




RESEARCH ARTICLE

Partner traits of women in arranged and self-choice marriages

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Abstract

Survey results have shown that the traits women seek in a partner are different from the traits parents seek in a son-in-law. These differences have been attributed to parent–offspring conflict, where parents prefer mates for their offspring who provide benefits to the entire family group, but adult women prefer traits in a potential partner that indicate heritable fitness (e.g. creativity, exciting personality). We compare the characteristics of husbands of women in self-choice and arranged marriages using data from the longitudinal Indonesia Family Life Survey (IFLS) which surveyed families between 1993 and 2015. Results show that the husbands of women in arranged marriages had lower levels of completed education than those from self-choice marriages, counter to predictions. There were no significant differences in the husband's wealth prior to marriage or the proportion of couples who were of the same religion. An examination of personality traits showed little difference based on arranged marriage status. The only prediction that had significant support was that couples in arranged marriages were more likely to share an ethnic background than couples in self-choice marriages. These results suggest that the characteristics of husbands vary little by arranged versus self-choice marriage status, contrary to previous survey findings.

Keywords: mate preferences; arranged marriage; Indonesia; parent–offspring conflict

1. Introduction

Mate choice is important for reproductive success (Hamilton & Zuk, 1982; Reynolds & Gross, 1992). Mate preferences have likely evolved to solve the adaptive problem of selecting the optimal mate. Most research on human mate choice and mate preferences have focused on individuals and neglected the influence of parents, family, and other members of the social network, despite a long history of arranged marriage in humans (Apostolou, 2007; Batabyal, 2001). Neglecting the influence of parents may be problematic if parent and offspring interests are not perfectly aligned. Parent–offspring conflict theory provides a theoretical framework to explain the differing fitness interests of parents and offspring (Trivers, 1974). While many studies have examined parent and offspring preferences for mates, little research has explored how parent and offspring preferences affect the characteristics of spouses in contexts with arranged marriage.

While less common today, historical analyses show that arranged marriage was likely quite frequent in human history (Apostolou, 2014; Buunk et al., 2008; Coontz, 2005; Hasnain & Snopkowski, 2023; van den Berg et al., 2013; Walker et al., 2011). A study examining 16 historical societies found that marriages arranged by parents (predominantly fathers) were the most frequent form of marriage

(Apostolou, 2012). We also see global variation in the rate of arranged marriages. For example, Apostolou (2007) examined the prevalence of arranged marriages in hunter-gatherer societies around the world. In 94% of foraging societies, parental arrangement, close-kin arrangement, and courtship with parental approval were the predominant forms of marriage. Further, arranged marriage remains widespread in some regions of the world today, including India, Bangladesh, and Pakistan (Rubio, 2013). Given the frequency of arranged marriage historically, we can infer that individual-level free mate choice has not been ubiquitous in the human species. The traits selected for in marriage partners are poorly understood in contexts where arranged marriage is common.

Parents and offspring are related and have a vested interest in each other's success, so we might expect that the partners selected by parents for their offspring are actually the preferred mates that would be chosen by the adult offspring as well. However, due to their differences in genetic relatedness, there may be conflicting fitness interests between parents and offspring (Trivers, 1974). Since parents are related to all of their offspring equally, but offspring are more genetically related to themselves than to their siblings, parents may prefer partners for their offspring who improve the family's status, reputation, or wealth, which benefits all of their offspring (Apostolou, 2007; Buunk et al., 2008). When a woman chooses her own partner, she may prefer a partner who provides benefits for both herself and her children over a potential partner that benefits the larger family group (Apostolou, 2011; Buunk et al., 2008; Buunk & Solano, 2010). Researchers have developed two non-mutually exclusive hypotheses around these ideas. First, the *evolutionary trade-offs* hypothesis postulates that offspring want mates with characteristics that denote heritable fitness, which may come at the cost of lower parental investment, while parents want mates for their offspring who exhibit characteristics suggesting strong parental investment (Buunk et al., 2008). Offspring may expect that their parents will compensate for lowered parental investment by a spouse and parents may want to avoid a situation where their offspring (particularly daughters) are left as single parents. Another hypothesis, titled *compromises in desirable traits*, states that since choosing a mate involves compromises in preferred traits, the compromises that offspring make in their mate choice are different from those their parents would make. Since it is unlikely that a potential mate will have every desirable trait, offspring will prioritize mates that meet their most desired criteria at the expense of other traits, such as good family background, which are more prioritized by parents (Apostolou, 2011, 2017).

In contrast to the predictions of these evolutionary hypotheses, it is also possible that choosing a good partner is a skill that is gained through one's life experience, meaning that parents, through their longer lives and greater experience are better able to select a suitable mate for their adult children than younger adults can choose for themselves (Pillsworth et al., 2023). Ethnographic evidence shows that cultures with high rates of arranged marriage typically view it in this way: parents have more wisdom and are more likely to choose suitable partners, while young adults are more likely to make a poor decision because they are 'driven by their hormones' (Dasgupta, 2009). If conflicting fitness interests do occur and arranged marriage results in either a more appropriate mate – because parents choose more suitable partners due to their greater experience – or a less optimal mate – because parents choose a mate with traits that improve entire family fitness over individual fitness – we would expect to see an effect on reproductive success. Evidence for fitness effects is, so far, inconclusive (Agey, 2024; Hasnain & Snopkowski, 2024; Sorokowski et al., 2017). Of course, people may experience other benefits from arranged marriage that balance the costs of a non-preferred partner (Agey et al., 2023).

While conflicting fitness interests may occur between parents and either male or female offspring, we are particularly interested in the mate choice of daughters compared to parents. Cross-culturally, young men are more likely to either be given some input into a marriage decision compared with young women, or men may directly engage in arranging the marriage with a woman's parents (Apostolou, 2007). Since arranged marriage is more frequent for young women than young men, this research will focus on the mate choice of women and their parents.

To test these hypotheses, researchers have typically conducted surveys to understand preferences for mates compared to in-laws (for a recent meta-analysis, see Zhang et al., 2024). These

surveys have provided evidence in support of the *evolutionary trade-offs* and *compromises in desirable traits* hypotheses; that individuals prefer attractiveness and personality traits that perhaps indicate heritable fitness such as having an exciting personality, creativity, or sense of humour, more than parents do (Agey et al., 2024; Apostolou, 2009, 2011, 2015; Apostolou & Wang, 2018; Buunk et al., 2008; Dubbs & Buunk, 2010; Dubbs et al., 2013; Fugère, Doucette, et al., 2017; Lefevre & Saxton, 2017; Park et al., 2009; Perilloux et al., 2011). It should be noted that to demonstrate heritable fitness, we would need to show that these traits are correlated across generations and are linked to higher fitness, but these previous studies have not tested these assumptions. Parents are hypothesized to prefer traits that indicate parental investment and cooperation, such as wealth, dependability, and kindness (Buunk & Solano, 2010; Dubbs et al., 2013; Fugère, Doucette, et al., 2017), although survey results are inconsistent (Zhang et al., 2024). Level of education is more important to parents, particularly mothers, than offspring in some studies (Apostolou, 2011; Buunk et al., 2008; Guo et al., 2017; Locke et al., 2020), but not others (Fugère, Doucette, et al., 2017; Hynie et al., 2006; Perilloux et al., 2011). Theoretically, educational success may indicate social standing. This contrasts with intelligence, which may be more important to offspring than parents, and is more indicative of inherent ability. Parents place greater importance on a potential in-law sharing the same religion, ethnicity, and social class than their adult offspring did when seeking a marriage partner (Agey et al., 2024; Apostolou, 2008b, 2008a, 2011; Apostolou et al., 2014; Buunk et al., 2008; Buunk & Solano, 2010; Dubbs et al., 2013; Park et al., 2009; Perilloux et al., 2011). In-laws that share the same values and belong to the same ethnic or religious group may extend the parents' alliances and enhance social status (Perilloux et al., 2011). Another possibility is that parents prefer an in-law from the same ethnic group due to the perceived shared value system.

Attractiveness is a trait that may signal heritable fitness and may vary in importance for individuals and their parents in selecting a mate (Apostolou, 2008a). A moderate level of attractiveness was found to be necessary for both daughters and their parents when rating potential mates for the daughters (Fugère, Chabot, et al., 2017; Fugère et al., 2019), but in general, offspring value physical attractiveness in a mate more than their parents value it for a potential in-law (Apostolou, 2008a, 2011; Bovet et al., 2018; Buunk et al., 2008; Buunk & Solano, 2010; Dubbs et al., 2013; Park et al., 2009; Perilloux et al., 2011).

There is also some variation across studies, which may reflect cultural or methodological differences. For instance, while almost all studies find that women have a greater preference for an attractive husband compared to a parent's preference for an attractive in-law, the effect was not significant in a Kurdish study (Buunk et al., 2008) and only marginally significant in a Chinese sample (Hynie et al., 2006). For some traits, who has a stronger preference varies. For instance, while some studies find that kindness is more important in an in-law than a spouse (e.g. Buunk & Solano, 2010; Dubbs et al., 2013; Guo et al., 2017), some find that women ranked the trait as more important in a husband than fathers did in a son-in-law (Apostolou, 2015; Apostolou & Wang, 2018; Fugère, Doucette, et al., 2017) and others found no significant difference (Apostolou et al., 2014, p. 20; Buunk et al., 2008; Hynie et al., 2006; Perilloux et al., 2011).

Figure 1 presents an overview of the surveys that have been conducted to examine preferences for partners compared to in-laws by trait. When possible, we focus on results that explicitly examine daughters' preferences compared to their parents, but in those studies where offspring's gender is not separately analysed, we report adult offspring preferences compared to their parents (see SM Table S1 for full data). This figure shows that some traits, like good looks, creativity, and an exciting personality, are consistently found to be more highly rated in a potential husband than a son-in-law. In contrast, having the same religion, ethnicity, and a good family background are consistently more important for parents choosing a son-in-law than for adult women choosing a husband. The most consistent finding across studies (100%) is that parents prefer an in-law from the same ethnic group more than

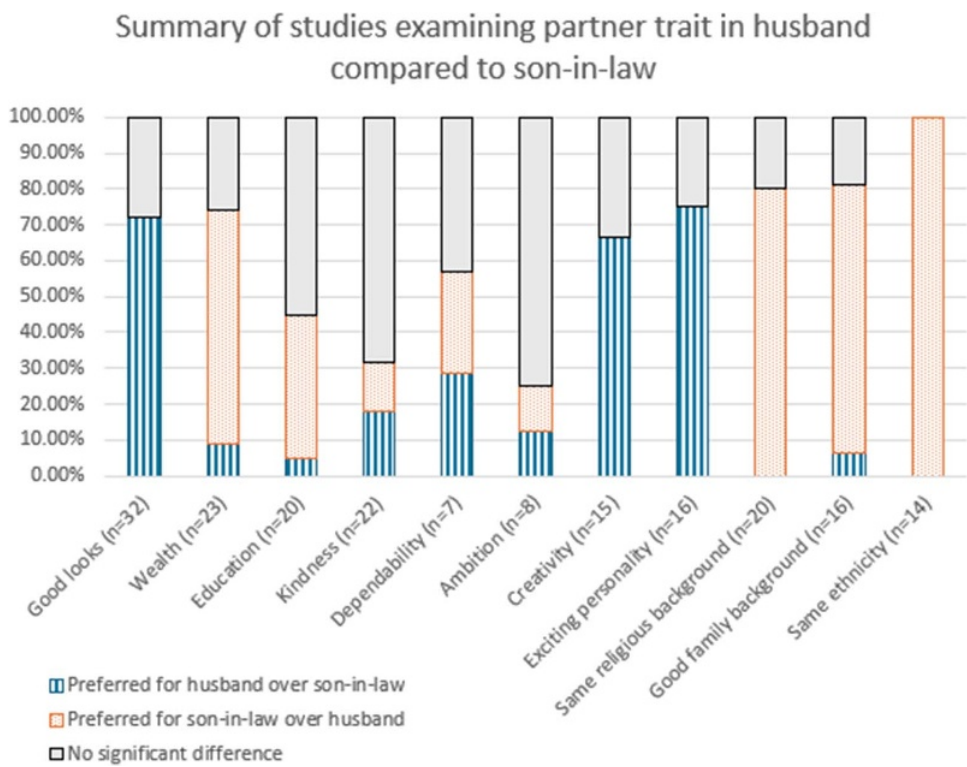


Figure 1. The percentage of studies showing a preference for particular traits in a husband over a son-in-law (blue vertical lines), a preference for traits in a son-in-law over a husband (orange dots), or no significant difference (grey), with the number of studies for each trait indicated on the x-axis.

an adult daughter prefers this in a husband. This data also shows that in many cases, studies frequently find non-significant effects, for instance with kindness, education, or ambition.

While these findings are incredibly useful in understanding people’s stated preferences and the consistency of those preferences across a variety of different samples, there are several drawbacks. First, in many studies (but not all), one person reports on what they perceive as someone else’s preference (see SM Table S2 for an overview of each study’s methodology). For instance, in some cases, college students report on their preference for a potential partner and what they perceive their parents’ preferences to be (e.g. Buunk et al., 2008; Park et al., 2009). Other studies have overcome this limitation by surveying both adult children and their parents (e.g. Perilloux et al., 2011) and some sought out parents who were actively engaged in trying to find a marriage partner for their child (Bovet et al., 2018). Another possible limitation is that some studies focus specifically on differences by framing questions as ‘who [parent or adult child] would find a particular trait more unacceptable’, which may exaggerate differences in mate preference (e.g. Dubbs et al., 2013). Those studies that focus more on similarities tend to find substantial consensus including similar ‘most important’ traits for both daughters and parents (e.g. Fugère, Doucette, et al., 2017). This type of work has also shown that while attractiveness is significant in most studies, when looking at most important traits, attractiveness is not listed as one of the top 10 most important traits by either parents or daughters (Fugère, Doucette, et al., 2017). Finally, while these studies have been conducted in a variety of contexts, the majority have been conducted in countries where arranged marriages are rare. If these contexts are systematically different from countries where arranged marriage is common (e.g. in the level of individualism), the results may be biased. For instance, in one study, carried out in Iraq, where arranged

marriage is common, there were fewer statistically significant differences in preferences for an in-law compared to a spouse than in the other cultures examined (Buunk et al., 2008).

These prior studies have all examined mate preferences, which reflects ideal mates with few constraints, but few have examined actual mate choice. While theoretical predictions and empirical evidence provide suggestive evidence that husbands of women in arranged marriages will differ from those in self-choice marriages, this has rarely been tested. One study that did examine characteristics of partners in self-choice and arranged marriages found that, among surveyed couples in Turkey, spouses in love-match marriages were just as likely as spouses in arranged marriages to exhibit similar ages at marriage, similar educational attainment, and a similar number of generations of urban living (Fox, 1975). Another study that examined partner characteristics among the Shuar found significant differences in relative wealth but no difference in parenting ability or physical attractiveness (Pillsworth et al., 2023). We extend this previous research by examining additional traits, including financial resources prior to marriage, religious and ethnic background, and personality traits. If there are differences in preferences for mates versus in-laws, and if these preferences are reflected in actual marriages, we expect:

- 1) Women in arranged marriages will have husbands with greater **wealth** (indicative of social standing) than women in self-choice marriages;
- 2) Women in arranged marriages will have husbands with greater **education** than women in self-choice marriages;
- 3) Women in arranged marriages will have husbands who self-report greater **dependability** than women who chose their own marriage partners;
- 4) Women in arranged marriages will have husbands who self-report greater **kindness** than women who chose their own marriage partners;
- 5) Women in self-choice marriages will have husbands who self-report greater levels of **creativity** than husbands of women in arranged marriages;
- 6) Women in self-choice marriages will have husbands who self-report that they have an **exciting personality** more often than husbands of women in arranged marriages;
- 7) Women in arranged marriages will be more likely to have husbands of the same **religious background** than women in self-choice marriages; and
- 8) Women in arranged marriages will be more likely to have husbands of the same **ethnic background** than women in self-choice marriages.

2. Methods

To compare the traits of husbands of women in self-choice and those in arranged marriages, we utilize data from the Indonesia Family Life Survey (IFLS). Marrying and having children is extremely important in Indonesian society (Jones, 2005). Although most Indonesians are Muslims, marriage customs vary between regions of the country and ethnic groups and are strongly influenced by local traditions, known as *adat* (Buttenheim & Nobles, 2009; Howell, 2016). *Adat* affects aspects of marriage such as age at marriage and post-marriage residency of the couple.

Marriages were traditionally arranged by parents (Heaton et al., 2001; Jones, 2001; Smith-Hefner, 2005), with individual needs secondary to the needs of the family and the community (Williams, 1990). While some Indonesian marriages are still arranged by parents, arranged marriages are not as common as they once were. A survey conducted in Central Java during the years 1979–1980 found that women married between 1935 and 1943 had a higher rate of arranged marriage (66.5% of women living in rural areas and 40.5% in urban areas) compared to those married from 1953 and after (38.9% for rural and 10.4% of urban women) (Malhotra, 1991). Between the two extremes of *arranged by parents* and *arranged by self*, however, marriages in this study were also classified as *arranged with respondent's approval*, and *arranged by self with parents' approval*. For those married

since 1953, *arranged by self with parent's approval* was the most common form of marriage in both rural (43.8 %) and urban areas (78.9%).

The age of first marriage for Indonesian women has been rising, particularly among more educated women and those in urban settings (Buttenheim & Nobles, 2009; Jones, 2005; Nobles & Buttenheim, 2008). Women may delay marriage to complete their education, and better-educated women may be 'choosier' when considering a spouse (Jones, 2005). However, Nobles and Buttenheim (2008) found that *adat* norms continue to strongly influence actual age at marriage across ethnic groups, even when controlling for education. In addition, young educated Muslim women in Indonesia may still choose to have an arranged marriage, even if they had a boyfriend while attending college (Alfian, 2022).

The Indonesia Family Life Survey (IFLS) is a longitudinal dataset spanning five waves from 1993 to 2015. Data on husband's personality characteristics is only captured in the last wave of data collection, which occurred in 2014/2015. This survey includes questions on marriage, education, employment, migration, and income, among countless other topics (Frankenberg & Karoly, 1995; Frankenberg & Thomas, 2000; Strauss et al., 2004, 2016, 2009). The survey represents 83% of Indonesia (13 provinces found on the islands of Java, Sumatra, Bali, West Nusa Tenggara, Kalimantan, and Sulawesi). Small provinces and provinces that were politically unstable at the time of the first survey were not included. A total of 15,900 households were surveyed in 2014/2015. Interviews were done with both men and women, allowing us to match responses from married couples. The IFLS was reviewed and approved by Institutional Review Boards (IRBs) at RAND in the United States and in Indonesia at the University of Gadjah Mada (UGM). IFLS datasets are available at <https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS.html>.

In the marriage section, respondents were asked, 'Who chose your husband/wife (from your first marriage)?' This study is based on the woman's response, where women who chose 'Parents', 'Family', or 'Other' are considered to be in an arranged marriage, while those who selected 'Self' are categorized as being in a self-choice marriage. We opted to keep 'Parents' separate from the other two categories 'Family' and 'Other' in case there were systematic differences based on who had arranged the marriage. We were forced to collapse 'Family' and 'Other' into one category because a small percentage of people chose these responses (less than 1.5% overall). Women were generally only included in the study if they had married once, as the survey collected data on who had arranged the women's first marriage and details about their current spouse. If their current spouse was not their first spouse, the characteristics of their first spouse were not recorded in that wave of data collection. However, given the longitudinal nature of the survey, we were able to capture information about the woman's spouse while she was still married to her first spouse in some cases (e.g. for information on wealth prior to marriage, education, and religion which were recorded in each wave).

Husband's characteristics were measured in five ways: (1) assets prior to marriage, (2) highest level of completed education, (3) personality traits, (4) religion, and (5) ethnicity. Husband's assets prior to marriage were recorded from the question: 'What was the value of the assets you owned just prior to the wedding of your current/latest marriage?' We \log_{10} -transformed the responses (measured in Rupiah) given the positive skew of the responses. Highest level of education was recorded for each household member. The possible answers were collapsed into the following categories: no schooling, grade school, junior high, general high school, vocational high school, and post-secondary (coded as 1 to 6). Finally, personality descriptions were asked of each respondent aged 15 or older; specifically, the survey asked how much the participant believed a personality description was representative of their personality and answered on a five-point scale (1; strongly disagree to 5; strongly agree). For this study, we examined the following personality descriptions: (1) does a thorough job, which we used as a proxy for dependability; (2) is considerate and kind to almost everyone; (3) is original, comes up with new ideas, a proxy for creativity; and (4) is outgoing, sociable, a proxy for an exciting personality. Unfortunately, the personality traits asked for in the survey do not perfectly mirror traits used in the mate preference literature, but we linked personality traits as closely as possible based on the existing literature. For instance, it is hard to know exactly how to define an 'exciting personality', but factor

analyses conducted by Buss and Barnes (1986) shows that exciting personality loads with sociable, excellent social skills, charming, and stylish appearance. This suggests that the trait is associated with sociality and extraversion.

We matched responses across spouses, so that we could analyse a woman's traits (including her arranged marriage status) as predictors of her husband's traits. All models were analysed as regression models, given that the dependent variable is somewhat continuous in all cases, where higher values are indicative of greater assets prior to marriage, higher level of education, and greater agreement that a personality characteristic is representative of the respondent. We also included control variables for all models, including wife's assets before marriage (\log_{10} transformed), wife's educational attainment, wife's personality type (corresponding to the personality traits of the husband), wave of data collection, and variables that correlate with arranged marriage status, including region and urban or rural status. While personality traits were only included in the fifth wave (2014/2015), education, wealth, and religion were included in each wave, so we used the first wave in which the couple has data on these variables. Ethnicity was recorded beginning in the fourth wave (2007/2008), and so is used in the first wave in which the couple has data on ethnicity.

We also compared the proportion of couples who shared the same religion across marriage type. Religion is measured for all members of the household at the time of survey. We predicted that couples in arranged marriages would have a higher rate of similar religious backgrounds. To test this, we ran a chi-square test. We conducted a similar analysis for ethnicity, predicting that couples in arranged marriages would have a higher rate of same ethnic background than those couples in self-choice marriages.

3. Results

Arranged marriage rates have been declining over time in Indonesia (Hasnain & Snopkowski, 2024). In the earliest birth cohort (women born prior to 1930), about 57% of women report their first marriage as arranged, but this decreases with each birth cohort until fewer than 10% of marriages were reported as arranged in each cohort from 1970 onwards (Hasnain & Snopkowski, 2024). Arranged marriage is patterned by region and urban–rural status in Indonesia, where those living in Sulawesi and those living in rural areas tend to have higher rates of arranged marriages than those living in other regions or in urban areas (Hasnain & Snopkowski, 2024). Table 1 presents the descriptive statistics of all dependent variables used in our analyses. All included couples are heterosexually married.

Table 2 presents the results of our multiple regression model, predicting (a) husband's assets before marriage (\log_{10} transformed) and (b) husband's educational level. Results show that arranged marriage status has no effect on the amount of assets a husband has prior to marriage. In contrast, marital status is associated with reduced education when the marriage is arranged by parents compared with self-choice marriages, counter to predictions. Other factors that affect husband's characteristics include the wave of data collection, where more recent waves are associated with greater assets prior to marriage and greater educational attainment. Further, women with more assets prior to marriage and those with greater education are associated with husbands who have greater assets and educational attainment, demonstrating assortative mating in terms of wealth and education. Those respondents living in urban areas also have husbands with more assets prior to marriage and husbands with higher educational outcomes.

Personality traits were only recorded in the final wave of data collection (2014/2015) so only couples in their first marriage were included. Table 3 and Fig. 2 displays the results of four different self-reported personality traits of husbands. The only personality trait that is significantly associated with arranged marriage status is 'original, comes up with new ideas', where husbands in arranged marriages – particularly those arranged by people other than parents – are less likely to report themselves as original. The effect for marriages arranged by parents is not significant, but also in the predicted

Table 1. Descriptive statistics

Variable	Mean	SD	Min	Max	n
Husband's assets prior to marriage (log transformed)	8.35	7.12	0	20.72	12,740
Husband's education (1 = none through 6 = post-secondary)	3.29	1.46	1	6	12,627
Husband's thoroughness*	4.14	0.66	1	5	3100
Husband's kindness*	4.13	0.64	1	5	3100
Husband's originality*	3.79	0.89	1	5	3100
Husband's outgoingness*	4.18	0.64	1	5	3100
Religion	n	%			
Islam	11,245	88.4%			
Hindu	646	5.1%			
Protestant	542	4.3%			
Catholic	205	1.6%			
Buddhist	67	0.5%			
Other	18	0.1%			
Ethnicity					
Javanese	5124	43.3%			
Sundanese	1365	11.5%			
Balinese	594	5.0%			
Batak	528	4.5%			
Bugis	415	3.5%			
Chinese	87	0.7%			
Maduranese	356	3.0%			
Sasek	499	4.2%			
Minang	508	4.3%			
Banjar	425	3.6%			
Bima Dompu	261	2.2%			
Makassar	171	1.4%			
Nias	48	0.4%			
Palembang	52	0.4%			
Sumbawa	64	0.5%			
Toraja	57	0.5%			
Betawi	424	3.6%			
Dayak	10	0.1%			
Melayu	115	1.0%			
Komering	23	0.2%			
Ambon	3	<0.1%			
Manado	4	<0.1%			
Aceh	8	0.1%			
Other Southern Sumatra	471	4.0%			
Banten	38	0.3%			
Cirebon	189	1.6%			

*Measured on a scale of 1 = strongly disagree to 5 = strongly agree.

Table 2. Regression analyses examining (a) husband's assets before marriage (log-10 transformed) and (b) husband's education

	Husband's assets before marriage (log ₁₀)			Husband's education		
	Beta	SE	p-value	Beta	SE	p-value
Arranged marriage (ref = self-choice)						
Arranged by parents	−0.205	0.24	0.394	−0.197	0.043	<0.001
Arranged by others	0.246	0.649	0.704	−0.087	0.116	0.453
Wife's education	0.595	0.054	<0.001	0.578	0.01	<0.001
Wife's assets before marriage (log)	0.211	0.011	<0.001	0.012	0.002	<0.001
Region (ref = Sumatra)						
Java	0.410	0.165	0.013	0.028	0.03	0.352
Bali & Nusa Tenggara	0.435	0.23	0.058	0.100	0.041	0.015
Kalimantan	1.478	0.325	<0.001	−0.007	0.059	0.904
Sulawesi	1.315	0.337	<0.001	−0.122	0.06	0.042
Ref = Rural						
Urban	0.327	0.14	0.020	0.376	0.025	<0.001
Wave (ref = 1993)						
1997	2.795	0.306	<0.001	0.222	0.054	<0.001
2000	6.044	0.312	<0.001	0.241	0.056	<0.001
2007	6.606	0.304	<0.001	0.241	0.054	<0.001
2015	7.124	0.308	<0.001	0.259	0.055	<0.001
Constant	−0.098	0.301	0.745	0.989	0.054	<0.001
n	8284			8203		

Note: **Bold** indicates p-value < 0.05, n represents sample size.

direction ($B = -0.12$, 95% CI = $-0.26, 0.02$, Table 3). Across the other three personality traits, there is no significant association between husband's self-reported personality traits and arranged marriage status. Other factors that are associated with husband's personality traits include wife's personality traits; for example, women who self-report that they are more thorough are significantly more likely to have husbands who self-report that they are also thorough. Positive associations between personality traits of husbands and wives also occur for the personality traits 'kind' and 'outgoing'. Women with more education are more likely to be married to men who describe themselves as kind, original, and outgoing.

We hypothesized that women in arranged marriages would be more likely to have similar religious backgrounds to their spouses than women in self-choice marriages. Approximately 88% of women surveyed identified as Muslim, with smaller percentages of Protestants (4%), Catholics (1.6%), Hindus (5%), and Buddhists (0.5%). While there is some religious diversity in the country, the percentage of couples who differ in their religious background is very small (less than 1%). Overall, 12,159 couples shared a religious background, while only 77 did not. Choosing a marriage partner outside of your religion is quite rare in this context. To examine whether this varies by arranged marriage status, we examined the proportions separately. Couples in self-choice marriages have the same religious backgrounds in 99.32% of marriages, and couples in arranged marriages have the same religious backgrounds in 99.68% of marriages. The results of a chi-square test with Yates continuity correction show that $\chi^2(2) = 2.8949$, $p = 0.089$. Even though we have a very large sample, there is not

Table 3. Multiple regression model predicting husband's self-reported personality trait (a) thorough, (b) kind, (c) original, and (d) outgoing

	Thorough			Kind			Original			Outgoing		
	Beta	SE	p-value	Beta	SE	p-value	Beta	SE	p-value	Beta	SE	p-value
Arranged marriage (ref = self-choice)												
Arranged by parents	0.06	0.06	0.28	0.01	0.05	0.90	-0.12	0.07	0.10	-0.01	0.05	0.83
Arranged by others	0.03	0.1	0.75	0.03	0.09	0.75	-0.29	0.13	0.02	0.00	0.09	0.97
Wife's personality trait	0.06	0.02	<0.01	0.06	0.02	<0.01	0.02	0.02	0.27	0.05	0.02	<0.01
Wife's education	0.01	0.01	0.2	0.03	0.01	<0.01	0.07	0.01	<0.01	0.02	0.01	0.01
Region (ref = Sumatra)												
Java	0.01	0.03	0.65	0.06	0.03	0.06	-0.03	0.04	0.41	-0.01	0.03	0.7
Bali & Nusa Tenggara	0.02	0.04	0.63	0.06	0.04	0.11	-0.02	0.05	0.66	0.08	0.04	0.03
Kalimantan	0.01	0.06	0.83	0.05	0.06	0.41	0.06	0.08	0.48	0.04	0.06	0.56
Sulawesi	-0.06	0.07	0.34	0.11	0.06	0.1	0.20	0.09	0.03	0.03	0.07	0.68
Ref = Rural												
Urban	0.06	0.03	0.03	-0.06	0.03	0.02	0.03	0.04	0.45	-0.02	0.03	0.39
Constant	3.82	0.09	<0.01	3.76	0.09	<0.01	3.48	0.08	<0.01	3.86	0.09	<0.01
n		2793			2793			2793			2793	

Note: **Bold** indicates p-value < 0.05, n represents sample size.

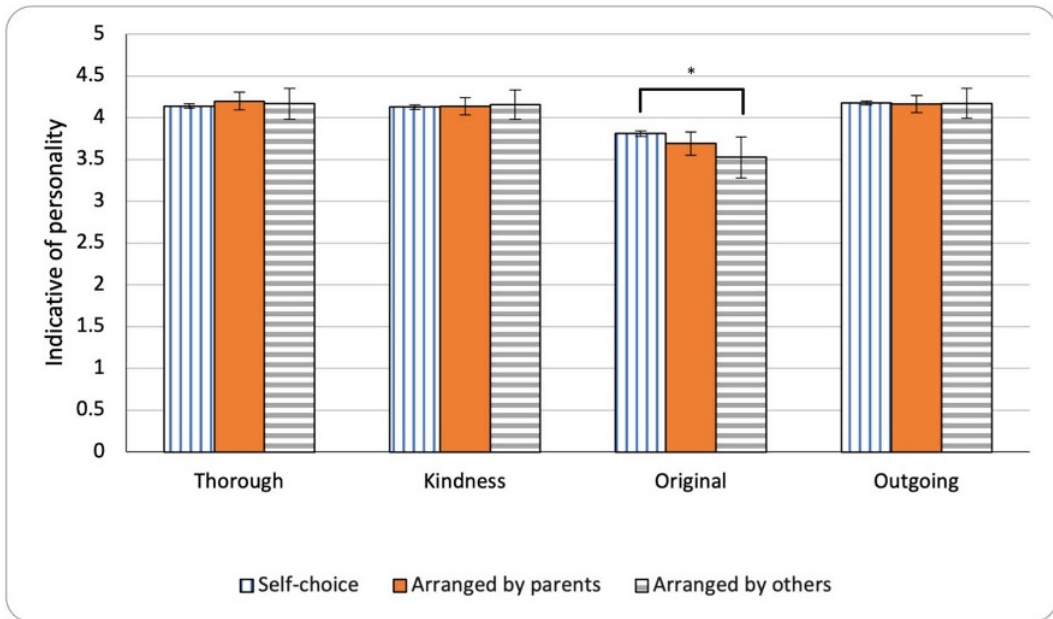


Figure 2. Predicted values with 95% confidence intervals of self-reported personality traits based on the models shown in Table 3 for couples in self-choice marriages (blue vertical lines), parentally arranged marriages (solid orange), and non-parentally arranged marriages (grey horizontal lines).

Table 4. Ethnic similarity or difference by arranged marriage status

	Self-choice marriage	Arranged by parents	Arranged by others
Different ethnic backgrounds	1,356 (15.11%)	63 (6.05%)	9 (8.74%)
Same ethnic backgrounds	7,616 (84.89%)	979 (93.95%)	94 (91.26%)

sufficient evidence to show a significant difference in shared religious background based on marital status.

There is substantial ethnic variation in Indonesia. The survey measured 26 unique ethnic groups, including common ethnicities like Javanese (representing about 43.3% of the sample) and Sundanese (11.5%), and less common ethnic identities like the Komering and Manado (both less than 0.1% of the sample). Given this ethnic variation, there is a higher proportion of inter-ethnic marriages than inter-faith marriages; 14.11% of couples identify as being from different ethnic groups, while 85.89% of couples identify as belonging to the same ethnic group. Examining this by arranged marriage status, we see that 15.11% of self-choice couples identify as belonging to different ethnicities, while only 6.7% of arranged marriage couples identify as belonging to different ethnicities (including those arranged by parents or arranged by others). A chi-square test shows that these differences are statistically significant, $\chi^2(2) = 65.8019$, $p < 0.001$. Table 4 presents the number and percentage of couples having the same or different ethnic backgrounds separated into self-choice, arranged by parents, and arranged by others.

4. Discussion

In this study we explored differences in mate characteristics between husbands of women whose marriage was arranged versus husbands of those who chose their own mates. Based on prior studies, we predicted that there would be differences between the traits women choose in a husband compared

Table 5. Summary of predictions and results

Trait	Prediction	Result
Dependability/thoroughness	AM > SC	ns
Kindness	AM > SC	ns
Creativity/originality	SC > AM	SC > AM (non-parental)
Exciting personality/outgoing	SC > AM	ns
Wealth	AM > SC	ns
Education	AM > SC	SC > AM (opposite of prediction)
Same religion	AM > SC	ns
Same ethnicity	AM > SC	AM > SC

Note: SC = self-choice marriages, AM = arranged marriages, ns = not significant.

to those parents choose for their daughters' spouses. In other words, there would be different traits in the husbands of women in self-choice marriages from those in arranged marriages. Specifically, we predicted that the husbands of women in self-choice marriages would have lower education, fewer assets prior to marriage, and would display the personality traits, 'original and comes up with new ideas', and 'outgoing, sociable' more often than the husbands of women in arranged marriages. We predicted that the husbands of women in arranged marriage would have more assets at marriage, higher educational attainment, and would show greater agreement with the personality traits 'does a thorough job' and 'is considerate and kind to almost everyone' than the husbands of women in self-choice marriages. Finally, we predicted that couples in arranged marriages would be more likely to share a religious and ethnic background than those in self-choice marriages (see [Table 5](#) for an overview of predictions and the corresponding results).

Except for ethnicity, husband's education level, and the personality trait, 'is original, comes up with new ideas', we did not find significant differences in husbands' traits when comparing women in self-choice or arranged marriages. Husbands in arranged marriages, particularly those arranged by people other than parents, are less likely to report themselves as original. Husbands in marriages arranged by parents had reduced education, counter to predictions. The strongest result in support of our predictions is that couples in arranged marriages were more likely to share an ethnic background. Of our eight predictions, only two provided a significant effect in the predicted direction – and one of those was only significant for marriages where the arranger was not a parent (this effect did not reach significance for marriages arranged by parents). We interpret these findings as providing minimal support for differences in traits of husbands of women in arranged marriages compared to husbands in self-choice marriages (see [Table 5](#)).

There are several possible reasons why few differences were found in mate characteristics between the husbands of women in self-choice compared to arranged marriages. In this study, arranged marriage was defined by a single question that asked participants who 'chose their first marriage partner', with only a few possible answers to select from. Of course, arranged marriage is not a binary outcome (yes or no), but rather a continuum (e.g., Apostolou, 2007). While in some cases individuals may have no say over their marital partner (e.g. with child betrothal) and others may have complete control, it is likely that most individuals fall in between these extremes. In a study of marriage patterns in Java from 1935 to 1953 and after, Malhotra (1991) examined percentages of marriages for four different patterns: arranged by parents, parentally arranged with offspring's approval, self-choice with parents' approval, and self-choice. Self-choice with parents' approval was the most common marriage category in the most recent cohort. If parents select several possible approved mates, but offspring make the final decision, it is unknown how this would be coded in this study. Further, if offspring primarily choose their partners, but only go through with marriage if parents approve, it also

falls between the two extremes. If more intermediate forms of arranged versus self-choice marriage are occurring in this context, we may expect smaller differences across the mates that are chosen. While arranged marriage is becoming less common in Indonesia, parental approval is still extremely important (Malhotra, 1991) and parental wishes still strongly influence mate choice (Buttenheim & Nobles, 2009; Jones, 2005; Nilan, 2008). It may be that women in this study who chose their own mates compromised on traits to gain parental approval for the marriage. It is also possible that the parents or family members who arranged the marriages in this study did not completely impose their will on their daughters and instead gave them some say in their future spouse.

Another reason why our results find minimal differences in mate characteristics might be that traits we expect to vary the most between parents and offspring's mate preferences could not be measured in this data set. For example, previous research has shown that offspring consider physical attractiveness a more desirable trait in a mate than do their parents (Apostolou, 2008a, 2011; Bovet et al., 2018; Buunk et al., 2008; Buunk & Solano, 2010; Dubbs et al., 2013; Fugère et al., 2019; Lefevre & Saxton, 2017; Locke et al., 2020; Perilloux et al., 2011), but we had no measure of attractiveness in this dataset. Another trait that previous studies found offspring preferred more in a mate than their parents was an 'exciting personality' (Apostolou, 2011; Buunk et al., 2008; Dubbs et al., 2013; Perilloux et al., 2011). It is unclear exactly what constitutes an 'exciting personality' and in the current study, the trait 'outgoing, sociable' was used as a proxy for an 'exciting personality', but they may not be equivalent traits. Further, the personality traits reported in this study were self-reported by the husband and may not reflect the perception of others. It is also possible that men did not accurately report their personality traits. Personality traits were measured at the last wave of data collected (2014/2015), which always occurred after marriage, so another possibility is that personality traits changed over time. To examine this possibility, we limited the sample to those couples who had been married within five years of the last survey (hopefully minimizing personality change through time) and reran our models as a sensitivity analysis (see SM Table S3). The results show no significant correlation of arranged marriage status and self-reported personality traits. The effect of originality, which was significant for arranged marriage when the arranger was not a parent (see Table 3), is eliminated in the sensitivity analysis, with a beta value close to zero.

An additional limitation is that religion was measured at the time of the survey, not prior to marriage. If individuals change their religious affiliation to marry, then we would not be able to capture it in this study and may be overestimating the percentage of couples who have the same religion. Evidence from Indonesia suggests that if people convert in order to marry, they typically convert back after marriage (Aini et al., 2019), minimizing concerns that we have underestimated the effect. Another possible issue is that marriage is not equivalent to mating, so while parents may be able to direct who their offspring marries, the offspring may engage in mating outside of their marriage to achieve their mate preference.

Arranged marriage is not randomly assigned, and therefore we cannot make any causal claims about the relationship between arranged marriage and husbands' characteristics. It is possible that there are traits that correlate with both arranged marriage status and the characteristics of the husband, but given that our results found few significant differences, it is less likely that we are misattributing arranged marriage status as an important driver of husband's traits.

The key result that supported our predictions is that couples are more likely to have the same ethnic background in arranged marriages than in self-choice marriages. This may mean that parents are preferentially choosing partners of the same ethnic background for their daughters due to a perceived benefit for the family, but there are alternative interpretations. For instance, it is possible that parents' social networks are composed of individuals with similar ethnic backgrounds more so than those of young adults, who are more likely to interact with people of varied ethnic backgrounds (perhaps due to tertiary education). Future research should explore why parents are more likely to choose in-laws of the same ethnicity and the implications of that choice.

While 40% of prior studies found that parents' stated preference for education in a son-in-law was higher than the preference of a daughter in a spouse, we find that women in arranged marriages married men with lower levels of education than women in self-choice marriages. A deeper examination into how this varies by rurality shows that this pattern holds for people living in both urban and rural contexts. One possible interpretation of this result is that those who are more highly educated may be less willing to engage in arranged marriage. A recent study in Matlab, Bangladesh found that women in self-choice marriages had higher education and married men with more education (Schaffnit et al., 2023). This may reflect increased market integration, which allows young women increased status to facilitate good marriages with less parental assistance. However, some ethnographic research in Indonesia has found that highly educated women still value and engage in arranged marriage (Alfian, 2022).

Our results suggest that although parents and offspring differ in what they say they prefer in a mate (e.g. in a survey), when it comes down to choosing a mate, parents and offspring make similar decisions. Previous research has shown that self-reported preference may not be a reliable way to determine someone's true preferences (e.g. female preference for physical attractiveness (Sprecher, 1989)). A study from Turkey also finds little difference in spousal characteristics for those in arranged marriages compared to self-choice marriages (Fox, 1975). Pillsworth et al. (2023) examined partner characteristics among the Shuar in Amazonian Ecuador and found that while there are some differences, there is closer alignment between daughter and parent preferences than previous studies predict. Finally, Agey et al. (2023) found, using focus groups in Nepal, that parents and offspring often agree over the desired qualities of a spouse. One's stated preference may reflect one's ideal mate, while one's actual partner is more constrained by available options and inherent trade-offs, possibly minimizing differences in mate choice between parents and adult offspring. These results may also help explain the lack of significant fitness differences between self-choice and arranged marriage couples found in some previous studies (Agey, 2024; Sorokowski et al., 2017).

Although some earlier studies have emphasized differences in mate preferences, the similarities may hold greater importance. For example, Buss (1989) examined mate preferences cross-culturally and found some differences across gender, but both men and women chose mutual attraction/love as their top characteristic in a mate. The same may be true in this case. Although previous studies have focused on the differences between parents and offspring in mate choice, it is possible that their similarities outweigh their differences (e.g., Fugère, Doucette, et al., 2017).

Without performing similar studies in other groups with arranged marriage, it is difficult to know whether the results of this study are unique to this cultural context. In a study of mate preferences in 37 cultures, Buss (1989) found that across all groups studied, culture accounted for 14% of the variation in preferences. It is possible then, that a study similar to this one may have different results if conducted in a different cultural context.

Our results show evidence of assortative mating. Assortative mating has previously been identified as a factor in human mate choice (Watson et al., 2004; Zietsch et al., 2011), and our results confirm this, as women with more pre-marital assets married husbands who also had more assets prior to marriage, and more highly educated women married men with more education. Both findings indicate that there is some level of assortative mating occurring in Indonesia. Personality traits also correlated, but it is hard to know if these were similar prior to marriage or converged after marriage.

5. Conclusion

Overall, our study did not support the hypothesis that the type of marriage (self-choice versus arranged) results in strong differences in husband characteristics. The one supported prediction is that couples in arranged marriage were more likely to share an ethnic background than couples in self-choice marriages. We found that women in self-choice marriages were significantly more likely

to marry men with higher levels of education than women in arranged marriages, counter to predictions. While there are limitations to this research, it is also possible that, at least in the Indonesian context, arranged marriage does not lead to mate characteristics that vary greatly from those choosing their own partners, particularly regarding wealth, education, and personality traits.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/ehs.2025.11>.

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