for men in all 114 countries for which the United Nations has data (United Nations, 2011). On average, men marry 3.3 years later than women in the world as a whole, ranging from a low of 1.8 years in North America and Northern Europe to a high of 6.6 years in Western Africa (Ortega, 2014). Furthermore, this gender gap of about 3 years has remained steady in recent decades, even as marriage is increasingly postponed and both men and women marry later in life (United Nations, 2016). This gender gap in marital timing is important because it has implications for gender differences in many other aspects of life. In much of the world, marriage is a key social institution that fundamentally shapes individuals' lives, influencing where and with whom they live, regulating access to resources, and shaping the well-being of themselves and their children.

Using panel data from Nepal, we investigated timing attitudes held by unmarried youth and their parents as one potential source of this gender gap in marital timing. Timing attitudes are subjective evaluations of particular ages as good or acceptable times for marriage. We examined whether valuation of younger ages at marriage for women than men accounts for a substantial portion of the gap in marital timing. We also investigated whether the influence of timing attitudes differs by gender. Timing attitudes about women may be more highly valued because they are tied to valuation of virginity

Indiana University, 1020 E. Kirkwood Ave., Bloomington, IN 47405 (kallendo@indiana.edu).

*University of Michigan, 426 Thompson St., Ann Arbor, MI 48106-1248.

Key Words: Asian/Pacific Islander families, gender, inter-generational, marriage and close relationships, union formation.

and childbearing. In turn, timing attitudes may have larger influences on women. In contrast, in patriarchal contexts such as Nepal, men have greater control over their own marriages, and men's marriages are key to continuing the family line. In turn, timing attitudes held by and about men may be more influential.

To our knowledge, this is the first study to address whether marital timing attitudes explain why women marry earlier than men and if the influence of such attitudes differs by gender. Furthermore, it is one of only a few studies on marriage to take an intergenerational approach, taking into account not only individuals' own attitudes but also those of their mothers and fathers. Previous studies on the United States, Europe, and East Asia examined gender differences in the influence of economic characteristics as well as some attitudes and beliefs. Yet they did not address timing attitudes, and only a handful report the extent to which the influences they examine account for women marrying earlier than men. Previous studies from non-Western, low-income contexts largely ignored gender differences altogether. Instead, studies on these contexts focused on identifying why some women marry early (during adolescence) and concentrated on explaining variation in marital timing among women rather than between women and men (e.g., Gyimah, 2009; Kamal, 2011; Kroeger, Frank, & Schmeer, 2015; Shapiro & Gebreselassie, 2014).

BACKGROUND

Gender Differences in Marriage

The two most influential theories of marital timing are Becker's (1981) specialization model and Oppenheimer's (1988) marital search model. Becker (1981) suggested that women exchange household production for men's income-earning capabilities. Thus, women marry younger than men because they need a husband to support them, and, if they are economically independent, women can forgo marriage entirely. In turn, employed men with high levels of income and education are more likely to marry, whereas women with those characteristics are less likely to marry. Oppenheimer (1988, 1997) agreed that historically men's income-earning capabilities were important for marriage, whereas attractiveness and household capabilities were more important for women. However, she suggested that gender roles and marriage markets

were changing over time, such that women's economic productivity outside the home was increasingly valued. Thus, women's economic status would not make them forgo marriage, but instead delay marriage by lengthening the period needed to develop their own economic capabilities and find a suitable husband. In turn, as women's economic status becomes more important, women marry at older ages and the gender gap in marital timing narrows.

Following these seminal frameworks, empirical research on marriage has a strong tradition of examining gender differences in economic influences on marriage as well as changes over time in those influences (Addo, 2014; Domínguez-Folgueras & Castro-Martín, 2008; Lloyd, 2006; McClendon, 2016; Piotrowski, Kalleberg, & Rindfuss, 2015; Xie, Raymo, Goyette, & Thornton, 2003; Yabiku, 2004; Yu & Xie, 2015). Many of these studies support the marital search model by finding that gender differences in economic influences did decline over time as women's economic status increased. For example, American and Korean men's education and employment status has had a consistently positive influence on marriage, whereas women's economic characteristics showed positive effects only among recent cohorts (Kim, 2017; Sweeney, 2002).

Most of these studies did not go on to address whether the gender gap in marital timing is explained by the characteristics they examined. Given their focus on gender differences in effects, most studies presented models separately for men and women and only examined whether, for example, the coefficient for education is larger or more positive for men than women (Addo, 2014; Lloyd, 2006; Piotrowski et al., 2015; Yu & Xie, 2015). The handful of studies that did investigate the extent to which the characteristics they examined account for the gender gap in marital timing provide mixed results. South (2001) and Sassler and Schoen (1999) reported that American women marry significantly earlier than men, even when adjusting for family background, attitudes toward gender roles, and socioeconomic characteristics. By contrast, Shafer and James (2013) found that gender differences in marital timing disappear once they adjusted for education and employment. Thus, even within the United States, previous studies have not clearly identified all factors that account for the gender gap in marital timing.

It is important to note that the interwoven nature of economic and ideational influences is implicit in the specialization and marital search theories. The immediate influence of individuals' economic characteristics, including education, employment, and income, are the focus of both theories. The ideational context shapes the size and direction of these economic influences, however. When excelling in the labor market is valued for a person's gender, individuals of that gender generally marry later and their economic characteristics positively influence marriage. Conversely, when excelling in the labor market is not valued for a person's gender, individuals of that gender generally marry earlier and their economic characteristics negatively influence marriage. Thus, for example, in gender-egalitarian Finland, where both men and women's productivity is highly valued, both men's and women's education, employment, and income promote marriage (Jalovaara, 2012).

Recent empirical and theoretical work has further extended the role of ideational factors from the contextual level to the individual level. Individuals' own valuation of their careers, beliefs in men's provider role and women's homemaker role, valuation of marriage in general, and attitudes about old age support have been shown to influence entrance into marriage (Barber & Axinn, 1998; Carlson, McLanahan, & England, 2004; Jennings, Axinn, & Ghimire, 2012; Koball, 2004). Moreover, newer demographic theories highlight the role of ideational factors as important sources of variation and change in marital timing. Developmental idealism theory points to the influence of values and beliefs that relate marriage and family to development (Allendorf & Thornton, 2015; Thornton, 2001, 2005), whereas Second Demographic Transition theory highlights secularization and individualism (Lesthaeghe, 2010; Lesthaeghe & Neidert, 2006; Van de Kaa, 1987).

Although this research suggests that ideational factors are important in all contexts, they may have special relevance in non-Western contexts. The specialization and marital search models were originally formulated to explain marriage in the United States and are shaped by particularities of the Western nuclear family system. Both models assume that newly married couples form their own households, and marriage occurs when a couple is economically able to form a household. Yet, as outlined by Hajnal

(1982), there are substantial swathes of the globe in which marriage does not customarily lead to the creation of a new household and does not require economic independence of those getting married. In such contexts, individuals' own economic characteristics may be less influential, giving greater space for the potential influence of ideational factors, including timing attitudes. Nepal customarily has an extended family system in which marriage does not lead to new households. Thus, our setting is one of the contexts in which ideational factors may be particularly relevant.

Timing Attitudes

Although past research on entrance into marriage has largely neglected timing attitudes, these attitudes are a focus of life course research, although they are usually referred to as age norms or deadlines (Liefbroer & Billari, 2010; Settersten & Mayer, 1997). For example, Liefbroer and Billari (2010, p. 290) define age norms as "expectations about the appropriate age at or age range within which behaviors should occur." Past work in this area has concentrated on establishing and describing timing attitudes for many life course events, including leaving the parental home, childbearing, and marriage (Aassve, Arpino, & Billari, 2013; Settersten & Hägestad, 1996).

Only a few studies have assessed whether timing attitudes influence individuals' entrance into marriage. Early studies using cross-sectional data found that individuals who value older ages at marriage were more likely to have married at older ages (Modell, 1980; Thornton & Freedman, 1982). Others used panel data to more rigorously assess the influence of timing attitudes. Most notably, Tosi (2017) found that age norms influence when young people in Italy leave their parental home as a result of marriage or other reasons. Specifically, young Italians living with their parents who thought they were too young to leave home were more likely to still be living with their parents 4 years later, rather than having left home for marriage or other reasons. These young Italians were also influenced by their parents' age norms; the youth were more likely to have left home if they perceived their parents as approving home-leaving for a person of their age. Similarly, in a companion paper, we found that timing attitudes of young people and their parents do influence young

people's entrance into marriage in Nepal (Allendorf, Thornton, Ghimire, Young-DeMarco, & Mitchell, 2015). Others have found that young people married significantly later when their mothers or neighbors valued older ages at marriage in the United States and Nepal (Axinn & Thornton, 1992; Thornton, Axinn, & Xie, 2008; Yabiku, 2006). Similarly, ethnic-specific norms about marital timing, known as *adat*, are significantly related to age at marriage at the aggregate level in Indonesia (Buttenheim & Nobles, 2009). None of these studies, however, examined whether timing attitudes explain why women marry earlier than men or whether their influence differs by gender.

Overall, previous research on gender differences in marriage established that there are gender differences in the influence of socioeconomic and ideational characteristics, but did not examine timing attitudes. On the other hand, previous studies on timing attitudes (or age norms) showed that such attitudes do affect marriage, but did not address gender differences in their effects, nor the extent to which they account for women marrying earlier than men. Thus, this article makes an important contribution to both literatures by addressing whether the influence of timing attitudes differs by gender and whether such attitudes explain why women marry earlier than men.

CONCEPTUALIZATION

The schemas that people hold provide ways of understanding the world and living within it (Fricke, 1997; Geertz, 1973; Johnson-Hanks, Bachrach, Morgan, & Kohler, 2011). People use such schemas to make decisions, both consciously and unconsciously, about how to behave (Bachrach, 2014; Johnson-Hanks et al., 2011; Swidler, 2001). When individuals' attitudes and beliefs are consistent with a particular behavior, individuals are more likely to engage in that behavior (Fishbein & Ajzen, 2010). Given the large number of potential schemas that can impact a behavior, especially one as multifaceted as marriage, we expect that the effect of any one will be relatively weak.

It is not simply individuals' own schemas that are influential, however. When it comes to marriage, the attitudes and beliefs of parents are also important. The role of parents is apparent in contexts with the custom of arranged marriage where parents themselves play a dominant role

in contracting the marriages of their children. However, parents play an important role in children's marriage even in contexts with considerable youthful autonomy, such as Italy and the United States (Thornton et al., 2008; Tosi, 2017). Parents' attitudes likely influence children's marriage in a variety of ways. Through exposure to their parents, children's attitudes often grow to resemble those of their parents through the process of socialization (Bandura, 1986; Chodorow, 1978). Children may also choose to act in accordance with their parents' attitudes rather than their own. Children often hold substantial amounts of respect and affection for their parents and may act in keeping with their parents' attitudes to please them or prevent their parents from experiencing shame and embarrassment. Even if children would rather not behave in accordance with their parents' attitudes, parents can coerce such behavior through control of resources, emotional and social pressure, and even violence (Chowdhry, 2007; Mody, 2008).

Timing attitudes and ideational factors more broadly may often mediate economic characteristics, but can also act as exogenous causal factors in their own right. The mediating role is highlighted in the specialization and marital search models discussed earlier. Older timing attitudes for men appear to be an outgrowth of the economic need for men to establish themselves economically, whereas younger timing attitudes for women are a product of women's need to quickly find a husband to support them. By contrast, the exogenous role is highlighted in developmental idealism theory. According to this theory, the dissemination of a powerful collection of values and beliefs that portray Western behavior as inherently good, modern, and causally connected to socioeconomic development motivated individuals around the world to adopt Western marriage practices (Allendorf, 2017; Allendorf & Thornton, 2015; Thornton, Dorius, & Swindle, 2015). Regardless of whether timing attitudes are mediating underlying economic factors or acting as exogenous causal forces, we view such attitudes as an important part of the marriage process and expect that they contribute to gender gaps in marital timing.

When contemplating marriage, there are a variety of relevant attitudes and beliefs that individuals could draw on. Timing attitudes—evaluations of particular ages, or a range of ages,

as good or acceptable times to marry—comprise one set of schemas that are relevant to entrance into marriage. We conceptualize timing attitudes as influencing marriage by shaping many smaller behaviors that lead up to marriage. Individuals and their parents likely begin searching for a potential spouse when the young person is close to or has reached the “right” age for marriage. When they reach the right age, individuals and their parents may also be more likely to accept marriage proposals. Conversely, those who receive a proposal for themselves or their child may reject the offer if they believe they or their child are too young. Furthermore, if individuals are later perceived to be “too old” for marriage, they and their parents may abandon the marital search as hopeless or inappropriate.

These dynamics could account for why women marry earlier than men. If young people and their parents value relatively young ages at marriage for women and relatively old ages at marriage for men, than women would enter the desirable marriage age range earlier. In turn, young women and their parents would experience these dynamics at younger ages than men and their parents, resulting in women marrying earlier.

Hypergamy is likely to play a role in this process as well. Timing attitudes for women are not determined in isolation from those for men. One reason that individuals may value relatively young ages at marriage for women and old ages at marriage for men is because they value hypergamy and want to ensure that wives are younger than their husbands. In turn, part of the effect of timing attitudes may be mediating related attitudes about hypergamy.

There is also reason to expect the size of the influence of timing attitudes to differ between men and women. On one hand, timing attitudes may have a greater influence on women’s behavior because timing attitudes about women are tied to the valuation of virginity and childbearing. In Nepal, as well as much of South Asia, women’s, but not men’s, sexuality is tightly linked to marriage, and young women are expected to remain virgins until marriage (Allendorf, 2017; Desai & Andrist, 2010). Women marrying young helps ensure that they do not have time to endanger their reputations through interactions with men. Furthermore, in Nepal, as well as many non-Western contexts, childbearing is expected to take place only within marriage and is often expected to start

relatively quickly after marriage (Ghimire, 2017; Gipson & Hindin, 2007). Undesirable ages for women’s marriage may be particularly disliked because they are ages at which women cannot have children or do so only at risk to themselves and their children. Maternal mortality, obstetric fistula, and other adverse outcomes are more common among very young mothers (Abdullah, Malek, Faruque, Salam, & Ahmed, 2007; Mehra & Agrawal, 2004). (Given that the vast majority of Nepali women marry well before their late 30s and 40s when fecundity begins to decline and health risks rise, concerns about older ages are probably of little relevance in Nepal.)

The combined pressure of childbearing and the valuation of virginity would also work to create a narrow range of acceptable marriage ages for women, which may further serve to increase the effect of marital timing attitudes on women. Limiting desirable marriages ages to ages in which young women are assured of virginal reputations would serve to push timing attitudes down toward menarche, which occurs in early adolescence. A girl becomes a sexual being and potentially vulnerable to a damaged reputation through interactions with men upon reaching menarche (Bennett, 1983, pp. 234–236). Thus, marrying close to the time of menarche ensures that girls’ reputations and purity are intact. Conversely, limiting desirable ages for marriage to those in which women are ready for childbearing serves to push timing attitudes up toward the older end of adolescence. In turn, the desirable range of marriage ages for women may be narrower than it is for men. A narrow age range may further motivate young women and their parents to work especially hard to marry within the desirable window.

There are also reasons to expect that timing attitudes held by men would be more influential. In highly patriarchal societies such as Nepal, men have more decision-making power and access to resources than women (Allendorf, 2007; Morgan & Niraula, 1995). This differential also applies specifically to marriage. In Nepal, as well as other contexts with patriarchal family systems and arranged marriage, men exercise greater control over the choice of their spouse than women (Allendorf, 2017; Caldwell, Reddy, & Caldwell, 1983; Ghimire, Axinn, Yabiku, & Thornton, 2006; Riley, 1994). This disparity suggests that men are better able to act on their attitudes, and, thus, men’s timing attitudes are more influential.

There is also reason to expect that timing attitudes about men may be more important than those for women, whether they are held by women or men. In a patrilineal and patrilocal context such as Nepal, sons' marriages hold special significance for their parents and the broader family. It is sons who carry on the family line, inherit family wealth, and are responsible for their parents in old age, and it is sons' wives who are expected to coreside with parents (Jennings et al., 2012; Karve, 1965; Niraula & Morgan, 1996). Thus, the importance of a son's marriage to the family may make parents' and sons' especially keen to ensure that men marry on time.

Finally, we should note that although marriage is fundamentally a two-sided process, our conceptualization takes a one-sided approach. Marriage is two-sided because it involves the behavior of the two people getting married and their families, a bride's side and a groom's side. In practice, we expect that both sides are influential. However, we are not able to assess the potential influence of the timing attitudes held by (future) spouses and parents-in-law because data on their timing attitudes are not available. Thus, in keeping with the analysis, our conceptualization takes a one-sided approach.

METHOD

Data

The data are part of the Chitwan Valley Family Study (<https://spe.psc.isr.umich.edu/research/cvfs.html>) and were collected from 2008 to 2014. Data collection began with a baseline survey of a representative sample of individuals aged 15 to 59 residing in Chitwan Valley, located in south-central Nepal. Current residents aged 12 to 14 in 2008 were also part of the data collection, but were administered the baseline interview on a rolling basis from 2008 to 2012 after they reached 15 years of age. In addition, parents of never-married respondents who were younger than 35 years old and spouses of original respondents were interviewed. These spouses and parents were interviewed even if they were not part of the original sample and lived outside Chitwan Valley, but not if they lived outside Nepal. The final sample of the baseline survey had a response rate of 97.1% and includes 5,802 individuals; 4,576 respondents aged 15 to 59 in 2008 who were interviewed in 2008, plus another 1,226 respondents aged 12 to

14 in 2008 who were interviewed upon reaching age 15. The baseline survey was followed by ongoing collection of data on marriages through 2014. These data were collected via household interviews conducted every 3 months. Thus, marriage data were gathered even if individuals moved outside Chitwan or Nepal after the baseline survey.

Our analytical sample comprises the 1,562 individuals at risk of first marriage with matching baseline interviews from both parents. We defined those at risk of first marriage as all never-married youth aged 15 to 24 at the baseline survey. (These 1,562 youth include 972 individuals aged 15–24 in 2008 who were administered the baseline survey in 2008 and 590 individuals aged 12–14 in 2008 who were administered the baseline survey on an ongoing basis after their 15th birthday.) Overall, 1,770 respondents were at risk of first marriage, but 208 of them did not have matching interviews from their mother and father because one or both parents were deceased, living outside of Nepal, or unavailable for interview. Thus, our analytical sample includes 88% of all youth at risk of a first marriage. We refer to these never-married youth as “children” to highlight their relationship to their parents and provide clarity in our intergenerational discussion.

It is important to note that the analytical sample has a skewed age distribution. At the time of the baseline survey, 40% of respondents were age 15, another 17% were 16, and only 18% were aged 20 to 24. This young age distribution is a result of the survey design and left truncation. Interviewing children aged 12 to 14 years in 2008 on an ongoing basis after their 15th birthday inflated the number of 15-year-olds and, to a lesser extent, 16-year-olds. Those aged 15 and 16 in the analytical sample include those aged 15 to 16 in 2008 and those aged 12 to 14 in 2008. (The survey design called for interviewing all 12–14-year-olds in 2008 when they reached 15, but some were not interviewed until they were 16.) Furthermore, in Nepal, many marry at relatively young ages in their late teens and early 20s. Thus, many individuals that were at the high end of the age range married before data collection began and were not eligible for the sample.

Measurement

Timing attitudes. Attitudes about marital timing were collected with six questions asked at the

baseline interview. Children and parents were asked to report their ideal age at marriage as well as the lowest and highest acceptable ages at marriage, for women and men separately. The exact questions were the following: (a) What do you feel is the ideal age for a [woman/man] to get married these days? (b) What would be the youngest age you would consider acceptable for a [woman/man] to get married these days? (c) What would be the oldest age you would consider acceptable for a [woman/man] to get married these days?

We expected that women marry earlier than men because women enter into the acceptable marriage age range at younger ages. Thus, our research question was really about the interplay of timing attitudes with young people's age, rather than timing attitudes in isolation. In keeping with this focus, our main variable of interest was a secondary, time-varying variable that compares children's ages to the range of acceptable marriage ages for their gender. In other words, we identified whether children would be perceived to be the "right age," "too young," or "too old" to marry.

Specifically, based on the lowest and highest acceptable ages at marriage for a person of their gender and time-varying age, we categorized children's person-months into the following five categories: (a) more than 5 years too young, (b) 3 to 5 years too young, (c) 1 to 2 years too young, (d) within the acceptable range (the right age), and (e) too old. For example, a man who is 7 years younger than the lowest acceptable marriage age for men is categorized as more than 5 years too young. We used three versions of this variable; one based on the child's own lowest and highest acceptable marriage ages for a person of their gender and two based on the parents' lowest and highest acceptable marriage ages for a person of their child's gender (one for mothers and one for fathers). Another benefit of using this categorical measure is that it appropriately allowed for a nonlinear effect of timing attitudes. We use "placement in the marriage age range" and the broader "timing attitudes" to refer to these three key measures.

Marriage. The dependent variable is the monthly hazard of entering a first marriage. The period of risk starts in 2008 for children aged 15 to 24 in 2008 and just after their 15th birthday for children aged 12 to 14 in 2008. Thus, each person-month is coded 0 for every month a child

remained unmarried and 1 for months in which a child married. Children remained at risk of marriage until they married or were censored when data collection ended in 2014. Marriage behavior did show the expected gender differential; 52% of daughters and 26% of sons married during the study period (Table 1).

Controls. The temporal ordering of our variables minimizes the potential for reverse causation. Yet the association could still be inflated by correlations with other factors that are associated with both timing attitudes and entrance into marriage. Thus, we included controls for children's education, nonfamily work experience, age, interactions of gender with age, and nonfamily work experience. We also controlled for household and parent characteristics, including caste and ethnicity, distance from the urban center, mothers' education, and fathers' education. In models with children's, mothers', and fathers' timing attitudes, we further included controls for the length of their acceptable marriage age range. We should note that children's education and work experience paired with parents' education adjusts for the economic characteristics of both the individual children and the broader household. By controlling for these economic characteristics, the measured effects of timing attitudes will include any effects of economic characteristics that are mediated via timing attitudes as well as effects of timing attitudes that are exogenous. (The measured effects of these timing attitudes will not include effects of the economic characteristics that operate via other pathways beyond timing attitudes.) We included the length of the marriage range because individuals may be more likely to marry in the acceptable age range when that range is shorter, whereas the effect of a longer range may be diffused over several years. Age is time varying, whereas all other controls are fixed at the baseline. We present the descriptive statistics for these variables in Table 1.

To provide the most conservative adjustment for age, we used several dummies for single years of age as well as interactions of the age dummies with gender. Age is strongly related to both entrance into marriage and timing attitudes. Thus, our analysis rests on identifying effects of timing attitudes and gender differences in such attitudes that are not because of correlations with age. Unlike a continuous measure of age, single-year dummies provide

Table 1. Descriptive Statistics for the Full Sample of Children (N = 1,562) as well as Daughters (n = 763) and Sons (n = 799) Separately

Variable	Children, %	Daughters, %	Sons, %	Differs by gender?
Married (during study period)	38.7	51.9	26.2	***
Caste/ethnicity				ns
Chhetri-Bahun	46.4	47.2	45.6	
Dalit	10.8	9.3	12.3	
Hill Janajati	20.9	19.8	22.0	
Terai Janajati	21.9	23.7	20.2	
Education				*
0–6 years	17.4	14.8	19.9	
7–9 years	53.5	54.8	52.2	
10–11 years	19.4	21.0	17.9	
12+ years	9.7	9.4	10.0	
Nonfamily work experience				***
None	61.9	55.6	68.0	
Unsalaries work	31.4	40.5	22.8	
Salaried work	6.7	3.9	9.3	
Distance from urban area	M: 8.4 SD: 4.0	M: 8.6 SD: 4.0	M: 8.3 SD: 4.0	ns
Mother's education				ns
None	62.0	62.4	61.7	
1–9 years	30.0	29.9	30.2	
10+ years	7.9	7.7	8.1	
Father's education				*
None	22.6	25.4	19.9	
1–9 years	52.4	49.9	54.7	
10+ years	25.0	24.6	25.4	
Time-varying age ^a				***
15	6.7	7.4	6.1	
16	11.2	12.2	10.4	
17	13.2	13.8	12.7	
18	13.9	14.2	13.7	
19	12.2	12.0	12.4	
20	10.6	10.7	10.5	
21	9.2	9.1	9.2	
22	7.2	7.0	7.4	
23	5.5	5.2	5.7	
24	4.1	3.7	4.5	
25	2.9	2.4	3.3	
26–27	2.8	2.2	3.4	
28–30	0.6	0.3	0.9	

Note. The last column reports the significance from chi-square and two-tailed *t*-tests of differences in the distributions by gender.

^a*n* person-months = 82,953.

* *p* < .05; *** *p* < .001.

greater control because their use does not force a consistent, linear relationship between each successive year of age and entrance into marriage. We further include interactions of age with gender to allow these age effects to vary between daughters and sons. Thus, for example, the effect of being 15 years old is allowed to differ between daughters and sons.

Analytical Strategy

We began our analysis by first establishing whether timing attitudes for women are indeed younger than those for men. Thus, we started with a descriptive examination of marital timing attitudes by gender. Next, we turned to our central questions, assessing if timing attitudes explain why women marry earlier than men and whether the influence of such attitudes on marriage differs by gender. To address these questions, we examined predicted probabilities based on discrete-time hazard models of marriage in which the person-month is the unit of analysis. Rather than analyzing the transition rate (*H*) directly in these models, we make a logit transformation (*H*/[1–*H*]), and estimate this as a function of the predictors using logistic regression (Petersen, 1993). All models were also adjusted for clustering within households and neighborhoods and rely on robust standard errors.

Our first central aim was to assess whether gender differences in the distributions of placement in the acceptable marriage age range explain why daughters marry earlier, or at higher rates, than sons. One approach would be to run a series of pooled models with both sons and daughters and assess whether the coefficient for gender moves closer to zero, indicating a reduction in gender differences as timing attitudes are added to the model. Yet this approach requires that the effects of all variables in the model be the same for sons and daughters. If we allowed the effect of any variable to differ by including interactions with gender, the coefficient for gender can no longer be interpreted as a straightforward measure of overall gender differences. The effect of work experience does differ significantly for sons and daughters (results not shown), and we wanted to allow for gender differences in age effects. Thus, it is inappropriate to assume that the effects of all variables are the same for sons and daughters; the model should include interactions with gender.

Rather than examining the coefficient for gender, we examined whether the gender difference in the predicted probabilities of marriage is reduced when timing attitudes are added to the model. Specifically, we compared gender differences in predicted probabilities of marriage across six models. The first model, which is our main comparison model, included only gender and control variables. The other five models added children's placement in the marriage age range according to their own, their mothers', and their fathers' timing attitudes. If gender differences in the distribution of placement in the marriage age range account for the gender gap in the entrance into marriage, then the gap between sons' and daughters' predicted probabilities of marriage will be reduced when children's placement in the acceptable marriage age range are included in the model. These probabilities were calculated as the average predicted probability for all sons in the sample held at their observed values and the average predicted probability for all daughters in the sample held at their observed values.

Our second central aim was to examine if the influence of timing attitudes differs by gender. If we had used ordinary linear regression, we would have addressed this goal by testing if the coefficients for children's placement in the acceptable marriage age range differ between daughters and sons. Specifically, we would have included an interaction of gender with placement in the marriage age range in pooled models of both sons and daughters and tested if the interaction terms were statistically significant. However, this approach may not be the best in our case because we used logit models. Unlike coefficients from ordinary linear regression models, coefficients from logit models are affected by residual variation (Allison, 1999; Williams, 2009). In turn, the comparison of coefficients across groups can be incorrect if residual variation differs across the groups. In this case, if residual variation differs by gender, tests of whether the coefficients for timing attitudes differ between sons and daughters could appear statistically significant even when the effects do not actually differ and vice versa.

Instead of comparing coefficients, we compared predicted probabilities of marriage derived from the models. Unlike logit coefficients, predicted probabilities are unaffected by residual variation (Long, 2009). Testing whether predicted probabilities are equal across sons and

daughters allowed us to examine gender differences without interference from undetectable differences in residual variation. This approach is not entirely parallel to testing for differences in coefficients however. When testing whether coefficients are equal, one test would parsimoniously indicate whether the effects of timing attitudes differ by gender overall. When comparing predicted probabilities, however, there is not one test. Instead, because predicted probabilities vary across different levels of the variables, we must use multiple tests at different levels (Long, 2009). In turn, there may not be one simple conclusion.

Because timing attitudes are measured with categorical variables, we examined gender differences among the predicted probabilities of marriage for each of the categories of placement in the marriage age range. We began by calculating the effects of timing attitudes separately for sons and daughters. We subtracted the expected probability of marriage for each of the categories outside the acceptable marriage age range from the probability of marriage within the acceptable marriage age range. For example, the effect of being 1 to 2 years too young on sons is the predicted probability of marriage among men within the acceptable marriage age range minus the predicted probability of marriage among men 1 to 2 years younger than the lowest acceptable age. Next, to examine whether these effects of timing attitudes differ between sons and daughters, we subtracted the sons' effects (or differences) from the daughters' effects. We tested whether differences in the predicted probabilities were different from zero using the delta method (Long & Freese, 2014). When calculating predicted probabilities for this question, we held all other variables in the model at the pooled means for sons and daughters together. Thus, any observed differences in the predicted probabilities are only a result of the differences in the effects of timing attitudes and not the gender differences in the distribution of other variables.

Finally, it should be noted that we present and tested transformed versions of the original predicted probabilities. Because our unit of analysis is the person-month, the predicted probabilities derived directly from the models are the probabilities of marrying in only one person-month and are extremely small. We transformed them into the expected probability of marrying within five person-years, or

60 person-months, of exposure to make them larger and more interpretable. If the predicted probability of marriage in one person-month is π_1 , we transformed it into π_{60} , the probability of marrying within 60 person-months, where $\pi_{60} = 1 - (1 - \pi_1)^{60}$.

RESULTS

Do Marital Timing Attitudes Differ by Gender?

The means and standard deviations of ideal ages at marriage as well as the lowest and highest acceptable ages are presented in Table 2. The mean ideal age for a woman to marry was 22.1 according to daughters, 21.7 according to their mothers, and 21.2 according to their fathers. The lowest acceptable age at marriage for women was just below the ideal age with means of 20.7, 20.5, and 19.9 for daughters, mothers, and fathers, respectively. The highest acceptable age was slightly farther away from the ideal with means of 25.3, 25.1, and 25.5, respectively. Overall, both daughters and their parents viewed the early 20s, roughly ages 20 to 25, as the desirable age range for women. The average length of this range was 5 years, specifically 4.6, 4.7, and 5.5 years according to daughters, mothers, and fathers, respectively.

The timing attitudes for men were older and more varied when compared with those for women. The mean ideal age at marriage for a man was 25.3 for sons, 26.0 for their mothers, and 25.2 for their fathers (Table 2). The mean lowest acceptable age was slightly below the mean ideal at 23 to 24, whereas the mean highest acceptable age was farther above the mean ideal at 29 to 30. Overall, sons and their parents viewed the mid and late 20s, roughly ages 23 to 30, as the desirable marriage age range for men. In turn, the desirable range for men was roughly 1 or 2 years longer than the range for women. The average length of the acceptable range for men was 5.3, 5.9, and 6.5 years, respectively, according to sons, their mothers, and their fathers. Further pointing to greater variation in attitudes for men, the standard deviations were consistently larger for men. The standard deviation for ideal, low, and high ages at marriage for men ranged from 2.7 to 3.7, whereas they ranged from 1.9 to 3.0 for women.

As expected, these gender differences in timing attitudes resulted in substantial differences in the distribution of sons' and daughters'

placement in the acceptable marriage age range. Overall, younger timing attitudes for women concentrated daughters' person-months within or close to the acceptable marriage age range for their gender. Conversely, older timing values for men concentrated sons' person-months well below the acceptable age range. Although there are slight variations in exact percentages, this pattern holds regardless of whether it is children's, mothers', or fathers' timing attitudes that define the acceptable marriage age range. Thus, for the sake of brevity, we discuss exact percentages only for placement in the marriage age range based on children's own timing attitudes as an illustrative example of this common pattern. As seen in Table 2, 31% of daughters' person-months were within their own acceptable marriage age range versus 17% of sons' person-months. Similarly, 26% of daughters' person-months were in the 1 to 2 years too young category, whereas only 15% of sons' were in the 1 to 2 years too young category. By contrast, daughters spent only 8% of their person-months more than 5 years too young, whereas sons spent 36% of their person-months in this youngest category. The two genders met in the middle at 3 to 5 years too young, with roughly a third of both sons' and daughters' person-months falling in this intermediate category. Such substantial gender differences in the distributions of children's placement in the acceptable marriage age range could account for a sizable amount of the gender gap in marital timing. (Conversely, if there had been only trivial gender differences in these distributions, then it would be impossible for timing attitudes to account for women marrying earlier than men.)

We should also note that our sample spent little time above the acceptable marriage age range. Sons and daughters were "too old" for marriage for less than 5% of their person-months according to children's, mothers', and fathers' timing attitudes. This scarcity is a result of a combination of left truncation, high marriage rates at young ages in the study area, and the length of the data collection period. As noted earlier, the data collection lasted for 6 years and followed a sample of never-married youth aged 15 to 24 years at baseline (or 12–24 years in 2008). Those who were at the younger end of this age range were still below or within the acceptable marriage ranges 6 years later at the end of the study. Individuals who were at the

Table 2. Distributions of Timing Attitudes by Gender Among Never Married Children and Their Parents (N = 1,562)

Variable	Children			Mothers			Fathers		
	Daughters about women	Sons about men	Differ? ^a	About women	About men	Differ? ^a	About women	About men	Differ? ^a
	M (SD)	M (SD)	t test	M (SD)	M (SD)	t test	M (SD)	M (SD)	t test
Lowest acceptable age at marriage	20.7 (1.9)	23.5 (2.7)	****	20.5 (1.9)	24.1 (3.0)	****	19.9 (2.0)	23.2 (2.8)	****
Ideal age at marriage	22.1 (2.2)	25.3 (2.9)	****	21.7 (2.3)	26.0 (3.5)	****	21.2 (2.4)	25.2 (3.1)	****
Highest acceptable age at marriage	25.3 (2.7)	28.8 (3.5)	****	25.1 (2.5)	30.0 (3.5)	****	25.5 (3.0)	29.7 (3.8)	****
Length of acceptable range	4.6 (2.3)	5.3 (2.7)	****	4.7 (2.2)	5.9 (3.1)	****	5.5 (2.6)	6.5 (3.2)	****
Daughters' age vs. own timing attitudes, % Sons' age vs. own timing attitudes, % This daughter's age vs. mother's timing attitudes, % This son's age vs. father's timing attitudes, % This daughter's age vs. father's timing attitudes, % This son's age vs. father's timing attitudes, %									
Placement in marriage age range ^a	8.4	35.8	****	7.5	45.6	****	6.0	35.8	****
More than 5 years too young	32.2	31.4		32.0	24.3		28.4	28.9	
3–5 years too young	26.1	15.4		24.6	12.7		24.1	15.3	
1–2 years too young	30.7	16.9		32.1	16.6		37.0	18.7	
In the acceptable range	2.6	0.5		3.8	0.8		4.5	1.4	
Too old									

Note. The "Differ?" columns show the results of chi-square and t tests of whether the timing attitudes differ by gender.

^an person-months = 82,953.

**** p < .001, two-tailed tests.

older end of this age range at the start of the study period and, thus, could have aged to become older than the oldest acceptable marriage age were relatively sparse. Many older individuals married prior to the start of the study and were not eligible to be in our sample in the first place or married during the study period before aging into the oldest category. The number of person-months in this older category was too small to provide robust estimates. Thus, contrary to our original plan, we did not go on to examine whether the influence of being perceived as “too old” differs between daughters and sons.

Do Timing Attitudes Explain Gender Differences in Entrance Into Marriage?

Next, we examined whether this substantial difference in the distributions of sons and daughters placement in the marriage age range explains daughters marrying earlier than sons. As described earlier, to address this question we examined whether daughters’ and sons’ expected probabilities of marriage converge as children’s placement in the acceptable marriage age range was added to the model. In Model 1, with only gender and controls, the expected probability of marriage was .50 for daughters and .22 for sons, resulting in a difference of .27 (with rounding error; Table 3). This gender gap of .27 was our baseline; we examined the extent to which it was reduced as children’s placement in the marriage age range—according to children’s, mothers’, and fathers’ timing attitudes—was added to the model. In Models 2 to 4, we added children’s placement in the acceptable marriage age range one by one, first according to children’s timing attitudes, then mothers’ attitudes, and finally fathers’ attitudes. The results of these show how much of the gender gap is explained by each family member’s timing attitudes individually. Next, Model 5 included placement in the marriage age range based on both mothers’ and fathers’ attitudes, showing how much of the gender gap parents’ attitudes explain together. Finally, Model 6 included children’s placement in the marriage age range according to all three family members’ attitudes, showing how much of the gender gap all three family members’ timing attitudes collectively explain.

We begin by describing how much each family member’s timing attitudes reduce the gender gap individually (Table 3, Models 2–4). When

children’s placement in the marriage age range according to their own timing attitudes was included in the model, the gap was reduced from .27 to .25, a reduction of 9% (Table 3). Mothers’ and fathers’ timing attitudes both individually reduced the gap to .23, translating to reductions of about 15% (Table 3). Thus, it appears that each parents’ timing attitudes explain slightly more of the gender difference than children’s own attitudes.

Next, we evaluated the combined impacts of family members. When children’s placement in the marriage age range according to both parents are included in the model, the gender gap falls from .27 to .20, a reduction of 26% (Table 3). When all three family members’ timing attitudes were included, daughters’ probability of marriage falls to a low of .44, whereas sons’ rises to a high of .26 (Table 3). The expected probability of marriage still differs significantly and sizably between sons and daughters, but the gap fell to a low of .19 (Table 3). Collectively, children’s and parents’ timing attitudes reduced the gender gap by 32%. Thus, timing attitudes did not account for the entire gender gap in the entrance to marriage, but they did explain a sizable portion.

Does the Influence of Timing Attitudes on Marriage Differ by Gender?

Earlier we assessed whether gender differences in the distribution of timing attitudes, or specifically children’s placement in acceptable marriage age ranges, explain the gender gap in marital timing. In other words, assuming that being the right age for marriage has the same effect on sons and daughters, does the concentration of daughters’ person-months within acceptable marriage ranges paired with concentration of sons’ person-months below the acceptable range account for women marrying earlier than men? As discussed earlier, however, the assumption that being the right age for marriage has the same effect on sons and daughters may be wrong. Thus, we next address whether the influence of timing attitudes differed between sons and daughters.

Because we had three sets of timing attitudes—those from children, mothers, and fathers—we examined potential gender differences in the influence of each family members’ attitudes in turn. To avoid multicollinearity problems, we evaluated gender differences in the effects of each family members’ timing

Table 3. Gender Differences in the Expected Probability of Marriage With 5 Years of Exposure

Model	Expected probability of marriage with 5 years of exposure		Gender difference, (D – S)	Relative change in difference (vs. Model 1), %
	Daughters	Sons		
1 Controls model: gender and controls	.50	.22	.27***	na
2 Child model: Model 1 plus child's placement in his or her own acceptable marriage age range	.48	.23	.25***	–9
3 Mother model: Model 1 plus child's placement in his or her mother's acceptable marriage age range	.47	.24	.23***	–14
4 Father model: Model 1 plus child's placement in his or her father's acceptable marriage age range	.46	.24	.23***	–17
5 Parents model: Model 1 plus child's placement in his or her mother's and father's acceptable marriage age ranges	.45	.25	.20***	–26
6 Family model: Model 1 plus child's placement in his or her own, mother's, and father's acceptable marriage age ranges	.44	.26	.19***	–32

Note. Controls include age, caste, distance from the urban center, education, work experience, mothers' education, fathers' education, an interaction of gender with work experience, an interaction of gender with age, and (in Models 2–6) length of the acceptable marriage age range. The expected probabilities are the average predicted probability for all sons in the sample held at their observed values and the average predicted probability for all daughters in the sample held at their observed values. The gender differences do not always exactly equal the daughters' probability minus the sons' probability due to rounding error. na = not applicable.

*** $p < .001$.

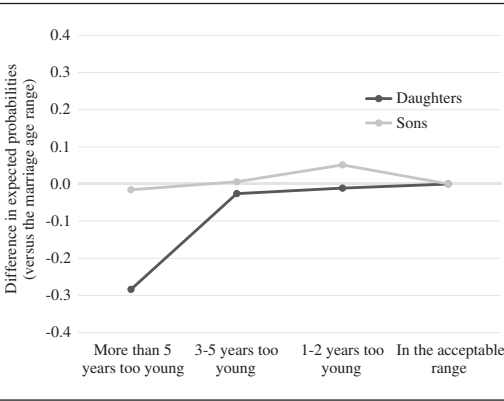
attitudes one at a time. Using three separate models, we evaluated gender differences in children's placement in the acceptable marriage age range according to children's own attitudes, then according to their mother's attitudes, and finally according to their father's attitudes. As noted earlier, the effects of timing attitudes were measured as the predicted probability of marriage inside the range of acceptable marriage ages minus the probability of marriage in a category below the acceptable range. (As noted previously, we did not assess potential gender differences in the influence of being too old for marriage because the number of person-months in this oldest category was too small to provide rigorous estimates.)

We began with children's own timing attitudes (Figure 1). A sizable gender difference in the influence of timing attitudes appeared only for the youngest category. Compared to being within the acceptable marriage range,

being more than 5 years too young for marriage substantially reduced the expected probability of marriage for daughters, but not sons. Specifically, daughters' probability of marriage was reduced by .28, whereas sons' was reduced only by .02, resulting in a large, statistically significant gender difference of .27 (.28 – .02 with rounding error; $p = .00$). By contrast, there were no gender differences in the influences of the other two categories that are closer to the acceptable age range. There was no gender difference because there was no effect of these categories for either gender; daughters and sons who were 3 to 5 years and 1 to 2 years too young for marriage according to their own attitudes were not less likely to marry than those who were the right age.

Next we turn to mother's timing attitudes (Figure 2). It appeared that mothers' timing attitudes have consistently larger effects on daughters than sons. Daughters' expected

FIGURE 1. EFFECTS OF CHILDREN'S TIMING ATTITUDES—DIFFERENCES IN EXPECTED PROBABILITY OF MARRIAGE BETWEEN CHILDREN'S PERSON-MONTHS WITHIN THEIR OWN ACCEPTABLE MARRIAGE AGE RANGE VERSUS THOSE IN CATEGORIES BELOW THEIR ACCEPTABLE RANGE.

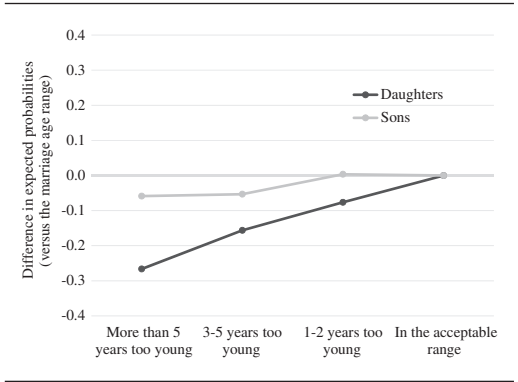


Note. The expected probabilities are based on models with controls for age, caste, distance from the urban center, education, work experience, mothers' education, fathers' education, an interaction of gender with work experience, an interaction of gender with age, and the length of the child's acceptable marriage age range.

probability of marriage was reduced more than sons' for each of the three categories below the acceptable range. Compared to those within the marriage range, daughters' expected probability of marriage was reduced by .08, .16, and .27, respectively, for those 1 to 2 years too young, 3 to 5 years too young, and more than 5 years too young. Sons' reductions in the expected probability of marriage were substantially smaller or nonexistent at .00, .05, and .06, respectively. Only the largest gender difference of .21 (.27 - .06) in the effects of the more than 5 years too young category was statistically significant ($p = .03$). The modest differences of .10 and .08 for the other categories of 3 to 5 and 1 to 2 years too young have p values of .23 and .24, respectively.

Finally, we examined gender differences in the influence of father's timing attitudes on their children (Figure 3). Again, there was a striking difference in the effect of the youngest category. Being more than 5 years too young for marriage according to their father's timing attitudes reduced daughters' expected probability of marriage by .27, whereas it reduced sons' by only .10. The resulting gender difference of .17 (.27 - .10) did not quite reach statistical

FIGURE 2. EFFECTS OF MOTHERS' TIMING ATTITUDES—DIFFERENCES IN EXPECTED PROBABILITY OF MARRIAGE BETWEEN CHILDREN'S PERSON-MONTHS WITHIN THEIR MOTHER'S ACCEPTABLE MARRIAGE AGE RANGE VERSUS THOSE IN CATEGORIES BELOW THEIR MOTHER'S ACCEPTABLE RANGE.

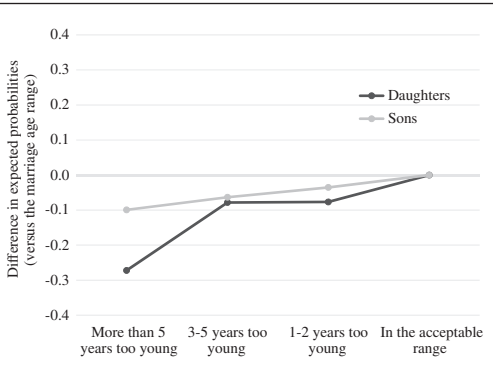


Note. The expected probabilities are based on models with controls for age, caste, distance from the urban center, education, work experience, mothers' education, fathers' education, an interaction of gender with work experience, an interaction of gender with age, and the length of the mother's acceptable marriage age range.

significance ($p = .09$). The other too young categories showed small and remarkably similar dampening effects on daughters and sons. When they were 3 to 5 years too young for marriage, daughters' and sons' expected probabilities of marriage were reduced by .08 and .06, respectively. When they were 1 to 2 years too young, the probability of marriage was reduced by .08 and .04, respectively. Not surprisingly, these slight gender differences of .02 (.08 - .06) and .04 (.08 - .04) were not statistically significant.

When we compared gender differences across children's, mothers', and father's timing attitudes there was a common pattern. The extreme category—more than 5 years too young for marriage—consistently showed substantial gender differences across all three family members' attitudes. Being much too young for marriage according to themselves, their mothers, and their fathers reduced both sons' and daughters' entrance into marriage, but much more so for daughters. By contrast, the effects of being only a little too young for marriage showed little to no gender differences across family members. The impact of being 1 to 2 or 3 to 5 years too young according to children's and fathers' timing attitudes showed no gender

FIGURE 3. EFFECTS OF FATHERS' TIMING ATTITUDES—DIFFERENCES IN EXPECTED PROBABILITY OF MARRIAGE BETWEEN CHILDREN'S PERSON-MONTHS WITHIN THEIR FATHER'S ACCEPTABLE MARRIAGE AGE RANGE VERSUS THOSE IN CATEGORIES BELOW THEIR FATHER'S ACCEPTABLE RANGE.



Note. The expected probabilities are based on models with controls for age, caste, distance from the urban center, education, work experience, mothers' education, fathers' education, an interaction of gender with work experience, an interaction of gender with age, and the length of the father's acceptable marriage age range.

differences; the point estimates were near zero and not statistically significant. According to mothers' timing attitudes, these somewhat too young categories had moderately larger effects on daughters, but these moderate gender differences were not statistically significant. Overall, the influence of timing attitudes was larger for daughters than sons, but this gender difference appeared only when children were much too young for marriage.

These findings also have implications for the earlier analysis in which we examined whether timing attitudes explain why women marry earlier than men. In the analysis presented in Table 3, we assumed that the effects of timing attitudes were the same for sons and daughters; any accounting for the gender gap in timing was only because of differences in the distribution of sons and daughters' placement in the acceptable marriage age range. Given the evidence of sizable gender differences in the influence of being more than 5 years too young for marriage presented in Figures 1–3, we also assessed whether our analysis of the gender timing gap would change if we allowed the influence of timing attitudes to differ between sons and daughters. Specifically, we conducted

the analyses presented in Table 3 with models that included interactions of gender with children's placement in the acceptable marriage age range. The results were virtually identical; the gender gaps differ from those presented in Table 3 by only .00 to .01 when the interactions of timing attitudes with gender were added. In turn, the differences in the point estimates of the gender gap translated into differences in the relative change of only one to four percentage points.

DISCUSSION

Given the incredible diversity of human behavior around the globe, the universal pattern of women marrying earlier than men is remarkable. Marital timing shapes education, access to employment and resources, living arrangements, childbearing, and many other aspects of life. Thus, gender differences in marital timing contribute to gender differences in family life, economic opportunities, and well-being. Yet despite its universality and importance, it is still not well understood why women marry earlier than men. In this article, we examined one factor that might account for this difference in marital timing—gender differences in the valuation of particular ages as good, or acceptable, times for marriage.

We found that timing attitudes explained a third of the gender gap in marital timing in Chitwan Valley. Daughters married earlier than sons in part because young people and their parents preferred younger ages at marriage for women. Specifically, although children and their parents viewed the early 20s as an acceptable time for marriage for women, they favored the mid and late 20s for men. Thus, daughters reached the right age to marry at younger ages than sons, which led to daughter's earlier entrance into marriage.

Because children's and parents' timing attitudes did not account for the entire gap, however, there must be other important factors that explain why women marry earlier than men. Part of the remaining gap may be explained by the timing attitudes of other people. As noted earlier, we were not able to take into account the timing attitudes of future spouses and parents-in-law. Furthermore, we did not take into account timing attitudes held by neighbors or at other collective levels. Thus, timing attitudes are likely to explain even more than a third of the gap.

Other ideational schemas, beyond timing attitudes, may also contribute to the gender gap in marital timing. As noted previously, attitudes about hypergamy may contribute to the gap. In Chitwan Valley and many other contexts, there is a widespread desire to match the age hierarchy to the gender hierarchy by ensuring that wives are younger than husbands. Such attitudes would lead to sons and their parents targeting younger brides and, conversely, daughters and their parents targeting older grooms. The valuation of women's virginity to prospective husbands and the parents-in-law is also likely to contribute to the gap. Men and their parents may disproportionately target young brides not directly because they are young, but because they have exemplary reputations. Furthermore, in South Asia, some believe that young brides are more malleable and better able to adapt themselves to their marital family. This belief would also lead to men and their families targeting younger women for marriage.

As pointed out by Becker (1981) and Oppenheimer (1988, 1997), economic factors are also likely to play a role in the gender gap. Yet these economic factors may play out in slightly different ways in Nepal and other South Asian contexts. Similar to Western contexts, men's employment in high-paying jobs in the formal sector are increasingly valued but take a long time to obtain and, thus, delay men's marriage. Any employment for women, on the other hand, is not highly valued like men's, but still appears to speed up rather than delay marriage in South Asia. In neighboring India, Desai and Andrist (2010) found that employed women were more likely to marry than unemployed women. They speculated that concern about daughters interacting with men while working outside the home prompts parents to marry employed daughters quickly to safeguard their reputations. Connections between dowry and age at marriage may also play a role in South Asia. Older brides usually require larger dowries, which provides an incentive for parents to marry their daughters at young ages when the financial burden is lighter. Unlike India and Bangladesh, though, large dowries are not commonly exchanged in Nepal. So we do not expect dowry concerns to play an important role in Chitwan Valley.

The other major contribution of this article was to assess whether the influence of marital timing attitudes differs by gender. We found that the timing attitudes of children themselves,

their mothers, and their fathers all had larger influences on daughters. This gender difference appeared only when children were much too young for marriage. Specifically, daughters that were more than 5 years too young to marry were substantially less likely to marry than daughters who were the right age for marriage. By comparison, sons that were more than 5 years too young for marriage according to their mothers and fathers were less likely to marry, but the dampening effect was smaller than that for daughters. Furthermore, sons' own timing attitudes had no effect on their entrance into marriage.

Although we expected gender differences, we were not able to predict the direction. On one hand, we expected that links to childbearing, valuation of virginity, and concerns about daughters' reputations might lead to greater influences of timing attitudes on daughters. On the other hand, the centrality of men's marriages for carrying on the patrilineal family and men's greater decision-making power might lead to greater influences of sons' timing attitudes. Our results are consistent with links to concerns about daughters' reputations and childbearing making timing attitudes more influential for daughters. Simply put, young women and their parents may scrupulously avoid marriage when they believe young women are much too young to leave the natal home and begin childbearing. These connections may also explain why son's own timing attitudes did not affect their behavior. Although they have greater control over their marriages than daughters, sons may not use that power to enact their timing attitudes because timing attitudes about men are not as highly valued as those about women. It is also possible that, contrary to our initial expectations, the importance of men's marriage to the patriarchal family devalues timing attitudes about men. When faced with the choice of a son marrying at the wrong time or not marrying at all, sons and their parents may well choose a mistimed marriage. Furthermore, because a daughter-in-law will become a member of their family and parents often live with their daughters-in-law, sons marrying the right girl, whenever she is found, may be much more important than marrying at the right time.

This article takes an important step in examining whether there are gender differences in the influence of timing attitudes and the extent to which such timing attitudes explain the gender gap in marital timing. Future research is needed to examine these questions in other contexts and

identify other factors that explain the remaining gap in marital timing. The particularities of the family system and gendered schemas may play an important role in these processes. In turn, contextual differences in family and gender systems may result in different findings elsewhere. Future studies, both in Nepal and elsewhere, should also evaluate the impacts of the value of women's virginity and hypergamy, beliefs about malleability, and other characteristics. Ideally, such studies should further elaborate the role of timing attitudes, including the impact of neighbors' attitudes and the simultaneous impacts of attitudes held by both brides' and grooms' sides.

NOTE

We thank the Institute for Social and Environmental Research in Chitwan, Nepal, which collected and processed the data. We also thank J. Scott Long for his help with predicted probabilities. The data collection and management were supported by the Eunice Kennedy Shriver National Institute of Child Health & Human Development of the National Institutes of Health under Awards R01-HD-054847 and R24-HD041028. The content of the article is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the Institute for Social and Environmental Research.

REFERENCES

- Aassve, A., Arpino, B., & Billari, F. C. (2013). Age norms on leaving home: Multilevel evidence from the European Social Survey. *Environment and Planning A*, 45, 383–401. <https://doi.org/10.1068/a4563>
- Abdullah, K., Malek, M. A., Faruque, A. S., Salam, M. A., & Ahmed, T. (2007). Health and nutritional status of children of adolescent mothers: Experience from a diarrhoeal disease hospital in Bangladesh. *Acta Paediatrica*, 96, 396–400. <https://doi.org/10.1111/j.1651-2227.2007.00117.x>
- Addo, F. R. (2014). Debt, cohabitation, and marriage in young adulthood. *Demography*, 51, 1677–1701. <https://doi.org/10.1007/s13524-014-0333-6>
- Allendorf, K. (2007). Couples' reports of women's autonomy and health-care use in Nepal. *Studies in Family Planning*, 38, 35–46. <https://doi.org/10.1111/j.1728-4465.2007.00114.x>
- Allendorf, K. (2017). Conflict and compatibility? Developmental idealism and gendered differences in marital choice. *Journal of Marriage and Family*, 79, 337–355. <https://doi.org/10.1111/jomf.12339>
- Allendorf, K., & Thornton, A. (2015). Caste and choice: The influence of developmental idealism on marriage behavior. *American Journal of Sociology*, 121, 243–287. <https://doi.org/10.1086/681968>
- Allendorf, K., Thornton, A., Ghimire, D. J., Young-DeMarco, L., & Mitchell, C. (2015, August). *A good age to marry? An intergenerational model of the influence of marital timing attitudes on the entrance into marriage*. Paper presented at the Annual Meeting of the American Sociological Association, Chicago, IL.
- Allison, P. D. (1999). Comparing logit and probit coefficients across groups. *Sociological Methods & Research*, 28, 186–208. <https://doi.org/10.1177/0049124199028002003>
- Axinn, W. G., & Thornton, A. (1992). The influence of parental resources on the timing of the transition to marriage. *Social Science Research*, 21, 261–285. [https://doi.org/10.1016/0049-089X\(92\)90008-5](https://doi.org/10.1016/0049-089X(92)90008-5)
- Bachrach, C. A. (2014). Culture and demography: From reluctant bedfellows to committed partners. *Demography*, 51, 3–25. <https://doi.org/10.1007/s13524-013-0257-6>
- Bandura, A. (1986). *Social foundations of thought and action*: Englewood Cliffs, NJ: Prentice Hall.
- Barber, J. S., & Axinn, W. G. (1998). Gender role attitudes and marriage among young women. *Sociological Quarterly*, 39, 11–31. <https://doi.org/10.1111/j.1533-8525.1998.tb02347.x>
- Becker, G. S. (1981). *A treatise on the family*. Cambridge: Harvard University Press.
- Bennett, L. (1983). *Dangerous wives and sacred sisters: Social and symbolic roles of high-caste women in Nepal*. New York: Columbia University Press.
- Buttenheim, A. M., & Nobles, J. (2009). Ethnic diversity, traditional norms, and marriage behaviour in Indonesia. *Population Studies—A Journal of Demography*, 63, 277–294. <https://doi.org/10.1080/00324720903137224>
- Caldwell, J. C., Reddy, P. H., & Caldwell, P. (1983). The causes of marriage change in south India. *Population Studies—A Journal of Demography*, 37, 343–361. <https://doi.org/10.2307/2174503>
- Carlson, M., McLanahan, S., & England, P. (2004). Union formation in fragile families. *Demography*, 41, 237–261. <https://doi.org/10.1353/dem.2004.0012>
- Chodorow, N. (1978). *The reproduction of mothering*. Berkeley, CA: University of California Press.
- Chowdhry, P. (2007). *Contentious marriages, eloping couples: Gender, caste, and patriarchy in northern India*. New Delhi: Oxford University Press.
- Desai, S., & Andrist, L. (2010). Gender scripts and age at marriage in India. *Demography*, 47, 667–687. <https://doi.org/10.1353/dem.0.0118>
- Domínguez-Folgueras, M., & Castro-Martín, T. (2008). Women's changing socioeconomic position and union formation in Spain and Portugal. *Demographic Research*, 19, 1513–1550. <https://doi.org/10.4054/DemRes.2008.19.41>

- Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.
- Fricke, T. (1997). The uses of culture in demographic research: A continuing place for community studies. *Population and Development Review*, 23, 825–832. <https://doi.org/10.2307/2137383>
- Geertz, C. (1973). *The interpretation of cultures: Selected essays*. New York: Basic Books.
- Ghimire, D. J. (2017). Social context of first birth timing in a rapidly changing rural setting. *Social Science Research*, 61, 314–329. <https://doi.org/10.1016/j.ssresearch.2016.07.001>
- Ghimire, D. J., Axinn, W. G., Yabiku, S. T., & Thornton, A. (2006). Social change, premarital nonfamily experience, and spouse choice in an arranged marriage society. *American Journal of Sociology*, 111, 1181–1218. <https://doi.org/10.1086/498468>
- Gipson, J. D., & Hindin, M. J. (2007). “Marriage means having children and forming your family, so what is the need of discussion?” Communication and negotiation of childbearing preferences among Bangladeshi couples. *Culture, Health & Sexuality*, 9, 185–198. <https://doi.org/10.1080/13691050601065933>
- Gyimah, S. O. (2009). Cohort differences in women’s educational attainment and the transition to first marriage in Ghana. *Population Research and Policy Review*, 28, 455–471. <https://doi.org/10.1007/s11113-008-9107-4>
- Hajnal, J. (1982). Two kinds of preindustrial household formation systems. *Population and Development Review*, 8, 449–494. <https://doi.org/10.2307/1972376>
- Jalovaara, M. (2012). Socio-economic resources and first-union formation in Finland, cohorts born 1969–81. *Population Studies*, 66, 69–85. <https://doi.org/10.1080/00324728.2011.641720>
- Jennings, E. A., Axinn, W. G., & Ghimire, D. J. (2012). The effect of parents’ attitudes on sons’ marriage timing. *American Sociological Review*, 77, 923–945. <https://doi.org/10.1177/0003122412464041>
- Johnson-Hanks, J. A., Bachrach, C. A., Morgan, S. P., & Kohler, H.-P. (2011). *Understanding family change and variation: Toward a theory of conjugal action*. Dordrecht, The Netherlands: Springer.
- Kamal, S. M. M. (2011). Socio-economic determinants of age at first marriage of the ethnic tribal women in Bangladesh. *Asian Population Studies*, 7, 69–84. <https://doi.org/10.1080/17441730.2011.544906>
- Karve, I. (1965). *Kinship organization in India*. Bombay, India: Asia Publishing House.
- Kim, K. (2017). The changing role of employment status in marriage formation among young Korean adults. *Demographic Research*, 36, 145–172. <https://doi.org/10.4054/DemRes.2017.36.5>
- Koball, H. L. (2004). Crossing the threshold: Men’s incomes, attitudes toward the provider role, and marriage timing. *Sex Roles*, 51, 387–395. <https://doi.org/10.1023/B:SERS.0000049228.77597.1a>
- Kroeger, R. A., Frank, R., & Schmeer, K. K. (2015). Educational attainment and timing to first union across three generations of Mexican women. *Population Research and Policy Review*, 34, 417–435. <https://doi.org/10.1007/s11113-014-9351-8>
- Lesthaeghe, R. (2010). The unfolding story of the Second Demographic Transition. *Population and Development Review*, 36, 211–251. <https://doi.org/10.1111/j.1728-4457.2010.00328.x>
- Lesthaeghe, R. J., & Neidert, L. (2006). The second demographic transition in the United States: Exception or textbook example? *Population and Development Review*, 32, 669–698. <https://doi.org/10.1111/j.1728-4457.2006.00146.x>
- Liefbroer, A. C., & Billari, F. C. (2010). Bringing norms back in: A theoretical and empirical discussion of their importance for understanding demographic behaviour. *Population, Space and Place*, 16, 287–305. <https://doi.org/10.1002/psp.552>
- Lloyd, K. M. (2006). Latinas’ transition to first marriage: An examination of four theoretical perspectives. *Journal of Marriage and Family*, 68, 993–1014. <https://doi.org/10.1111/j.1741-3737.2006.00309.x>
- Long, J. S. (2009). *Group comparisons in logit and probit using predicted probabilities*. Retrieved from http://www.indiana.edu/~jslsoc/files_research/groupdif/groupwithprobabilities/groups-with-prob-2009-06-25.pdf
- Long, J. S., & Freese, J. (2014). *Regression models for categorical dependent variables using Stata, third edition*. College Station, TX: Stata.
- McClendon, D. (2016). Religion, marriage markets, and assortative mating in the United States. *Journal of Marriage and Family*, 78, 1399–1421. <https://doi.org/10.1111/jomf.12353>
- Mehra, S., & Agrawal, D. (2004). Adolescent health determinants for pregnancy and child health outcomes among the urban poor. *Indian Pediatrics*, 41, 137–145.
- Modell, J. (1980). Normative aspects of American marriage timing since World War II. *Journal of Family History*, 5, 210–234. <https://doi.org/10.1177/036319908000500206>
- Mody, P. (2008). *The intimate state: Love-marriage and the law in Delhi*. Delhi, India: Routledge India.
- Morgan, S. P., & Niraula, B. B. (1995). Gender inequality and fertility in two Nepali villages. *Population and Development Review*, 21, 35–50. <https://doi.org/10.2307/2137749>
- Niraula, B. B., & Morgan, S. P. (1996). Marriage formation, post-marital contact with natal kin and autonomy of women: Evidence from two Nepali settings. *Population Studies—A Journal of*

- Demography*, 50, 35–50. <https://doi.org/10.1080/0032472031000149036>
- Oppenheimer, V. K. (1988). A theory of marriage timing. *American Journal of Sociology*, 94, 563–591. <https://doi.org/10.1086/229030>
- Oppenheimer, V. K. (1997). Women's employment and the gain to marriage: The specialization and trading model. *Annual Review of Sociology*, 23, 431–453. <https://doi.org/10.1146/annurev.soc.23.1.431>
- Ortega, J. A. (2014). A characterization of world union patterns at the national and regional level. *Population Research and Policy Review*, 33, 161–188. <https://doi.org/10.1007/s11113-013-9301-x>
- Petersen, T. (1993). Recent advances in longitudinal methodology. *Annual Review of Sociology*, 19, 425–454. <https://doi.org/10.1146/annurev.so.19.080193.002233>
- Piotrowski, M., Kalleberg, A., & Rindfuss, R. R. (2015). Contingent work rising: Implications for the timing of marriage in Japan. *Journal of Marriage and Family*, 77, 1039–1056. <https://doi.org/10.1111/jomf.12224>
- Riley, N. E. (1994). Interwoven lives: Parents, marriage, and guanxi in China. *Journal of Marriage and the Family*, 56, 791–803. <https://doi.org/10.2307/353592>
- Sassler, S., & Schoen, R. (1999). The effect of attitudes and economic activity on marriage. *Journal of Marriage and the Family*, 61, 147–159. <https://doi.org/10.2307/353890>
- Settersten, R. A., & Hägestad, G. O. (1996). What's the latest? Cultural age deadlines for family transitions. *The Gerontologist*, 36, 178–188. <https://doi.org/10.1093/geront/36.5.602>
- Settersten, R. A., & Mayer, K. U. (1997). The measurement of age, age structuring, and the life course. *Annual Review of Sociology*, 23, 233–261. <https://doi.org/10.1146/annurev.soc.23.1.233>
- Shafer, K., & James, S. L. (2013). Gender and socioeconomic status differences in first and second marriage formation. *Journal of Marriage and Family*, 75, 544–564. <https://doi.org/10.1111/jomf.12024>
- Shapiro, D., & Gebreselassie, T. (2014). Marriage in Sub-Saharan Africa: Trends, determinants, and consequences. *Population Research and Policy Review*, 33, 229–255. <https://doi.org/10.1007/s11113-013-9287-4>
- South, S. J. (2001). The variable effects of family background on the timing of first marriage: United States, 1969–1993. *Social Science Research*, 30, 606–626. <https://doi.org/10.1006/ssre.2001.0714>
- Sweeney, M. M. (2002). Two decades of family change: The shifting economic foundations of marriage. *American Sociological Review*, 67, 132–147. <https://doi.org/10.2307/3088937>
- Swidler, A. (2001). *Talk of love: How culture matters*. Chicago: University of Chicago Press.
- Thornton, A. (2001). The developmental paradigm, reading history sideways, and family change. *Demography*, 38, 449–465. <https://doi.org/10.2307/3088311>
- Thornton, A. (2005). *Reading history sideways: The fallacy and enduring impact of the developmental paradigm on family life*. Chicago: The University of Chicago Press.
- Thornton, A., Axinn, W. G., & Xie, Y. (2008). *Marriage and cohabitation*. Chicago: University of Chicago Press.
- Thornton, A., Dorius, S. F., & Swindle, J. (2015). Developmental idealism: The cultural foundations of world development programs. *Sociology of Development*, 1, 277–320. <https://doi.org/10.1525/sod.2015.1.2.277>
- Thornton, A., & Freedman, D. (1982). Changing attitudes toward marriage and single life. *Family Planning Perspectives*, 14, 297–303. <https://doi.org/10.2307/2134600>
- Tosi, M. (2017). Age norms, family relationships, and home leaving in Italy. *Demographic Research*, 36, 281–306. <https://doi.org/10.4054/DemRes.2017.36.9>
- United Nations. (2011). *World marriage patterns*. Retrieved from http://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2011-1.pdf
- United Nations. (2016). *Changing patterns of marriage and unions across the world*. Retrieved from http://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2016-2.pdf
- Van de Kaa, D. J. (1987). Europe's second demographic transition. *Population Bulletin*, 42, 1–57.
- Williams, R. (2009). Using heterogeneous choice models to compare logit and probit coefficients across groups. *Sociological Methods & Research*, 37, 531–559. <https://doi.org/10.1177/0049124109335735>
- Xie, Y., Raymo, J. M., Goyette, K., & Thornton, A. (2003). Economic potential and entry into marriage and cohabitation. *Demography*, 40, 351–367. <https://doi.org/10.2307/3180805>
- Yabiku, S. T. (2004). Marriage timing in Nepal: Organizational effects and individual mechanisms. *Social Forces*, 83, 559–586. <https://doi.org/10.1353/sof.2005.0023>
- Yabiku, S. T. (2006). Neighbors and neighborhoods: Effects on marriage timing. *Population Research and Policy Review*, 25, 305–327. <https://doi.org/10.1007/s11113-006-9006-5>
- Yu, J., & Xie, Y. (2015). Changes in the determinants of marriage entry in post-reform urban China. *Demography*, 52, 1869–1892. <https://doi.org/10.1007/s13524-015-0432-z>