



Testing evolutionary and cultural theories regarding mate selection in Turkey[☆]

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ABSTRACT

Most studies on mate selection criteria have focused on women and rely on Western samples. In the present study, we tested both women's and men's mate preferences from evolutionary and cultural perspectives in a large, mostly Muslim sample ($N = 1114$). Results showed that (1) the relation between women's families' income level and the income level they prefer in their potential mates is inconsistent with the cultural similarity hypothesis; (2) women place more importance on intelligence (i.e., good genes-mental), willingness to provide (i.e., good father) and ability to provide (i.e., good provider) in their potential mates, whereas men place more importance on physical attractiveness (good genes-physical); (3) in contrast to some previous findings, the importance of "willingness to provide" was negatively related to socio-economic status but positively related to religiosity; (4) "willingness to provide" properties were the most important preference criteria for women; and finally (5) as perceived attractiveness of the self increased, both women and men became more stringent in their criteria. Taken as a whole, the findings are consistent with an evolutionary approach to mate selection.

1. Evolutionary and cultural perspectives

Buss and Schmitt (1993) argue in Sexual Strategies Theory (SST) that the importance of economic resources possessed by a potential mate for women is an evolutionarily selected trait. In 36 of the 37 cultures tested, women rated economic resources more highly than men (Buss, 1989). One of the variables affecting this relationship is the woman's own economic resources. Townsend (1989) found that, as the income level of women increased, the importance placed on the wealth of the potential partner also increased; Wiederman and Allgeier (1992) reported similar results (see also Li, Valentine, & Patel, 2011; Shackelford, Schmitt, & Buss, 2005a). Buss and Schmitt (1993) claim that these findings support their evolutionary theory.

In contrast to the SST, Social Role Theory (SRT; Eagly & Wood, 1999) argues that the relationship between gender and preference for economic resources does not require an evolutionary basis and can simply be explained by women's preference for mates with status and resources similar to theirs. To the best of our knowledge, however, there are no studies that directly test these two theories against each other, and the vast majority of existing studies are from Western samples (cf. Henrich, Heine, & Norenzayan, 2010). In this study, we examine both men's and women's preferences to see which theory better

fits the data. If the positive relation between a woman's family's economic status and her preference for the economic status of her mate is replicated for men as well, this would support the SRT, whereas a null relationship between own and potential mate's economic status in men would be more consistent with SST. This is because the SST expects the relation to have evolved in women only. The SRT, on the other hand, expects the similarity preference to hold equally for women and men. Therefore, the first objective of this research is to pit the evolutionary perspective of SST against the cultural perspective of SRT in a mostly Muslim non-western community, a sample that is mostly under-represented in the evolutionary literature.

2. 3G hypothesis

In the evolutionary psychological literature, men's mate value from the perspective of women is thought to revolve around two basic categories: being a good provider (e.g., being rich) and having good genes (e.g., being physically attractive; Buss, 2015). In addition to these two, Lu, Zhu, and Chang (2015) suggested that women developed a new kind of mate selection criterion, being a good father, which has evolved in response to the pressures of modern life conditions. They argue that women in general, and in particular those who have high socio-economic status (SES) and live an

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urban life, place more importance on the good father characteristics (e.g., loving children and having a sense of responsibility). Consistent with this hypothesis, they showed in two separate correlational studies that as women's SES increased, the importance of good father properties increased as well. In a third study, they experimentally manipulated predicted future SES and found that participants in the good economic condition manipulation significantly preferred good father characteristics to good provider and good genes characteristics. All of these studies have been conducted with Chinese participants and, to the best of our knowledge, the findings have not been replicated cross-culturally. However, China has recently seen a rapid economic and social transformation (e.g., Chang, Wang, Shackelford, & Buss, 2011; Yang, 1996, 1998). For this reason, Lu et al. (2015) point to the need to test the 3G hypothesis in other cultures as well.

In addition, the research done by Lu et al. (2015) has only been performed on women, but some of the characteristics that make up the "good father" category are also those that a man might want to have in a potential wife. This is why we studied men in addition to women in the present study. As a matter of fact, Buss and his colleagues (Buss, 2015; Buss & Schmitt, 1993) divide good provider characteristics into those that correspond to "ability to provide" and those that correspond to "willingness to provide", the latter of which more or less overlaps with the category Lu et al. (2015) call the "good father". In addition, "good genes" consists of two sub-categories; physical and mental. For example, while men place more importance on physical attractiveness than women (good genes-physical), women place more importance on intelligence than men (good genes-mental; e.g., Shackelford, Schmitt, & Buss, 2005b). We therefore examined these characteristics under four main categories: good genes-physical, good genes-mental, ability to provide (i.e., being a good provider) and willingness to provide (i.e., being a good father). We tested the previously reported mate preference-related sex differences in Turkey and specifically the relation between good-father characteristics and SES as predicted by Lu et al.'s hypothesis (2015).

Buss and Shackelford (2008) also report that as the self-perceived physical attractiveness of a woman increases, she wants the best of everything. In other words, if the woman finds herself attractive, she will place greater importance on both aspects of good genes (physical and mental), on ability to provide and on willingness to provide. We examine this relationship in Turkey for both women's and men's preferences.

Finally, in this research, instead of directly measuring the income level of the participants (e.g., Townsend, 1989; Wiederman & Allgeier, 1992), we measured the income of their families which we consider to be more predictive. As a matter of fact, in Eagly and Wood's (1999) account, a woman is expected to choose a partner consistent with the *social stratum* of her family.

3. Overview of the research questions

To summarize, this research has four main objectives. First, we compare the cultural hypothesis of Eagly and Wood (1999) and Buss's evolutionary hypothesis in a sample of men and women with a Muslim majority. Second, we examine whether men and women differ in their preference for good genes (physical and mental), ability to provide and willingness to provide. Third, we test the validity of the 3G hypothesis, which has previously been tested in the Chinese culture by Lu et al. (2015), in the Turkish culture. Finally, another evolutionary hypothesis by Buss and Shackelford (2008) was tested to see whether the significance of all four mate preference categories increases as the self-perceived attractiveness of men and women increases.

4. Method

4.1. Participants

One thousand one hundred and fourteen undergraduates (589

female and 525 male) participated in this study for extra course credit. Ages ranged from 18 to 26 for males ($M = 22.17$, $SD = 2.11$) and 18–27 for females ($M = 21.35$, $SD = 2.52$). The four universities the participants attended represent a broad spectrum of cultural and socioeconomic backgrounds in Turkey. In fact, the participants hailed from 71 (out of a total of 81) different provinces.

4.2. Materials and procedure

A survey form was used to collect the data. The first part contained questions about socioeconomic variables (e.g., the average monthly income of the family, father's and mother's education, etc.). In the second part, the participants were asked to rate the importance of 10 characteristics of their potential mates on a Likert-type scale from 1 to 7 where 1 meant "not at all important" and 7 meant "extremely important." These 10 characteristics (namely being *religious*, being *intelligent*, having *good earning capacity*, *wanting children*, being *well-educated*, being *physically attractive*, being *ambitious*, being *loyal*, being *respectable*, having a *sense of responsibility*) were derived from the literature investigating mate preferences (e.g., Buss, 1989; Buss & Barnes, 1986; Chang et al., 2011). The survey was administered by the investigators in classrooms with groups of 5 to 25 students. Completing the survey took about 20 min.

Being physically attractive represents the "good genes-physical" score while being intelligent represents the "good genes-mental" score. The "ability to provide" score is comprised of four items (being ambitious, having good earning capacity, being well-educated, being respectable) whereas the "willingness to provide" score is comprised of three items (being loyal, wanting children, having a sense of responsibility). Being religious was added as an extra characteristic.

5. Results

Table 1 and Table 2 display the correlations among the variables in this study separately for women and men. The first aim of the study was to test a claim by Eagly and Wood (1999): Women with high income have increased preference for financial resources in prospective mates because women want mates with income levels similar to them. To test this claim, we looked at the correlation between women's family income level and the importance they placed on the income level of their prospective mates and compared it with that of male's family income level and the importance they placed on the income level of their prospective mates. The results demonstrated that there is a positive correlation between women's family income and the importance they placed on the income level of their prospective mates [$r(589) = 0.120$, $p = 0.004$]; however, the two variables were unrelated in males [$r(525) = 0.011$, $p = 0.804$]. When age, parental education, and family religiosity were controlled, the results remained constant. We used Fisher's r -to- z transformation in order to compare the magnitude of the crucial differences in correlations (comparing women's and men's family income with the income level of their prospective mates), and the results revealed that these two correlations are significantly different from each other ($z = 1.821$, $p = 0.034$). The results, therefore, support the evolutionary theory of mate selection (e.g., Buss, 2015; Buss & Schmitt, 1993).

Secondly, we investigated whether there are any differences between men's and women's scores on four mating preference categories (i.e., good genes-physical and mental, ability and willingness to provide). In line with the previous literature (e.g., Shackelford et al., 2005b), the results revealed that females ($M = 6.01$, $SD = 0.94$; 95% CI [5.94, 6.09]) valued "good genes-mental" more than males ($M = 5.60$, $SD = 1.27$; 95% CI [5.49, 5.71], $t(1111) = -0.622$, $p < 0.001$), whereas males ($M = 5.29$, $SD = 1.30$; 95% CI [5.18, 5.40]) valued "good genes-physical" more than females ($M = 4.78$, $SD = 1.20$; 95% CI [4.68, 4.87], $t(1112) = 0.684$, $p < 0.001$). In addition, females gave more importance to both willingness to provide ($M = 6.39$,

Table 1
Correlations among the variables used in this study for men.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|
| 1-SES | – | | | | | | | | | | | |
| 2-Family religiosity | –0.003 | – | | | | | | | | | | |
| 3-Being religious | 0.004 | 0.724*** | – | | | | | | | | | |
| 4-Being intelligent | –0.042 | –0.002 | 0.001 | – | | | | | | | | |
| 5-Having good earning | 0.011 | –0.063 | 0.018 | –0.047 | – | | | | | | | |
| 6-Wanting children | 0.028 | 0.189*** | 0.278*** | –0.010 | –0.036 | – | | | | | | |
| 7-Being well-educated | 0.013 | –0.112* | –0.054 | 0.405*** | 0.138** | 0.015 | – | | | | | |
| 8-Being physically attractive | 0.059 | –0.064 | –0.068 | 0.198*** | 0.296*** | –0.054 | 0.089* | – | | | | |
| 9-Being ambitious | –0.009 | 0.059 | 0.042 | 0.390*** | 0.157*** | 0.124** | 0.424*** | 0.204*** | – | | | |
| 10-Being loyal | 0.003 | 0.163*** | 0.209*** | 0.051 | –0.013 | 0.297*** | 0.026 | 0.073 | 0.071 | – | | |
| 11-Being respectable | 0.145*** | 0.023 | 0.104* | 0.167*** | 0.201*** | 0.204*** | 0.260*** | 0.138** | 0.250*** | 0.094* | – | |
| 12-Having responsibility | –0.016 | 0.124** | 0.199*** | 0.182*** | 0.030 | 0.399*** | 0.185*** | –0.017 | 0.205*** | 0.351*** | 0.334*** | – |

* $p < 0.05$.
** $p < 0.01$.

Table 2
Correlations among the variables used in this study for women.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------------------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|
| 1-SES | – | | | | | | | | | | | |
| 2-Family religiosity | 0.014 | – | | | | | | | | | | |
| 3-Being religious | –0.033 | 0.770*** | – | | | | | | | | | |
| 4-Being intelligent | –0.002 | –0.013 | 0.006 | – | | | | | | | | |
| 5-Having good earning | 0.120** | 0.144*** | 0.243*** | 0.164** | – | | | | | | | |
| 6-Wanting children | 0.003 | 0.163*** | 0.248*** | 0.115** | 0.095* | – | | | | | | |
| 7-Being well-educated | 0.009 | –0.012 | 0.086* | 0.311*** | 0.279*** | 0.022 | – | | | | | |
| 8-Being physically attractive | 0.048 | 0.060 | 0.089* | 0.265*** | 0.386*** | 0.125** | 0.174*** | – | | | | |
| 9-Being ambitious | 0.069 | 0.066 | 0.091* | 0.356*** | 0.259*** | 0.066 | 0.236*** | 0.263*** | – | | | |
| 10-Being loyal | 0.013 | 0.138*** | 0.198*** | 0.170** | 0.115* | 0.204*** | 0.215*** | 0.085* | 0.154*** | – | | |
| 11-Being respectable | 0.104* | 0.121** | 0.199*** | 0.251*** | 0.405*** | 0.262*** | 0.303*** | 0.170** | 0.343*** | 0.226*** | – | |
| 12-Having responsibility | –0.002 | 0.153*** | 0.175*** | 0.262*** | 0.155*** | 0.279*** | 0.228*** | 0.056 | 0.254*** | 0.374*** | 0.388*** | – |

* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

$SD = 0.62$; 95% CI [6.34, 6.44]) and ability to provide ($M = 5.56$, $SD = 0.73$; 95% CI [5.50, 5.62]) than males ($M = 6.26$, $SD = 0.76$; 95% CI [6.20, 6.33], $t(1112) = -0.3.03$, $p = 0.003$; $M = 4.94$, $SD = 0.96$; 95% CI [4.86, 5.02], $t(1112) = -0.12.13$, $p < 0.001$, respectively).¹ These results are consistent with the previous literature and support the evolutionary theory of mate selection (Buss, 1985).

Thirdly, we tested the 3G hypothesis of Lu et al. (2015)—the argument that high-SES women value willingness to provide more than low-SES women. First of all, we investigated the correlation between women's income and the “willingness to provide” characteristics (i.e., good father) in their prospective mates. The results yielded a non-significant correlation [$r(589) = 0.005$, $p = 0.905$] in contrast to Lu et al.'s (2015) finding. As in Lu et al. (2015), we further computed a composite SES score (by combining income and level of education); the results yielded a significant negative correlation [$r(589) = -0.106$, $p = 0.010$]. Religiosity, however, was positively correlated with the “willingness to provide” preferences of women [$r(589) = 0.208$, $p < 0.001$]. Thus, the results are not in line with those of Lu et al.'s (2015) and suggest that willingness to provide (i.e., good father) preferences of women are associated with conservatism, rather than high SES, in Turkey.

We also tested another finding of Lu et al.'s (2015): whether the most endorsed preference of women is willingness to provide. A repeated measures ANOVA revealed a significant difference among four preferences, $F(3, 1761) = 470.31$, $p < 0.001$, $\eta p^2 = 0.445$, and in line

¹ Since we are making four comparisons here, we divided the critical p value of 0.05 by 4 and obtained the new critical value 0.0125. Significance was retained after this correction; all four comparisons were significant at $p < 0.004$.

with Lu et al.'s (2015) previous finding, the results revealed that willingness to provide scores had the highest mean among other mate preferences. The pairwise comparisons also yielded the expected differences between “willingness to provide” and “ability to provide” and “good genes” (both types) preferences (all $ps < 0.001$).

Lastly, we tested another evolutionary hypothesis on the relationship between women's physical attractiveness and their preferences in their prospective mates. The evolutionary argument (Buss & Shackelford, 2008) suggests that when self-perceived attractiveness increases, the value women place on all characteristics (i.e., good genes, willingness and ability to provide) also increases. Thus, this argument expects a positive correlation between perceived physical attractiveness and all characteristics for women. We first investigated these relations on women and found a positive correlation on all characteristics (all $rs > 0.16$, $ps < 0.001$). When we tested the same relations on men, the results yielded similar results (all $rs > 0.20$, $ps < 0.001$) except in the willingness to provide characteristics: There was a marginally significant positive correlation between men's perceived attractiveness and willingness to provide preferences in their prospective mate ($r = 0.081$, $p = 0.065$). Thus, the results partially support the evolutionary argument since Buss and Shackelford (2008) found a significant relation in women, but not in men.

6. Discussion

In this research, an evolutionary (SST) and a cultural (SRT) approach to explain the mate preferences of women and men have been examined in a Muslim country. First, the previously reported positive relationship between a woman's family income and the importance of

the income of her potential mate was examined. The presence of a positive relationship in women but not in men is more consistent with Buss's evolutionary hypothesis rather than Eagly and Wood's (1999) cultural hypothesis. Secondly, while women place more importance on good genes-mental qualities than males in accordance with the evolutionary approach, men place more importance on good genes-physical characteristics than females. Women also placed more importance on willingness and ability to provide characteristics than men. These are broadly consistent with the evolutionary hypothesis.

Thirdly, in contrast to the findings of Lu et al. (2015), willingness to provide (i.e., good father) characteristics were not related to women's income. In fact, those characteristics were negatively related with a composite measure of SES comprised of women's income and education level. On the other hand, those characteristics were positively related to religiosity. This may be indicative of some unique features of Turkey as a conservative and religious country (Çarkoğlu & Kalaycıoğlu, 2009). On the other hand, this discrepancy may also be due to the fact that the characteristics under the "good father" category were not identical in the present study and in Lu et al. (2015). However, in parallel with the findings of Lu et al. (2015), the features most endorsed by women were the willingness to provide characteristics. Finally, it was shown that, in accordance with the prediction of the evolutionary hypothesis, increase in the self-perceived attractiveness of both women and men was positively related with increases in the importance placed on all four characteristic categories (Buss, 2015). All of these findings are broadly consistent with the evolutionary hypothesis in general and point to the importance of cultural differences in the characteristics of willingness to provide.

6.1. Implications

As far as we know, for the first time in this research, the SST and the SRT have been directly compared to include both women and men in a non-western sample and it was clearly shown that the relationship between women's income and the preference of the income of a potential mate cannot be explained simply by the "similarity" hypothesis. Besides, the predictions of the 3G hypothesis were not entirely replicated, possibly pointing to the importance of Turkey's conservative and religious features. What mediates between the evolutionary/environmental pressures and cultural differences in mate preferences is a question that needs to be examined in future research. One potential variable is pathogen sensitivity. It is now well-known that mate preferences can change from culture to culture, from one historical period to another within the same culture, from individual to individual, and even within the same individual in different environments (e.g., Buss, 1989; Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Chang et al., 2011). Changes in pathogen sensitivity might therefore partially account for such changes (e.g., Anderson & Klofstad, 2012; Lee & Zietsch, 2011). One recent demonstration of cultural variation in women's mate preferences is the cross-cultural study by DeBruine, Jones, Crawford, Welling, and Little (2010; see also Boothroyd, Jones, Burt, & Perrett, 2007; Penton-Voaka, Jacobson, & Trivers, 2004). They have shown that, across 30 countries, there was significant variation in women's preference for masculinized male faces. However, the variation was far from being random: It was negatively correlated with the national health index (which is based on, among other things, historical prevalence of pathogens). The findings are easily accommodated by a trade-off theory (e.g., Gangestad & Scheyd, 2005; Thornhill & Gangestad, 1996) where genetic quality in a mate becomes important when general health in the population is a serious problem.

Mate preferences can also shift in response to socioeconomic development within the same culture (e.g., Buss et al., 2001; Chang et al., 2011). For example, Chang et al. (2011) demonstrated that across a quarter of a century in China, the importance of chastity has significantly decreased whereas the importance of good financial prospects has significantly increased for both Chinese men and women (see

also Lu et al., 2015). Since pathogen prevalence generally decreases in parallel with socioeconomic development (see Murray & Schaller, 2010), decreased sensitivity to pathogens might be the mediating factor between socioeconomic development and changing mate preferences.

There is also evidence that pathogen prevalence in a region is negatively correlated with unrestricted socio-sexuality and positively correlated with conservative attitudes (Schaller & Murray, 2008). Since Turkey has been, and still is, a geographical region where pathogen prevalence is relatively high (Murray & Schaller, 2010), sensitivity to pathogens is one potential variable that can explain why religiosity in our study is positively correlated with willingness to provide preferences in a prospective mate in women irrespective of their income level. This explanation naturally leads to the prediction that this relation will be the same in China if there is a significant decrease in the prevalence of significant diseases, and also if pathogen sensitivity is experimentally manipulated in Chinese participants. In addition, experimentally inducing good economic conditions as in Study 3 of Lu et al. (2015) can also shift Turkish people's mate preferences closer to the Chinese participants. These predictions remain to be tested.

6.2. Strengths, limitations, and future directions

One of the strengths of this research is that we study these relationships in a predominantly Muslim culture, a population largely neglected in both the psychological literature in general and in the evolutionary psychology literature in particular (cf. Henrich et al., 2010). However, as in any research, this research has several weaknesses. One is that the adjectives we used to designate the mate preference characteristics were quasi-randomly selected from the literature and then were evaluated on the basis of existing classifications. Therefore, although the categories "willingness to provide" that we used and "good father" used by Lu et al. (2015) are conceptually similar, the attributes used under each category were not identical. This is one possible reason behind the differences in the two studies. This is a question that needs to be examined in future studies.

Another issue with the categorization of mate preference criteria as employed by the 3G hypothesis and used in this research is that the three categories are not necessarily separate and independent. For example, we classify intelligence under the good genes category but intelligence might also be perceived as predictive of the ability to provide resources. Similarly, our willingness to provide and ability to provide characteristics are presumably to some extent heritable and thus partially overlap with good genes characteristics. Consequently, more work is needed to come up with a better classification of mate preference characteristics.

Another potential methodological problem, which is rarely brought up in mate preference studies, deserves mention: the marital status of the participants. The participants in the previously mentioned studies are sometimes married couples (e.g., Buss, 1989), sometimes (mostly unmarried) students (e.g., Townsend, 1989), and sometimes mixed groups with married and unmarried participants (e.g., Lippa, 2009). When findings are discussed, marital status is rarely mentioned as a potential variable. Lippa (2009) is one among a small group of researchers who is critical of this omission: He points out that participants in Schmitt (2005) are college students most of whom have not had serious long-term relationships, whereas participants in his own study are mostly married or in a serious relationship. Apparently, this is a factor that might make a difference in mate selection criteria. Our study is silent on this issue since all of our participants were young college students and we were not in a position to analyze whether this influenced our conclusions. Our point is that the marital status of the participants is potentially important in mate selection and since most studies investigate mate preferences of young and unmarried participants, future studies should focus on the preferences of more experienced participants to see whether the conclusions based on previous studies are valid.

The present study examined the mating preferences of Turkish men and women at a particular point in time. An interesting extension of the present research would be a similar examination of mate preferences in the next generation (cf. Chang et al., 2011). In addition, an examination of whether the revealed preferences are reflected in actual mating behavior might be a worthwhile extension (see Kenrick & Keefe, 1992).

7. Conclusion

To summarize, the findings regarding the four main research questions of the study indicate that this research makes several contributions to the evolutionary psychological literature by examining the preferences of women and men in a non-western culture. Although the findings support the evolutionary approach in general, the existing relationships have low effect sizes in parallel with the general literature. This observation points to the importance of increasing the representativeness of study samples in the future and of improving the validity of measurement devices.

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