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Abstract

Using Indonesian National Socioeconomic Surveys, this article outlines the trends in spousal differences in age and educational attainment from a sample of matched husband–wife data in the early 1980s and 2010. The spousal age gap has declined from 6.4 to 4.7 in the three decades. A trend in assortative mating is maintained as 50% of married couples have equal education levels in both 1982 and 2010. The proportion of women marrying someone of higher education is declining, and conversely, the proportion of women “marrying down” is rising. Higher level of wife’s education and increasing age at first marriage are found to be negatively associated with spousal age gap. Along with development, social change, and the recent accomplishment toward gender parity across all education levels in the country, changing patterns in such gaps are bound to transform gender relations and the power dynamics within Indonesian families.

Keywords

spousal age gap, assortative mating, Indonesia, gender, marriage transitions, marrying up, hypergamy

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Introduction

Of the many dimensions of changing marriage patterns in Asia, one aspect that has not been widely discussed in the contemporary literature is the husband–wife age and education disparities. In the recent past, it was stereotyped that women tended to marry someone who was older, better educated, and with supposedly better employment prospects than themselves. However, along with development, social change, and the recent accomplishment toward gender parity across all education levels in the region, it is interesting to examine whether any substantial shifts in the trend of women “marrying up” and conversely, of men “marrying down” have actually taken place. Focusing on these trends of demographic hypergamy is of interest, because a convergence in the demographic characteristics of married couples may affect gender dynamics within marriage and have a range of sociodemographic implications (Casterline, Williams, & McDonald, 1986; Olachek, Zhang, & Zhou, 2010).

Using Indonesia as a case study, this article poses two research questions.

Research Question 1: Has there been a change in the patterns of age and education gaps among matched husbands and wives in Indonesia between 1982 and 2010?

Research Question 2: How does spousal age gap relate to age at first marriage, wife’s education, age cohort, and regions?

In attempting to answer these questions, the article begins by outlining the past trends and the theoretical explanation behind demographic hypergamy from a range of disciplines. This theoretical review is followed by a discussion on the norms, attitudes, and preferences surrounding spousal characteristics in rapidly modernizing Indonesia. The third section outlines the data and methods used in the article, and the fourth section details the results of the analysis. The article concludes with a discussion of future trends of spousal age and education gaps and their implications for marriage practices and norms in Indonesia.

Literature Review

Marrying Up: Past Trends

The term hypergamy refers to the historic and global tendency for women to marry men of higher socioeconomic status. In comparing a set of matched husband–wife characteristics, this mating tendency is reflected by the norm

for women to marry men who are older, more educated, wealthier, or from a higher caste. Past studies in demography are inclined to focus on spousal age differences.

As opposed to looking at matched husbands–wives age characteristics, data constraints tend to steer demographers to use singulate mean age at first marriage (SMAM) to gauge husbands and wives' age gaps (e.g., Jones, 2009). In general, the gender difference in SMAM varies across region and over time, and it tends to be higher in developing than in developed countries. The 2008 World Marriage Data suggests that the gap for men and women's SMAM in Indonesia has fallen from 4.5 years in 1971 to 3.6 years in 2005 (United Nations, 2009). The gender gap in SMAM in Indonesia in 2005 was comparable to but slightly higher than that of neighboring Singapore (3.2 years) and Thailand (3.4 years). Malhotra (1997) demonstrated that using gender differences in the mean age at marriage differed significantly from measuring the age gap from a matched husband–wife data set. Using a sample from the Asian Marriage Survey conducted in 1978/1980, Malhotra found that the gender difference in the mean age at marriage for rural and urban areas in Java was 6.0 and 5.9 years, respectively. However, the spousal age gap from matched couple in the data set was lower, at 4.8 years in rural and 4.9 years in urban areas.

One important study that utilized matched couples' data from the World Fertility Surveys to examine the spousal age gap was published in 1986 by Casterline, Williams, and McDonald. In the 1980s, the regional mean for spousal age difference among a sample of women who had married only once and for less than 10 years was highest in Sub-Saharan Africa at 7.4 years. Latin America showed the smallest spousal age gap at 3.8 years, just slightly lower than the regional mean of Southeast Asia of 3.9 years. In Southeast Asia, Indonesia had the highest spousal age gap at 4.9 years, whereas the Philippines had the lowest gap at 2.5 years (Casterline et al., 1986). To date, there have been no systematic studies that investigate the changing patterns of relative educational attainment among married couples in Indonesia over time. However, a cross-sectional study using the urban sample of the Population Module of the 2000 Census indicated that the educational attainments between husbands and wives are highly correlated at 0.67 (Utomo, 2008). Furthermore, treating senior high school and vocational senior high school graduates as having equal level of educational attainment, about half of the urban couples had both partners with equal educational attainment, with another 37% showing relatively higher educational attainment for the husbands. In Utomo's study, it is suggested that the strong correlation in couple's education is attributed to the prevailing class structure in Indonesia where husbands and wives are likely to come from similar educational

backgrounds. Furthermore, the social context of marriage in Indonesia includes the preference for wives to have similar educational attainment to their husbands but not higher (Rahardjo & Hull, 1984).

Why Women “Marry Up”

A considerable amount of literature across disciplines has theorized the long-standing trend of marrying up. Behavioral scientists frame hypergamy in the context of evolutionary preferences in mating choice that would ensure reproductive success (Buss & Barnes, 1986). Sexual differences in the preferred qualities for suitors are theorized to have originated from natural selection. It is argued that men and women behave differently in parental investment, with women focusing on ensuring that the resources acquired by men are actually invested in their offspring (Epstein & Guttman, 1984). In this manner, women highly value suitors possessing wealth and status that indicate their capacity for resource acquisition, hence, older men. In contrast, men favor women with high reproductive value as denoted by youth and physical attractiveness. A study of Hungarian couples in the late 1980s suggests that women who marry older and more educated men have significantly more surviving children and stay longer in their marriages relative to those with alternative mating strategies (Bereczkei & Csanaky, 1996).

A similar line of reasoning is taken up by economists to explain the spousal age and, to a lesser extent, education gap. In the economics literature, gender differences in fecundity are argued to be the reason behind the spousal age gap and the associated household division of labor. Becker (1991) hypothesized that an individual's gain in marriage is maximized through household specialization of labor, where the husband's comparative advantage lies in breadwinning and wives specializing in the domestic and reproductive spheres. Assuming that the overarching intention behind marriage is to have children, the potential gain from household specialization of labor together with the biological constraint that women are fecund for a shorter period of time than men are the premise for more recent economic models seeking to explain why older men are more attractive for women (Vella & Collins, 1990) and, conversely, why young fecund women are more valuable in the marriage market (Siow, 1998).

Given the biological foundation behind the spousal age gap, it has been postulated that the gap is likely to fall as fertility falls. Using the natural experiment of China's one-child policy, Polachek et al. (2010) demonstrated that both age and education gaps in marriage tend to narrow as the demand for children falls: The fall in fertility rates by 1.2 to 1.4 births per women was

accompanied by a concomitant narrowing in the disparities of husbands and wives by age (0.5-1.0 years) and by education (1.0-1.6 years; Polachek et al., 2010).

In comparison to the burgeoning literature on the rising age at marriage, relatively little attention has been given by demographers to theorizing marrying up. Studies on spousal age difference, typically assessing the correlates of age hypergamous/age homogamous marriage, were mainly conducted in the Western context (Atkinson & Glass, 1985; Bytheway, 1981; Van Poppel, Liefbroer, Vermunt, & Smeenk, 2001). One major study on spousal age gap that included Indonesian data was published in 1986 (Casterline et al., 1986). Rather than focusing on the underlying cause of the spousal age gap per se, Casterline et al. (1986) examined the *regional variation* in spousal age gaps and attributed it to three possible broad factors.

The first set of factors, coined as explicit preferences regarding age differences in mating, is the product of the existing social structures, including the interrelated psychological and cultural preferences in spouse selection. An example of this set of factors is found within the kinship system (Caldwell, Reddy, & Caldwell, 1983; Jones, 2009).

Another example is given by Edlund (1999), who theorized that son-preference in many Asian countries has not only caused unbalanced sex ratios but also has consequently implied that under increasing availability of prenatal sex selection, girls are more likely to be born into the underclass. Here, son-preference is argued to have been driving the marriage patterns, as manifested in spousal age gaps, women marrying up, and caste endogamy.

The second set of factors encompasses random elements in the marriage process that regulate age at marriage for men and women independently from the preferences for age differences. However, by examining the comparison of observed and expected age-difference distributions, Casterline et al. (1986) demonstrated that this reasoning carries little weight in explaining the regional variation in the spousal age gap.

The final set of factors is grouped as demographic determinants. For example, Abramitzky, Delavande, and Vasconcelos (2011) argue that the sex ratio in the pool of men and women of marriageable age could alter the trend of marrying up. They demonstrated that following World War II, the scarcity of marriageable men in French regions suffering from high mortality rates manifested in the fall in spousal age gap and in the likelihood of men marrying someone from a lower social class.

Among these alternative dynamics pertaining to the spousal age gap, Casterline et al. (1986) concluded that two interrelated variables within the social structure set—kinship structures and women's roles—explain much of

the regional variation in the age gaps. They argued that the spousal age gap tends to be larger in patriarchal societies and in those with patrilineal kinship systems. In contrast, in societies where women have an improved or a relatively equal status in marriage and in the public sphere, the spousal age gaps tend to be small.

As the concomitant processes of development and social change take place across Asia, gender roles in marriage are being continually redefined, and it remains to be seen whether demographic hypergamy would continue to be the norm. Indeed, Bumpass (1990) suggests that women's changing roles may change the nature of the "mate selection process, the nature of the marriage mate's selection . . . , the nature of marriage bargains . . . , and marriage relationships and marital stability" (p. 490).

Male Breadwinner Ideals and "Marrying Up" in Contemporary Indonesia

Indonesia, a country of more than 230 million people with the world's largest number of Muslims, provides an interesting case study on how transitions in marriage patterns are taking place in the broader interrelated processes of demographic transitions, economic development, democratization, globalization, and the redefinition of gender roles. For the country as a whole, the total fertility rate fell from 5.61 children per woman in 1971 to 2.41 in 2010 (BPS-Statistics Indonesia, 2011). The net enrollment rate for senior secondary school rose from 17% in 1970 to 42% in 2005 (Arze del Granado, Fengler, Ragatz, & Yavuz, 2007). Between 1971 and 2000, female labor force participation rate increased from 32% to 57% (BPS-Statistics Indonesia, 2001; Manning, 1998). In the academic year 2003/2004, women made up almost 50% of graduates from tertiary institutions (DEPDIKNAS, 2007). For females, the SMAM has steadily increased from 19.7 in 1964 to 23.4 in 2005 (Jones, Hull, & Mohamad, 2011). In the same period, the corresponding SMAM for males rose from 23.5 to 27.

Arguably, rising educational attainment for females, increasing female employment, and the corresponding increase in female age at marriage are among the principal correlates behind the potential weakening of marrying up in Indonesia. In discussing the spousal age gap in particular, it is interesting to observe that after much political rhetoric surrounding early marriage in 20th century Indonesia (Blackburn & Bessell, 1997), dating back to the Marriage Bill in 1974, the legal minimum marriage age under the current law in Indonesia differs for each sex: 16 for women and 18 for men. During the 1980s, the national family planning program campaigned for a 5-year spousal age gap,

advocating for 20 and 25 years as the ideal marriage age for women and men, respectively. More recently, there have been calls by both government institutions and nongovernmental organizations to increase the minimum legal age at marriage, including the push by the National Population and Family Planning Board (BKKBN) to legislate a new minimum age at marriage of 21 for both men and women (Jakarta Globe, 2012). However, such suggestions remain contested, with notable resistance from a number of Islamic organizations across the country.

The literature on gender role ideals in marriage in Indonesia points to a web of religious interpretations, ethno-specific traditions, and state-promoted gender ideologies (Blackburn, 2004; Utomo, 2012). At the center of these gender ideologies is the concept of *Kodrat*, loosely defined in this context as the complementary roles in marriage for a husband and wife as God had intended: the husband as the leader and the financial provider of the family and the wife as the one responsible in the reproductive and domestic spheres. In the urban contemporary context, the male breadwinner marriage model has been reshaped to accommodate emerging dual-earner ideals with the husband as the main breadwinner and the wife as a secondary earner (Nilan, 2008; Utomo, 2012). To some extent, these entrenched norms may explain why the dominant discourse surrounding the ideal age of marriage differs for each sex. By age 25, a man is expected to have made a successful transition to employment and be somewhat financially ready to start a family. In contrast, at age 20, a woman would either have barely graduated from her tertiary education or have 2 years of work experience after graduating from senior high school.

It should be noted that the patterns in transition into marriage in the vast archipelago of Indonesia vary across regions and socioeconomic groupings. However, one strategy for canvassing the prevailing set of ideals and preferences in the marriage market is to look at the young and educated urban middle class. This particular segment of the population serves as an ideal sample to delve into the dynamic relationship between modernity, development, and the changing ideational factors surrounding “marrying up.”

A study on the gender role expectations in marriage among students across 12 universities in Jakarta and Makassar in 2004 suggests that although a preference for dual-earner household dominates the sample, the male-dominant ideals still resonate through the respondents’ gendered preference on spouse qualities (Utomo, 2008). Women prefer older husbands, with equal or slightly higher educational qualifications than themselves. More than 60% of women in both samples prefer older husbands, and 60% of women in Jakarta and 41% in Makassar do mind if their partners had lower relative educational qualifications. Conversely, about 80% of males in Jakarta and Makassar do not mind if their partner has a lower education, and the largest proportion of

men in both samples prefer a younger spouse (56% to 63%; Utomo, 2008). Utomo argued that the dominant preference for spousal age difference and relative education found in her study was in line with the prevailing expectations for men to be the primary breadwinners and women to be the secondary earners in dual-earner marriage. Another study poses a similar argument. Taking on a discourse analysis of personal advertisements for spouse in a national newspaper in 2007, Nilan (2008) highlighted the contested nature of the ideal spouse where traditional ideals on spouse qualities are matched with more *modern* notions.

This man's wife will ideally be shorter, younger and less educated, encoding his traditional superior marriage position. Yet, on a more modern note, he wants a wife who is a public servant, or with a similar job to his own. (Nilan, 2008, p. 78)

Although the preference for the older male breadwinner is maintained among the urban educated young people in the sample, Utomo (2008) observed a shift in the discourse surrounding educational hypergamy during her fieldwork. An illustrative example in KOMPAS (2004) draws from the trends in middle-class wedding invitations in urban Jakarta that reflects the changing tides brought by women's advancement in education.

In the "old" trends, middle-class brides and grooms would normally put their academic titles following their names. In the 1960s and 1970s, most often, only the groom would have a degree. The "old" norm of a husband and wife relationship was to feature the comparative education of the couple: the husband having a higher level of human capital qualifications than the wife, like the doctor and the nurse, or a manager and his secretary. As more and more women became educated, an increasing number of brides displayed their own academic titles that were on a par with the groom. However, among the Jakarta middle class, having a local bachelor degree has become "common" for both the bride and the groom and it no longer stands as a marker of high social status. It is becoming increasingly trendy to exclude academic titles on invitations. (p. 13, own translation)

The above literature on the ideals for spouse qualities in Indonesia seems to be consistent with the theory of Casterline et al. (1986) that a culturally explicit set of preferences may explain the observed age gap and, to a lesser extent, the education gap of husbands and wives. The question of interest is whether these ideals and preferences of the educated elite are representative and can be observed in the rest of the population. I hypothesize in this study that women's advancement in education, their increased participation in paid

employment, and increasing age at first marriage in the past decades narrow the age and education gaps among married couples.

Data and Method

A husbands and wives subset is created from the National Social and Economic Survey (SUSENAS) series, containing all currently married individuals whose relationship to the head of household was either the head of household or their spouse. By selecting in such a way, the analysis, unfortunately, excludes some couples, especially young couples living with their parents/in-laws/relatives. Furthermore, one-person households and polygamous couples living under one household are also excluded. In total, only a small proportion of couples were excluded. For example, in SUSENAS 2010, 716 individuals or 0.15% of the total currently married men and women ($n = 468,486$) were excluded from the analysis. The analysis includes a total of 38,082 married couples from SUSENAS 1982; 53,674 from SUSENAS 1992; 153,585 from SUSENAS 2002; and 233,838 married couples from SUSENAS 2010.

The analysis of the matched husband–wife subsets are organized into three parts. The first part uses descriptive analysis and examines the trend in the spousal age gaps and age correlation across 1982, 1992, 2002, and 2010. The second part looks at the trend in spousal educational gaps and correlation in 1982 and 2010. The third part of the analysis explores the predictive relationship between the spousal age gap and wife's sociodemographic characteristics using the 2010 SUSENAS subset. For this analysis, a new subset is created, excluding extreme cases whereby the age difference is more than 30 years (upward and downward). Removing these extreme cases reduced the sample size by 0.2%.

Methods: Correlates of Spousal Age Gap

The primary objective in this part of the analysis is to assess the hypothesis that there is a negative association between age at first marriage and the spousal age gap at the individual level among currently married women in 2010.

The dependent variable for the ensuing analyses is spousal age gap in years. The 2010 SUSENAS did not collect data on religion, ethnicity, husband's age at first marriage, parental socioeconomic status, employment history, or marriage order/age at marriage for current marriage. Not having these variables is unfortunate as they are relevant for the analyses. The explanatory variables used in the analyses are the following: wife's age at first marriage,

wife's current age, wife's education, husband's education, urban/rural classification, and geographical location.

Wife's Age at First Marriage

In developing countries, older age at first marriage and smaller spousal age gaps are both indicative of increasing female agency in marriage (Carmichael, 2011; Santhya et al., 2010). In Indonesia, where cohabitation is not the norm, where marriage remains relatively universal, where the SMAM for women is under 25, and where one third of all women in 2005 were marrying in their teens (Jones & Gubhaju, 2011), I expect to find a negative relationship between women's age at first marriage and spousal age gap.

Wife's Current Age

Since SUSENAS is cross-sectional, I expect that younger women in the data set are more likely to be in a marriage with a relatively smaller spousal age gap. Younger women are more likely to be in their first marriage and to be in a nonarranged or romantic marriage (Smith-Hefner, 2005) and more likely to have encountered an age-stratified marriage market when they met their current husband than the older generations of women.

Highest Educational Attainment

I include both husband's and wife's highest completed level of education in the analysis. Highest education levels are re-coded into a categorical variable with three groups: less than senior high school, high school, and tertiary levels. In theory, when a smaller age gap is seen as a proxy for an egalitarian marriage or higher female agency (Carmichael, 2011), more educated women are less likely to marry men who are much older than themselves. Alternatively, treating wife's education as a proxy for socioeconomic status, we could expect a negative relationship between wife's education and spousal age gap (Atkinson & Glass, 1985; Vera, Berardo, & Berardo, 1985). Conversely, controlling for other background characteristics, I expect a positive relationship between husband's education and spousal age gap.

Geographic Variation

Equating smaller age gaps with "egalitarianism" and "modernity," one would expect the age gap in rural areas to be smaller than that in urban areas. However, Malhotra's (1997) study using data on marriage occurring before

1980 did suggest that a smaller age gap appeared in rural Java relative to urban Java. On one hand, women in urban areas may have better access to education and be more likely to have a self-choice marriage than women in rural areas. However, Malhotra argued that urban settings also depress women's labor force participation relative to the more agrarian nature of employment in the rural areas. In effect, relative to their rural counterparts, urban women are subjected to a higher level of economic dependency on men through the ideologies promoting domesticity imparted through schooling (Malhotra, 1997). Apart from an urban/rural dummy, the analysis also incorporates regional dummies. We classify the 33 provinces in the data set into 7 major island groupings with Greater Jakarta as the reference category.

Strategy of Analysis

Rather than aiming for causality, I aim to explore associations and to show the consistency of the relationships between wife's age at first marriage and spousal age gap in current marriage across different model specifications. Conceptualizing the causal direction between age at marriage and spousal age gap is complex. For one, age at first marriage and spousal age gap in that first marriage may or may not be endogenous. One country-level study used both spousal age gap and SMAM as proxies for female agency in marriage and conducted separate regression analysis with them as dependent variables (Carmichael, 2011). Another study included them both as explanatory variables to predict reproductive health outcomes (Santhya et al., 2010). If one were to believe that there was a lengthy mate search and multiple romantic courtship processes before a marriage takes place, the likelihood of simultaneity between spousal age gap and age at first marriage is small. Alternatively, one may theorize that different sets of cultural preferences are at play. For example, the developmental paradigm favors women to stay in school and attain market employment, effectively delaying their entry into marriage (Thornton, 2001). But controlling for education and employment levels, individuals may have different preferences regarding the age homogamy/hypergamy and other desirable spouse qualities. Another concern relates to the assumption of normality by treating spousal age gap as a continuous variable. Using STATA 12.0, I employ the following strategies to address these issues.

First, I conduct an OLS analysis with a robust standard error (Model 1). Subsequently, I added an interaction term between wife's education and age at first marriage to the model (Model 2). Adding the interaction term allows us to test whether the effect of the age at first marriage parameter on spousal age gap varies across women of different educational groups.

In Model 3, I conduct a two-stage least square analysis with robust standard errors. The underlying assumption here is that age at first marriage is endogenous. This suspicion is confirmed after conducting the augmented regression test for endogeneity (Durbin–Wu–Hausman test; Davidson & MacKinnon, 1993). In the first stage of the regression, I predict wife's age at first marriage using all the control variables as in the OLS model for spousal age gap, and I add a binary dummy for pre-1975 marriage cohort as an instrumental variable. This variable denotes whether a woman was affected or not by the 1974 Marriage Act that legislated 16 as the minimum age at marriage for women. The instrumental variable was coded 1 for women whose first marriage occurred before the year 1975 (13% of analytical sample). Assuming a 1-year lag in its practical implementation, this arbitrary change in regulation is assumed to affect age at first marriage for women whose first marriage occurred in 1975 and later. The post-estimation test indicates the relevance of the instrument.

In Models 5 and 6, I test the consistency of age at first marriage by conducting a log linear logistic analysis with the same right-hand-side variables corresponding to Model 1 and 2. Here, I respecify the dependent variable to be a binary choice, with 1 denoting age homogamous marriage. Adopting the definition used by Vera et al. (1985), I define age homogamous marriage as a marriage with spousal age gaps 3 years or lower in either direction. I use the same explanatory variables as in Model 1, and in Model 6 the interaction term is added as in Model 2. I expect the estimates to have the opposite signs here relative to Models 1 to 3.

Results

Trends in Spousal Age Gap

Over the three decades, the mean in the spousal age gap has declined from 6.4 to 4.7 (see Table 1). In contrast, the age correlation between husbands and wives stayed relatively constant at around 0.9.

Figure 1 illustrates the variation in the mean of spousal age gap by wife's current age. A number of interesting patterns emerge. First, the relatively high spousal age gap for currently married women in their teens suggests that there is a selection issue at play for these young women. This result alone suggests that the spousal age gap is negatively associated with age at marriage. Second, a downward trend in spousal age gap for all the age cohorts in 1982 is evident over time. This is indicative of the entry into the subsets over time of women in each age cohort who married later, and likely, to less older husbands. Third, it is interesting to note that the bottom trough for spousal age gap in 1982 was

Table 1. Mean and Correlation in Spousal Age Gap.

	SUSENAS			
	1982	1992	2000	2010
Mean age				
Husbands	42.1	43.1	44.0	44.5
Wives	35.6	37.4	38.9	39.8
Wife's age at first marriage	n/a	18.8	19.4	20.2
Husband–wife gap	6.4	5.7	5.1	4.7
Husband–wife age correlation	0.9	0.9	0.9	0.9

Source. SUSENAS 1982, 1992, 2000, 2010 data files.

Figure 1. Mean of husband–wife age difference in years by wife's age.

Source. SUSENAS 1982, 1992, 2000, 2010 data files.

among women in their 20s (Figure 1). Ten years later, women in their 20s and 30s exhibited the lowest average spousal age gap. By 2000, married women in their 30s, on average, had the lowest spousal age gaps.

Trends in Spousal Educational Gaps

Table 2 outlines the trend in the relative education of married couples across the SUSENAS series in 1982 and 2010. On the whole, the correlation in

Table 2. Relative Education of Married Couples: SUSENAS 1982 and 2010.

	SUSENAS	
	1982	2010
1. Husband–wife correlation	0.7	0.7
2. % Distribution of couples by relative education		
Husband > wife	39.4	31.4
Husband = wife ^a	50.6	48.6
Husband < wife	10	19
3. % Distribution of couples by selected relative education		
Wife had less than PS (Husband: any education level)	61.1	23.1
Husband had less than PS (Wife: any education level)	49	20.5
Both husband and wife had less than PS	43.8	13.9
Both husband and wife had PS qualifications	14.1	18.6
Both husband and wife had JHS qualifications	2.3	5.7
Both husband and wife had SHS qualifications	2.9	11
Both husband and wife had any tertiary qualifications	0.3	4.1

Note. PS = primary school; JHS = junior high school; SHS = senior high school.

^aA husband and wife are defined as having equal education here if they had equal educational attainment as per SUSENAS definition for that year. The proportion with “equal” educational attainment here for each year is smaller than the sum of the last five rows in Item 3 in the table (% distribution of couples by selected relative education), where some levels are grouped together. For example, “Both husband and wife had any tertiary qualifications” includes couples with both equal and different relative education attainment ranging from associate diploma, diploma, bachelor, and master in 2010.

husband–wife education has stayed relatively constant over time. About half of married couples have equal education attainment between the husband and the wife. “Marrying up” in terms of relative education attainment has declined. In 1982, close to 40% of couples belonged in a marriage where the husband had higher educational attainment than the wife. By 2010, the figure was down to about 31%. Correspondingly, the proportion of couples whereby the wife’s education was higher than the husbands had risen from 10% to 19% between 1982 and 2010.

Although the education correlation among married couples has stayed relatively constant over time, the remarkable advancement in education for both men, and more markedly, women in the country in the past decades is evident in the data. The proportion of married women who did not even have primary school qualification fell from around 60% in 1982 to 23% in 2010. In 1982, only less than 3% of couples had both graduated from SHS. This proportion rose to 11% in 2010.

Table 3. Sample Characteristics for the Analysis ($N = 233,429$).

Mean	
Husband's age	44.5 ($SD = 12.7$)
Wife's age	39.8 ($SD = 11.8$)
Spousal age gap	4.7 ($SD = 4.9$)
Wife's age at first marriage	20.2 ($SD = 4.2$)
Percentage distribution of wife in	
Age homogamous marriage	42.8
Age heterogeneous marriage	57.2
Percentage distribution of wife's education	
Less than senior high school	73.6
Senior high school	19.2
Tertiary	7.3
Percentage distribution of husband's education	
Less than senior high school	68.3
Senior high school	23.5
Tertiary	8.2
Percentage distribution of wife in	
Urban	43.7
Rural	56.3
Percentage distribution of wife in	
Sumatra	30.4
Jakarta	1.9
Other Java	28.3
Bali and Nusa Tenggara	7.8
Kalimantan	10.8
Sulawesi	14.7
Maluku and Papua	6.1
Percentage distribution of wife in	
Pre-1975 first marriage cohort	13.2
1975+ first marriage cohort	86.9

Exploring the Spousal Age Gap

In this section, I examine the consistency of the relationships between age at marriage and spousal age gap across different model specifications. A total of 233,429 couples were eligible for the analysis. Table 3 outlines the sample characteristics.

Table 4 details the results of the analysis on spousal age gap in years in current marriage (Models 1-3) and on age homogamous marriage (Models 5 and 6) for the analytical sample of currently married women.

Table 4. Exploring Spousal Age Gap in Years and Age Homogamous Marriage.

Variables	Spousal age gap in years			Age homogeneity		
	Model 1	Model 2	Model 3 (first stage: dependent variable = age at marriage)	Model 3	Model 4	Model 5
Wife's age at first marriage	-0.26*** (0.004)	-0.33*** (0.008)		-0.31*** (0.011)	0.08*** (0.001)	0.09*** (0.003)
Urban dummy						
Urban (ref)						
Rural	-0.10*** (0.022)	-0.10*** (0.022)	-0.38*** (0.016)	-0.12*** (0.023)	0.03*** (0.009)	0.03*** (0.009)
Age	-0.02*** (0.001)	-0.02*** (0.001)	0.11*** (0.001)	-0.02*** (0.001)	0.00* (0.000)	0.00 (0.000)
Wife's education						
Less than SHS	0.88*** (0.031)	-1.10*** (0.192)	-2.50*** (0.023)	0.74*** (0.041)	-0.34*** (0.013)	-0.10 (0.068)
SHS (ref)						
Tertiary	-0.76*** (0.043)	-0.96*** (0.338)	2.12*** (0.036)	-0.64*** (0.049)	0.31*** (0.020)	0.26** (0.128)
Husband's education						
Less than SHS	-0.39*** (0.028)	-0.38*** (0.028)	-0.59*** (0.021)	-0.42*** (0.028)	0.19*** (0.012)	0.19*** (0.012)
SHS (ref)						
Tertiary	1.07*** (0.041)	1.09*** (0.041)	0.09** (0.034)	1.08*** (0.041)	-0.28*** (0.019)	-0.28*** (0.019)
Regional dummy						
Sumatra	0.15** (0.073)	0.13* (0.073)	-0.14** (0.057)	0.14** (0.073)	0.00 (0.032)	0.01 (0.032)
Greater Jakarta						
Other Java	0.23*** (0.073)	0.23*** (0.073)	-0.98*** (0.057)	0.17** (0.073)	-0.15*** (0.032)	-0.15*** (0.032)
Bali and Nusa Tenggara	-0.10 (0.079)	-0.13* (0.079)	0.90*** (0.063)	-0.05 (0.080)	0.21*** (0.035)	0.22*** (0.035)
Kalimantan	0.12 (0.077)	0.10 (0.077)	-0.63*** (0.060)	0.08 (0.078)	-0.05 (0.034)	-0.05 (0.034)
Sulawesi	-0.26*** (0.076)	-0.28*** (0.076)	-0.18*** (0.060)	-0.27*** (0.076)	0.13*** (0.033)	0.13*** (0.033)
Maluku and Papua	-0.38*** (0.082)	-0.41*** (0.082)	0.08 (0.064)	-0.37*** (0.082)	0.27*** (0.036)	0.28*** (0.036)

(continued)

Table 4. (continued)

Variables	Spousal age gap in years			Age homogeneity	
	Model 1	Model 2	Model 3 (first stage: dependent variable = age at marriage)	Model 4	Model 5
Wife's education * Age at marriage					
Less than SHS * Age at marriage		0.09*** (0.009)			-0.01 *** (0.003)
SHS * Age at marriage (ref)					
Tertiary * Age at marriage		0.02 (0.014)			0.00 (0.005)
Instrument					
First marriage cohort < 1975			-4.06*** (0.030)		
Constant	10.11 *** (0.113)	11.65*** (0.189)	19.12*** (0.065)	-1.81*** (0.043)	-1.99*** (0.070)
Observations	233,429	233,429	233,429	233,429	233,429
R ²	0.06	0.06	0.26	0.06	
Adj. R ²	0.06	0.06	0.26	0.06	

Note. SHS = senior high school. Robust standard errors in parentheses.

* $p < .10$. ** $p < .05$. *** $p < .01$.

Figure 2. Predicted spousal age gap in years by wife's age at first marriage and wife's highest educational attainment: Model 2.

Across different model specifications, I found a consistent negative association between wife's age at first marriage and the spousal age gap. Increasing age at marriage reduces spousal age gap and increases the likelihood of age homogamy. Adding an interaction term between age at first marriage and education suggests that the association between age at first marriage and spousal age gap is likely to differ across women at the lower end of the education spectrum and women with senior high school qualification but not between senior high school and tertiary graduates. For women at the lower level of education attainment, an increase of 1 year in age at first marriage is associated with a smaller reduction in spousal age gap relative to senior high school graduates (Figure 2). Adding an interaction term (Model 2) and instrumenting for age at first marriage (Model 3) slightly increases the negative association between wife's age at first marriage and spousal age gap relative to Model 1. As expected, wife's current age is negatively associated with the spousal age gap. However, the relationship between current age and age homogamous marriage is weaker, and the significance of age in predicting age homogamy disappeared in the presence of an interaction (Model 6).

The results support our expectations on the association between spousal education and spousal age gap. In Model 2, the main association between

wife's education and spousal age gap cannot be correctly interpreted in the presence of an interaction. Currently married women with higher levels of educational attainment are predicted to have smaller age gaps (Models 1-3) and more likely to be in an age homogenous marriage than those at lower education levels (Model 5 and 6). In contrast, consistent with the notion of "marrying up," a higher level of education of husband is associated with an increase in the spousal age gap or a reduction in the likelihood of age homogeneity. At this point, it is interesting to look at the different associations between education and age at marriage on one hand and between education and spousal age gap on the other (Model 3). Under the first stage of Model 3, higher levels of husband's and wife's education are positively associated with age at first marriage.

Currently married couples living in rural areas are estimated to have lower levels of spousal age gap than urban couples and to be in age homogenous marriage. Initially, using only an urban/rural dummy in a stepwise regression prior to running the full model (Model 1—stepwise regression not shown), it appeared that the spousal age gap was higher for rural couples than for urban couples. However, the negative association between rural areas and spousal age gap disappeared and turned to positive once the wife's age at marriage is accounted for. The 2SLS results suggest a negative relationship between age at first marriage and living in rural areas (first stage of Model 3).

Couples living in the capital, Greater Jakarta, are estimated to have lower spousal age gap than those living in other parts of Java and Sumatra. However, those in Greater Jakarta have higher age gap than couples living in the Eastern part of Indonesia, which represent the lesser developed parts of Indonesia. Such associations hold even after instrumenting for age at marriage in Model 3. Both the spousal age gap and the age at first marriage is predicted to be lower among currently married women living in Sulawesi relative to those in Greater Jakarta. A possible interpretation for both the urban/rural and regional dummies is that controlling for age at first marriage, current age, and spousal education levels, marriage in rural areas and in Eastern parts of the Indonesia are relatively more age-stratified or more age homogenous than in other parts of the country.

Conclusion

The current study examines the trend in demographic hypergamy, measured through the disparities in age and educational attainment of matched husbands and wives over the past three decades in Indonesia. Although the explicit preferences for women to marry older men continue to dominate young people's ideals on spouse qualities (Utomo, 2008), the results of the

study suggest that the spousal age gap has declined from 6.4 to 4.7 years between 1982 and 2010. A trend in assortative mating is maintained with 50% of married couples shown to have equal education levels in both 1982 and 2010. Interestingly, the proportion of women marrying someone of higher education is declining, and conversely, the proportion of women “marrying down” is rising.

The results of the multivariate analysis suggest a robust negative association between women’s age at first marriage and spousal age gap. Higher levels of wife’s education also have consistent associations with lower spousal age gap and higher likelihood of age homogamy. Consistent with the notion of marrying up, the opposite relationship applies for husband’s education and spousal age gap. These individual-level results are consistent with the idea that the redefinition of women’s roles along the intricate processes of development including rising female education attainment and age at first marriage at the macro-level are bound to be reflected in other measures of female agency in marriage.

However, the results also suggest that other things being constant, marriages in Eastern Indonesia and in rural areas are more age homogamous than in other parts of the country. Such findings are in support of Malhotra’s findings on marriages occurring before 1980 in Java, where the average age gap was smaller in rural than in urban areas. She proposed that urban settings may promote domesticity and somewhat increase women’s economic dependency in marriage. Future investigations on how measures of economic development influence marriage transitions across Indonesia will help clarify these results.

A number of caveats need to be noted regarding the multivariate analysis in this article. First, as reflected in the very low R^2 , the limited variables available for analysis in the data set and most important, the absence of data on the characteristics of women around the time of their first marriage are a major limitation of the study. Furthermore, exploring the associations between spousal age gap in current marriage and women’s age at first marriage is not ideal. Future explorations on this issue may consider using alternative datasets such as Demographic and Health Surveys to incorporate variables such as ethnicity and religion into the analysis. Future data collections aiming to generate insights into marriage patterns in the archipelago should also collect retrospective information on marriage, schooling, and employment history, and the location where respondents grew up. This last insight is particularly important if we assume that much of the variation in the spousal age gaps across individuals are attributed to their preferences and that the socioeconomic and cultural environment during their normative years play a significant part in shaping these preferences. Last, a comparative qualitative study

elucidating the specific cultural norms and preferences surrounding transitions into marriage across the vast archipelago of Indonesia will provide much needed insights into the literature.

On the one hand, the declining tendency for “marrying up” is reflective of the expansion of schooling and premarital employment of women, implications of which have been traditionally discussed in studies on delayed marriage and the shift from arranged to self-choice marriage in Asia. Such trends bear interesting prospects not only for gender relations in marriage but also for the wider societies. If smaller age and education gaps between husbands and wives are likely to empower women and improve their bargaining power in marriage, then the future for egalitarian marriage in Indonesia is promising. Moreover, if one were to believe that the existing labor market inequalities originated from the division of labor in the home being maintained by the norm for women to marry up, then a convergence in the spousal age and education gaps are likely to bring further egalitarian repercussions in the labor market.

On the other hand, the likelihood of observing more egalitarian trends in the above indicators in the near future is largely dependent on the emerging sociocultural contexts, where the prospects for more democratic gender relations remain somewhat uncertain. The transition from authoritarian government to democracy after the fall of Suharto in 1998 opened the doors to many actors, including groups advocating gender equity on one hand, and mainly Islamic conservative forces advocating strongly patriarchal values and practices on the other (Brenner, 2006; Utomo, 2008). To name a few, public display of support for polygamy, the launch of the Obedient Wives Club, and the organized opposition to the Gender Equity Bill, while small in terms of their representativeness of the country’s Muslim population, are effectively shaping the conflicted discourse on gender relations.

Ultimately, the interactions between these conflicting societal forces and evolving cultural preferences on one hand, and the growing employment and education of women on the other, are setting an interesting scene for future trends in the transition to marriage in Indonesia.

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