

Assessment of Long-Term Mate Preferences in Iran

Mohammad Atari¹

Evolutionary Psychology
April-June 2017: 1–17
© The Author(s) 2017
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1474704917702459
journals.sagepub.com/home/evp
 SAGE

Abstract

Previous research suggests that assessment of mate preferences has received relatively little psychometric attention from researchers, particularly in non-Western cultures. The current research was designed to (1) extend previous findings on long-term mate preferences by using a qualitative strategy, (2) develop a psychometrically sound scale for assessment of long-term mate preferences in men, and (3) develop a sex-neutral scale for assessment of long-term mate preferences. Six dimensions of mate preferences emerged for men: F = family/domesticity, A = attractiveness/sexuality, K = kindness/dependability, E = education/intelligence, R = religiosity/chastity, and S = status/resources. These male-specific dimensions of mate preferences showed satisfactory concurrent and convergent validity as well as high internal consistency coefficients. We mixed the female- and male-specific measures of mate preferences and arrived at 20 characteristics without culture- or sex-specific content. We further hypothesized that the 20-item scale of mate preferences would have a five-factor structure (i.e., kindness/dependability, attractiveness/sexuality, status/resources, education/intelligence, religiosity/chastity [KASER]) in men and women and that this model would replicate sex differences cited in the evolutionary psychological literature. Measurement invariance was evidenced across sexes and sex differences accorded with those in the literature. Therefore, the five-factor model of long-term mate preferences (i.e., KASER model) as measured by the Iranian Mate Preferences Scale-20 may be used to evaluate long-term mate preferences in men and women in Iran. Limitations are noted and future directions are discussed in the light of evolutionary perspective on human mating psychology.

Keywords

mate preferences, mate selection, evolutionary psychology, sex differences, Iran, factor analysis, measurement invariance, psychometrics, scale development, validity and reliability

Date received: December 24, 2016; Accepted: March 6, 2017

Humans are the only great apes that engage in long-term pair bonding. Our closest relatives, chimpanzees and bonobos, mate promiscuously and do not form permanent monogamous relationships with individual partners. The fitness costs of long-term mateships may explain its rarity. Forming long-term, exclusive bonds with one or few mates risks the cost of losing other mating opportunities (Hurtado & Hill, 1992). Males who form long-term, sexually exclusive mateships face paternity uncertainty because of internal female fertilization and gestation, which creates the adaptive problem of cuckoldry—investing resources in genetically unrelated offspring (Buss, 2000). On the other hand, women who engage in committed mateships with individual partners often fail to secure the best possible genes for their offspring due to the fact that men with good genes indicators (e.g., masculine and physically fit) tend to be reluctant to remain committed in one exclusive mateship. Both

males and females risk significant costs with long-term mates. Despite its mentioned costs and rarity among other mammals, long-term committed relationship is the main mode of mating in humans across cultures, as it has important benefits for both men and women (Conroy-Beam, Goetz, & Buss, 2015). Humans prefer certain characteristics in choosing a long-term partner and such preferences in mate selection have solved sex-differentiated adaptive problems in the deep evolutionary history of humans (*Homo sapiens*).

¹ Department of Psychology, University of Tehran, Tehran, Iran

Corresponding Author:

Mohammad Atari, Department of Psychology, University of Tehran, Tehran 14155-6456, Iran.
Emails: mohammad.attari@yahoo.com; atari@ut.ac.ir



Creative Commons CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 3.0 License (<http://www.creativecommons.org/licenses/by-nc/3.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).

Given the choice between a dependable attractive partner and a cold-hearted cruel one, most people would strongly prefer the first over the second. Such preferences greatly influence partner selection which is an absolutely important life outcome across cultures. Mating preferences have been an important cornerstone of evolutionary psychological research and are defined as:

outputs of psychological mechanisms designed to motivate people to pursue potential mates who possess particular qualities. Preferred features range widely. They include morphological (e.g., face or body), behavioral (e.g., kindness or dominance), or social (e.g., status or connections) attributes. Mate preferences can be species typical, sex differentiated, individually variable, and predictably context dependant. (Conroy-Beam & Buss, in press)

In their evolutionary past, women experienced a higher obligatory parental investment due to the demands of gestation and breast-feeding. Consequently, women faced the adaptive problem of acquiring reliable resources for reproduction. Consistently, women prefer long-term, exclusive mates who possess resources or at least have the potential for resource acquisition. On the other hand, men faced adaptive problems of identifying fertile women as women's fertility is concealed and declines sharply with age. Thus, men prefer youth and bodily attractiveness which signal fertility. In this respect, sex differences in mating preferences have been the focus of many large-scale studies (e.g., Bech-Sørensen & Pollet, 2016; Buss, 1989; Eastwick & Finkel, 2008). Across cultures, sex differences have been reported to varied extent; however, a broadly accepted difference is that men tend to value physical characteristics such as bodily attractiveness (which is related to health and fertility; e.g., Furnham & Tsoi, 2012) while women are more inclined to select mates who have good earning ability (which is related to providing a better condition for future offspring; e.g., Frederick, Reynolds, & Fisher, 2013). Such fundamental differences in choosing a mate have been replicated across various cultures and different methodologies (Buss & Angleitner, 1989; Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Furnham, 2009; Li, Valentine, & Patel, 2011). Both sexes prefer kindness, health, and dependability in a long-term mate as both sexes faced similar adaptive problems in these domains.

There are a number of studies that examine mate preferences within one sex (Furnham & McClelland, 2015; Gangestad, Garver-Apgar, & Simpson, 2007). When asked how much they are currently seeking a long-term, committed partner, men do not differ significantly from women in their desire to find a long-term mate (Buss & Schmitt, 1993). Among those who investigated male mate preferences, there seems to be some replicable patterns. For example, the literature consistently suggests that men are attracted to healthy, fertile, young partners (Swami & Furnham, 2008). Moreover, there is evidence that men are attracted to intelligent, extroverted, stable, athletic women when choosing a long-term partner (Furnham & McClelland, 2015). In addition, men view promiscuous behavior in a potential long term as undesirable (Buss & Schmitt,

1993). The mentioned preferences in mate selection aided ancestral men to solve the adaptive problem of paternity uncertainty because long-term, committed relationships do not typically suffer from sexual infidelity, especially when mate guarding strategies are deployed (Buss, 1988).

Ancestral men with the ability to acquire resources were better able to provide tangible investment, such as shelter and food, than could men who lacked such ability. Women who selected men who could successfully provide reliable resources would have produced more offspring. In modern societies, women consistently rate qualities associated with resource acquisition (e.g., having housing, high income, wealth, and reliable future career) as more important in choosing a mate, compared with their male counterparts (Buss, 1989). Another way women can determine a man's potential to acquire economic resources is to evaluate his social status. Men with higher social status tend to provide greater resources than do men with lower social status. Women, therefore, prefer long-term partners with high social status (Buss, 1989; Kenrick, Groth, Trost, & Sadalla, 1993). More controversial findings indicate that, although women consistently prefer intelligent partners, some men could actually feel intimidated by intelligent women (Szymanowicz & Furnham, 2011). Furthermore, although women are consistently attracted to taller men, women's height may not significantly predict number of their partners or their sexual history (Frederick & Jenkins, 2015).

Measurement of long-term mate preferences has received research attention to a lesser extent. Much of the previously cited literature used psychometric tools to examine one's preferences in choosing a potential long-term mate. Usually, a number of characteristics in a potential mate are either rated or ranked. Although this method has its own limitations (see Long & Campbell, 2015), it has been widely used in a large number of studies. There is no globally accepted agreement on either the content of characteristics or the number of characteristics listed. Although the most frequently used list of mate preferences was first developed in the 1930s by sociologists (Hill, 1945), this 18-item list of characteristics has been widely used in the past decades (Buss, 1989). Other lists of characteristics have also been used in the literature (e.g., Furnham, 2009; Schwarz & Hasselbrauck, 2012). Sex- and culture-specific lists have also been developed in the literature. For example, Atari and Jamali (2016a) recently developed a female-specific 26-item scale with adequate psychometric properties to assess long-term mate preferences within Iranian culture.

In order to examine the factorial validity of these lists, some of them have been subjected to factor analytic methods. A 15-item list of characteristics was subjected to factor analysis by Goodwin and Tang (1991). These authors found that three dimensions underlie mate preferences (i.e., kindness/consideration, extroversion, and sensitivity). Simpson and Gangestad (1992) introduced two dimensions of mate preferences (i.e., attractiveness/social visibility, and personal/parenting qualities) by subjecting 15 items to factor analysis. Fletcher, Simpson, Thomas, and Giles (1999) analyzed 75 characteristics in choosing potential mates and reported three principal

dimensions (i.e., warmth-trustworthiness, vitality-attractiveness, and status-resources). Moreover, Schwarz and Hassebrauck (2012) reported 12 dimensions of mate selection preferences in a list of 82 characteristics (i.e., kind and understanding, dominant, pleasant, intellectual, wealthy and generous, physical attractiveness, cultivated, humorous, sociable, creative and domestic, reliable, and similarity). As can be seen, many of these characteristics are similar, calling for further research on the higher order structure of this scale or, alternatively, discarding some of the repetitive characteristics. Shackelford, Schmitt, and Buss (2005) used principal components analysis on the widely used 18-item list of characteristics (Buss, 1989). Using cross-cultural data, they identified four *universal* dimensions of mate preferences (i.e., love vs. status/resources, dependable/stable vs. good looks/health, education/intelligence vs. desire for home/children, and sociability vs. similar religion) and explained their groupings using trade-offs (Gangestad & Simpson, 2000). Shackelford et al. (2005) also suggested that intracultural investigations of the dimensions of mate preferences could be of incremental value to the literature on long-term mate preferences.

More recently, Atari and Jamali (2016a) used a mixed-methods strategy to develop a female-specific scale measuring long-term mate preferences in Iran. Following three studies, these authors developed a 26-item scale (see Appendix A) with a five-factor structure (i.e., kindness/dependability, status/resources, attractiveness/sexuality, religiosity/chastity, and education/intelligence). There is a growing literature using this female-specific scale in Iranian context. For example, Atari and Chegeni (2017) showed that dark personalities influence women's long-term mate preferences. Specifically, women who scored higher on a composite scale of narcissism, Machiavellianism, and psychopathy (collectively known as the Dark Triad; Paulhus & Williams, 2002) showed a stronger preference for the attractiveness/sexuality dimension while showing a weaker preference for characteristics grouped under the kindness/dependability dimension. As another example of the application of this five-factor model, Atari and Jamali (2016b) showed how self-assessed characteristics influence women's long-term mate preferences. Specifically, women who considered themselves more attractive than other women set higher standards in the dimensions of kindness/dependability, status/resources, and attractiveness/sexuality. Women who considered themselves more intelligent set higher standards in the dimensions of status/resources, attractiveness/sexuality, and education/intelligence. Women's self-rated religiosity (SRR) was strongly associated with their preference for religiosity/chastity in men. Finally, women who reported belonging to higher socioeconomic layers of the Iranian society set higher standards for the dimensions of status/resources, attractiveness/sexuality, and education/intelligence.

As mentioned, the five-factor model of Iranian mate preferences (Atari & Jamali, 2016a) was developed using an all-female sample from Iran. This calls for further research on the dimensions of men's mate preferences in Iranian context. The present research aims to fill the dearth of research on Iranian

men's long-term mate preferences. Specifically, the present study aimed to replicate and extend the findings of Atari and Jamali (2016a) among Iranian men, following a similar method. In addition, we aimed to develop a standardized sex-neutral scale for assessment of long-term mate preferences. Therefore, we designed four studies. The first three studies are similar to those reported in Atari and Jamali (2016a) and aim to validate a male-specific scale for assessment of long-term mate preferences. The fourth study, on the other hand, draws a comparison between the present findings and those of Atari and Jamali (2016a), resulting in a short dimensional scale for evaluation of long-term mate preferences.

Study I

In this study, a sample of single men was interviewed in order to explore potential culture-specific preferences in choosing a long-term mate. All participants were asked about their preferences when choosing a long-term partner. A qualitative strategy was followed to form an initial culture-specific pool of items. This study methodologically resembles the Study 1 reported in Atari and Jamali (2016a).

Material and Method

A total of 50 single men were selected using convenience sampling method. Of these participants, three participants provided invalid answers and were excluded. Therefore, the final sample included 47 participants ($M = 25.9$, standard deviation [SD] = 4.1). Of these, 23 participants were chosen in university settings, 10 participants were chosen in work settings, and 14 participants were selected from premarriage consulting clinics. All 47 participants were interviewed in a calm room by male interviewers where confidentiality was assured. No recording device was used; instead, interviewers wrote down responses to a semistructured interview acquired from Atari and Jamali (2016a). Specifically, an overview of the definition of long-term relationship was first presented, then, interviewees were asked to mention their preferences in choosing a long-term partner for a committed relationship. After gathering all interview sheets, meaning units were extracted; that is, we extracted constellation of words or statements as mentioned by the interviewees (e.g., "I want my future partner to have a positive attitude toward kids"). Then, meaning units were analyzed to form condensed meaning units (e.g., "wanting a woman who is interested in having kids"). Finally, similar condensed units were coded as single characteristics (e.g., "fond of home and children"). The process of generating characteristics in this qualitative phase was in line with previous suggestions in qualitative research (Bryman, 2006; Burnard, 1991; also see Tashakkori & Teddlie, 2010) and resembled that of Atari and Jamali (2016a).

Results and Discussion

A total of 145 characteristics were gathered after the qualitative analyses. Repeated characteristics (e.g., "*kind*" was observed in

Table 1. Means, Standard Deviations, and Main Sources of 41 Characteristics in Study 2.

Number	Item's Content	Main Source	M (SD)
1	Good cook and housekeeper	Hill (1945)	2.92 (0.80)
2	Pleasing disposition	Hill (1945)	3.82 (0.39)
3	Sociability	Hill (1945)	3.26 (0.70)
4	Similar education	Hill (1945)	2.83 (0.92)
5	Refinement and neatness	Hill (1945)	3.45 (0.64)
6	Good financial prospect	Hill (1945)	2.10 (0.91)
7	No previous experience of sexual intercourse	Hill (1945)	3.28 (1.06)
8	Dependable character	Hill (1945)	3.83 (0.42)
9	Emotional stability and maturity	Hill (1945)	3.71 (0.50)
10	Desire for home and children	Hill (1945)	3.65 (0.55)
11	Favorable social status or rating	Hill (1945)	2.85 (0.85)
12	Good looks	Hill (1945)	3.07 (0.76)
13	Similar religious background	Hill (1945)	3.03 (0.92)
14	Ambition and industrious	Hill (1945)	2.65 (0.83)
15	Similar political background	Hill (1945)	2.33 (1.02)
16	Loving partner	Hill (1945)	3.61 (0.62)
17	Physically healthy	Hill (1945; reworded)	3.40 (0.72)
18	Intelligent	Buss and Barnes (1986)	3.03 (0.83)
19	Likes to have children	Buss and Shackelford (2008)	2.85 (1.03)
20	Employed	Study 1	1.83 (0.92)
21	College graduate	Buss and Barnes (1986)	2.74 (0.92)
22	Feminine	Study 1	3.44 (0.69)
23	Good heredity	Buss and Barnes (1986)	3.23 (0.84)
24	Honest and truthful	Study 1	3.81 (0.45)
25	Wears Hijab	Study 1	2.30 (1.06)
26	Kind and understanding	Buss and Barnes (1986)	3.59 (0.57)
27	Beautiful	Study 1	3.25 (0.72)
28	Modest and virtuous	Study 1	3.49 (0.67)
29	Reads books	Study 1	2.72 (0.91)
30	Content and resilient	Study 1	3.28 (0.74)
31	Sex appeal	Buss and Shackelford (2008)	3.27 (0.74)
32	Wears appropriate clothes	Study 1	3.00 (0.88)
33	Has a rich father	Study 1	1.80 (0.99)
34	Loyal	Buss and Shackelford (2008)	3.76 (0.49)
35	Attractive face	Study 1	3.24 (0.75)
36	Patient	Study 1	3.44 (0.64)
37	Quiet (and laconic)	Study 1	2.00 (0.95)
38	Having a high-income level	Study 1	1.63 (0.85)
39	Religious	Buss and Barnes (1986)	2.05 (1.03)
40	Physically fit	Buss and Shackelford (2008)	3.15 (0.75)
41	Reasonable	Study 1	3.60 (0.61)

45 interviews) and extreme answers (e.g., “*being OK with a threesome*”) were excluded. Finally, 39 characteristics were prepared. Combining these characteristics and the Iranian literature on male mate preferences (e.g., Khoei, Ziaei, Salehi, & Farajzadegan, 2013), an initial item pool of 41 characteristics (see Table 1) was prepared to be administered in Study 2. Main sources of all characteristics are presented in Table 1. Of course, a large number of characteristics found in this study had already been found in the literature.

The findings of this study provided insightful data to build upon in the following studies. Some of these characteristics were culture-specific (e.g., “wearing Hijab”) while some others were universally important characteristics in mate selection. Such qualitative studies on long-term mate preferences are of absolute importance, as they can potentially uncover

previously unidentified features in mate preferences of individuals from different cultures. For example, wearing Hijab would have never been identified as a male preference for long-term relationships in a Western society. Indeed, combining culture-specific and universal characteristics in mate selection can result in more accurate analysis of the role of culture in mate selection.

Study 2

This quantitative study was designed to discard psychometrically insufficient items and to examine the exploratory factor structure of the resultant scale as well as checking the convergent and concurrent validity of the scale. We used exploratory factor analysis (EFA) to examine the factor structure of the

scale. Moreover, we used related measures to evaluate the concurrent and convergent validity of the scale. We also calculated internal consistency coefficients of the subscales to assess the reliability of the scale. This study methodologically resembles the Study 2 reported in Atari and Jamali (2016a).

Material and Method

Initially, a sample of 410 men was selected. Excluding surveys with 15% of missing values ($n = 26$) and married participants ($n = 21$), a sample of 363 single men remained. This sample was recruited using convenience sampling method from university settings in Tehran, Iran. Following the recommendations of Henson and Roberts (2006), size of this study's sample was considered sufficient for factor analytic purposes. Participants' age ranged between 18 and 50 ($M = 24.9$, $SD = 6.9$). Seven participants had a high school diploma, 216 participants were bachelor's students, 109 participants were master's students, and 31 participants were doctorate students. Minimum desirable age for marriage was 25.3 ($SD = 3.3$) and the maximum desirable age for marriage was 33.7 ($SD = 5.3$). Moreover, the minimum preferred age difference with partner was 1.6 years ($SD = 1.4$) and the maximum preferred age difference was 4.8 years ($SD = 2.5$). In the present sample of men, the desired number of children was 2.19 ($SD = 1.17$).

Measures

The following measures were completed by all participants. The measures were counterbalanced to eliminate the order effects.

Demographics. A set of demographic questions was used in this study. Demographic questions included age, educational level, ideal age for marriage (minimum and maximum), ideal spousal age difference (minimum and maximum), and the desired number of children. All participants self-reported their weight (kg) and height (cm). These were used to calculate body mass index (BMI).

Item pool. The prepared item pool from Study 1 was administered in this study. All participants were asked to rate the importance of each characteristic (see Table 1) on a 4-point scale ranging from 1 (*unimportant*) to 4 (*very important*).

Preferences concerning Potential Mates Questionnaire (PPMQ). We used this widely used measure to assess long-term mate preferences. This ranking instrument includes 13 characteristics in a potential mate (Buss & Barnes, 1986). Participants were asked to rank each characteristic from 1 to 13. The most desirable characteristic is ranked as "1" while the least desirable is ranked "13." This scale has been previously used in Iran (Atari & Jamali, 2016a).

Self-perceived attractiveness. We used a single-item measure of self-perceived attractiveness to assess participants' subjective perception of their physical attractiveness. Attractiveness is an

important component of mate value and, therefore, self-perceived attractiveness may be considered a component of self-perceived mate value. We used the measure developed by Kalantar-Hormozi, Jamali, and Atari (2016). Responses are in percentile format ranging from 0 (indicating minimum attractiveness) and 100 (indicating maximum attractiveness).

Self-rated intelligence. We used a single-item measure of self-rated intelligence (Atari & Jamali, 2016b). Intelligence is an important component of mate value, and self-rated intelligence may be considered a component of self-perceived mate value. Participants provided a subjective assessment of their general intelligence on a percentile format ranging from 0 (indicating minimum intelligence) and 100 (indicating maximum intelligence). According to the normal distribution of intelligence, a percentile of 50 would mean a subjective intelligence quotient of 100 (see Furnham, 2001).

Socioeconomic status (SES). We used the single-item SES (Leung & Xu, 2013). SES is an important component of mate value and subjective SES may be considered a component of self-perceived mate value, especially among men. All participants rated their subjective SES on a 5-point Likert-type scale ranging from 1 (*very low*) to 5 (*very high*). This single-item scale has been previously used in Iran (Atari & Jamali, 2016b).

Religiosity. We used the Self-Rating of Religiosity (SRR) (Abdel-Khalek, 2007) as a single-item measure of religiosity. Participants responded to this single-item measure on an 11-point scale ranging from 0 (*indicating no religiosity*) to 10 (*indicating high level of religiosity*). The SRR has shown strong positive correlations with measures of intrinsic religiosity (Abdel-Khalek, 2007). Although single-item measures are limiting in terms of breadth, single-item measures of religiosity have been used in various samples (e.g., Swami et al., 2013) and cross-cultural studies (Abdel-Khalek & Lester, 2010) with adequate psychometric characteristics. The Persian translation of this item was acquired from Atari, Barbaro, Shackelford, and Chegeni (2017).

Procedure

All participants were administered the surveys in public places of various universities in Tehran after being informed of the voluntary nature of participation. Potential participants were approached and invited to take part in a psychological study regarding marriage attitudes and romantic relationships. All participants completed the measures individually and anonymously. Participants were not compensated.

Statistical Analysis

In order to identify the underlying dimensions of long-term mate preference among Iranian men, descriptive statistics for each item were initially computed. Then, a preliminary EFA was carried out. Considering descriptive indices, items' content, and the preliminary EFA, appropriate items were subjected to a secondary EFA with varimax rotation. Parallel

Table 2. Rotated Factor Matrix of Six Dimensions of Men's Mate Preferences.

Item (Original Item Number)	Factor					
	F1	F2	F3	F4	F5	F6
Attractive face (35)	.85	.10	.01	-.01	.08	.01
Beautiful (27)	.82	.02	.16	.06	.03	.03
Physically fit (40)	.78	.18	-.02	.14	-.03	-.01
Sex appeal (31)	.77	.10	-.07	.06	-.01	.12
Good looks (12)	.71	.03	-.16	.08	.26	.16
Physically healthy (17)	.59	.18	.06	.16	.11	.17
Feminine (22)	.53	.38	.03	.12	.04	.11
Patient (36)	.08	.66	.19	.22	-.01	.11
Kind and understanding (26)	.12	.65	.15	.03	-.01	.22
Honest and truthful (24)	.16	.64	.03	-.15	.13	.08
Dependable character (8)	.01	.60	-.10	-.15	.01	.28
Reasonable (41)	.09	.59	.10	.06	.12	-.20
Emotional stability and maturity (9)	.10	.59	-.01	.02	.15	.09
Loyal (34)	.05	.58	.01	-.09	.10	.25
Content and resilient (30)	.12	.48	.24	.34	-.19	.12
Pleasing disposition (2)	.10	.42	.03	-.18	.19	.12
Religious (39)	-.01	.00	.83	-.01	.03	.08
Wears Hijab (25)	-.09	.01	.82	-.13	-.06	.23
Similar religious background (13)	.04	.14	.65	-.02	.16	-.08
No previous experience of sexual intercourse (7)	-.04	.09	.53	-.04	-.06	.46
Likes to have children (19)	.09	.21	.48	.13	.03	.32
Having a high-income level (38)	.19	-.01	.02	.82	.14	-.04
Employed (20)	.02	.04	-.06	.78	.26	-.05
Good financial prospect (6)	.08	-.04	-.20	.68	.37	.13
Has a rich father (33)	.31	-.22	.07	.62	.05	.15
Similar education (4)	.04	.01	.12	.18	.78	-.04
College graduate (21)	.05	.18	.06	.35	.69	-.08
Sociability (3)	.00	.15	-.19	.02	.50	.31
Intelligent (18)	.23	.31	.11	.14	.48	-.01
Favorable social status or rating (11)	.24	.14	.01	.26	.47	.32
Desire for home and children (10)	.04	.40	.08	-.03	.00	.61
Good heredity (23)	.18	.17	.13	.07	.20	.57
Modest and virtuous (28)	.08	.24	.36	.02	-.04	.56
Good cook and housekeeper (1)	.29	-.03	.27	.14	-.22	.41
Refinement and neatness (5)	.24	.24	.08	.02	.18	.41

analysis was performed to determine the number of factors. This procedure has been previously used by Atari and Jamali (2016a). Moreover, Pearson correlation coefficients were used to examine the concurrent validity of the scale indexed by zero-order correlations with related variables. All statistical analyses were performed using SPSS v22.

Results and Discussion

The 41-item pool of characteristics, their sources, and their descriptive statistics are presented in Table 1. Item 38 (i.e., *having a high-income level*) had the lowest mean and was, therefore, considered the least important characteristic in choosing a mate in the present sample. On the other hand, Item 8 (i.e., *dependable character*) was the most important characteristic in a potential mate.

Following Atari and Jamali (2016a), a preliminary EFA was conducted and highly cross-loading items were identified.

Considering the theoretical background of items' content and exclusion of psychometrically problematic items, a battery of 35 items (see Table 2) was selected to be subjected to the final EFA. Kaiser–Meyer–Olkin measure of sampling adequacy was very high (0.846). Moreover, Bartlett's test of sphericity was significant, $\chi^2(595) = 4,850.25, p < .001$. These findings suggested that the 35 items had sufficient common variance to be subjected to EFA (Worthington & Whittaker, 2006). Eight factors had eigenvalues of 1 or higher. Yet, in order to determine the number of factors, parallel analysis was used. Parallel analysis has proved to be an accurate way of determining the number of factors (Patil, McPherson, & Friesner, 2010) compared to other methods, such as retaining factors with eigenvalues greater than 1.0 (the EGV1 criterion; Guttman, 1954) or the scree plot (Cattell, 1966). Using 1,000 random data sets, parallel analysis suggested that six factors should be retained. Therefore, a principal axis factoring with fixed number of six factors and varimax rotation was performed. These six factors

Table 3. Correlation Coefficients Among the Dimensions of Men's Mate Preferences (Study 2).

Factor	1	2	3	4	5	6
1. Kindness/dependability	.78					
2. Status/resources	.05	.80				
3. Attractiveness/sexuality	.34**	.30**	.87			
4. Religiosity/chastity	.29**	-.03	.06	.77		
5. Education/intelligence	.35**	.46**	.32**	.11*	.71	
6. Family/domesticity	.51**	.12*	.39**	.47**	.29**	.65

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

Note. Figures on the diagonal represent internal consistency coefficients.

explained 52.99% of the total variance (20.29%, 10.95%, 7.45%, 6.97%, 3.73%, and 3.60%, respectively). The rotated factor matrix for 35 items of the scale is presented in Table 2.

All factors had conceptually consistent items with related content. Factors were, respectively, labeled as kindness/dependability, status/resources, attractiveness/sexuality, religiosity/chastity, education/intelligence, and family/domesticity. The correlation coefficients between the six subscales are presented in Table 3. All subscales were moderately correlated. Moreover, all subscales were internally consistent (see Table 3), indexed by high Cronbach's α coefficients.

The correlation coefficients between the six factors and demographic details are presented in Table 4. The associations between the six dimensions of men's mate preferences and concurrent measures are also summarized in Table 4. As can be seen, self-perceived attractiveness is positively associated with the preference for kindness/dependability, status/resources, attractiveness/sexuality, education/intelligence, and family/domesticity. Men's self-rated intelligence is positively associated with their preference for attractive/sexy women. Religiosity is positively associated with the preference for religiosity/chastity and family/domesticity in choosing a mate. Finally, men with higher SES desired more educated/intelligent partners. These associations are in line with previous research (Atari & Jamali, 2016b) and suggest that the present 35-item scale has good concurrent validity.

Furthermore, correlation coefficients were calculated between the five subscales and 13 items of the PPMQ. Since the PPMQ is a ranking instrument, it was hypothesized that related subscales and items would be significantly negatively correlated (see Table 5). The mean rank of each characteristic is also summarized in Table 5. The characteristic "kind and understanding" had the lowest mean rank (i.e., the most important characteristic), and "good earning capacity" was the least important characteristic for men in the present sample. The significant correlations between the six dimensions of men's long-term mate preferences and the characteristics of the PPMQ suggest that the present 35-item scale (see Appendix B) has good convergent validity, that is, the dimensions of men's mate preferences as measured by the newly developed scale are significantly associated with characteristics of an established measure of mate preferences.

In sum, the developed 35-item scale showed satisfactory psychometric properties in this study. Six factors underlie the

items: kindness/dependability, status/resources, attractiveness/sexuality, religiosity/chastity, education/intelligence, and family/domesticity. These factors are moderately correlated. The strongest correlation was observed between kindness/dependability and family/domesticity ($r = .51$, $p < .01$). This high level of shared variance (25%) may be attributable to conceptually similar items in these subscales. In addition, this 35-item measure showed adequate internal consistency and convergent validity. Therefore, this 35-item measure can be considered as a psychometrically sound scale for assessment of long-term mate preferences in Iranian men.

Study 3

In this study, we used confirmatory factor analysis (CFA) to examine the factor structure of the 35-item scale as identified in Study 2. We expected the previous structure (see Table 2) to have acceptable fit indices in a distinct sample of single men. This study methodologically resembles the Study 3 reported in Atari and Jamali (2016a).

Material and Method

The final 35-item version of the scale (see Appendix B) was completed by 105 single men aged 18–46 years ($M = 26.7$, $SD = 7.0$). The participants were recruited using snowball sampling. In terms of educational qualification, 3 participants had an associate degree, 46 participants had a bachelor's degree, 44 participants had a master's degree, and 11 participants had a doctorate degree. Of note, one participant did not provide his educational qualification. Potential participants were approached and invited to participate in a psychological study regarding marriage attitudes and romantic relationships. All participants completed the measure individually and anonymously. Participants were not compensated.

Fundamentally, CFA is used to determine whether a measure's factor structure derived from exploratory factor analytic approaches can hold up with another respondent sample (Mvududu & Sink, 2013). We used CFA to examine the previously identified factor structure of the scale in Study 2 (see Table 2). As fit indices for the CFA, the χ^2 over degrees of freedom (χ^2/df), the root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), and the comparative fit index (CFI) were analyzed (Hu & Bentler, 1999). Maximum likelihood was used as the estimation method. The analysis was performed using AMOS v19.

Results and Discussion

The six-factor model fits the data fairly well ($\chi^2/df = 1.37$, $RMSEA = 0.060$; $GFI = 0.75$; $CFI = 0.90$). There is no complete agreement regarding interpretation of fit indices (Mvududu & Sink, 2013), but using relatively conservative criteria (4 or lower for χ^2/df , 0.90 or higher for CFI and GFI, and lower than 0.08 for the RMSEA), all current indices fell within acceptable range except the GFI. Of note, in this sample, internal

Table 4. The Correlation Coefficients Between Demographic Details and Mate Preferences.

Variables	F	A	K	E	R	S
Age	.07	-.07	.07	.10	.04	.05
Education	.03	-.08	.03	.18**	.04	.08
Minimum marital age	-.06	-.04	-.03	.12*	-.30**	.15**
Maximum marital age	-.14**	-.09	-.04	.13*	-.33**	.15**
Minimum age difference	.21**	.03	.01	-.01	.23**	.03
Maximum age difference	.14**	-.02	-.01	-.08	.13*	.04
Desired number of children	.15**	-.03	.10	-.16**	.29**	-.21**
Body mass index	.07	-.02	.09	.04	.06	.06
Self-perceived attractiveness	.16**	.28**	.12*	.18**	.02	.12*
Self-rated intelligence	.05	.15**	.06	.06	-.01	-.03
Self-rating of religiosity	.20**	-.06	.07	-.05	.54**	-.09
Socioeconomic status	-.03	.05	-.06	.12*	.01	-.01

Note. F = family/domesticity; A = attractiveness/sexuality; K = kindness/dependability; E = education/intelligence; R = religiosity/chastity; S = status/resources. * $p < .05$. ** $p < .01$.

Table 5. Correlation Coefficients Between Six Factors and 13 Ranked Characteristics.

Ranked Characteristic (M, SD)	F	A	K	E	R	S
1. Kind and understanding (M = 3.23, SD = 2.74)	-.11*	.12*	-.18**	.07	-.03	.09
2. Healthy (M = 5.43, SD = 2.99)	-.01	-.28**	-.09	-.06	.09	-.12*
3. Good heredity (M = 5.63, SD = 3.42)	-.27**	.03	.03	-.04	-.13*	-.02
4. Easygoing (M = 5.82, SD = 2.91)	.12*	.23**	.01	.16**	.12*	.20**
5. Physically attractive (M = 6.13, SD = 3.34)	.09	-.41**	-.10	-.02	.26**	-.08
6. Intelligent (M = 6.30, SD = 2.83)	.12*	.07	.02	-.11*	.14**	-.02
7. Good housekeeper (M = 6.82, SD = 3.00)	-.25**	-.07	-.03	.20**	-.14**	.14**
8. Exciting personality (M = 7.08, SD = 3.30)	.18**	-.06	.03	-.01	.21**	-.05
9. College graduate (M = 7.86, SD = 2.88)	.14**	.14**	.16**	-.23**	.16**	-.17**
10. Creative and artistic (M = 7.87, SD = 2.98)	.16**	.16**	-.01	.04	.22**	.02
11. Wants children (M = 8.90, SD = 2.85)	-.08	.06	-.11*	.05	-.25**	.16**
12. Religious (M = 8.92, SD = 4.23)	-.17**	.11*	-.03	.03	-.57**	.13*
13. Good earning capacity (M = 11.09, SD = 2.44)	.17**	-.08	.12*	-.08	.15**	-.36**

Note. M = mean; SD = standard deviation; F = family/domesticity; A = attractiveness/sexuality; K = kindness/dependability; E = education/intelligence; R = religiosity/chastity; S = status/resources.

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

consistency coefficients were .83, .90, .82, .83, .80, and .81 for Attractiveness/Sexuality, Kindness/Dependability, Religiosity/Chastity, Status/Resources, Education/Intelligence, and Family/Domesticity subscales, respectively. Therefore, the six-factor structure of the 35-item scale held up to a distinct sample of Iranian men. Although we used a relatively small sample, the fit indices were acceptable.

The findings of this study provided support for the six-factor structure of the scale developed in Study 2. The CFA suggested that the six-factor model (see Study 2) fits the data well. Furthermore, all six subscales showed high internal consistency coefficients ranging from .80 to .90. Taken together, Studies 1, 2, and 3 suggest that the 35-item scale (Appendix B) has adequate psychometric properties and may be used in future research in Iran.

Study 4

We designed this study to develop a short sex-neutral scale for assessment of long-term mate preferences. We identified the mutual items in the women's form (see Appendix A) and men's

form (see Appendix B) and found 20 items with exactly similar wordings. Subsequently, we formed a 20-item scale that could be used for both men and women. We hypothesized that the 20-item scale would have five underlying factors, as diagrammatically shown in Figure 1. The five factors were consistent with labels reported by Atari and Jamali (2016a): kindness/dependability, attractiveness/sexuality, status/resources, education/intelligence, and religiosity/chastity (KASER). In accordance with the extant literature on sex differences in long-term mate preferences (also see Kamble, Shackelford, Pham, & Buss, 2014; Souza, Conroy-Beam, & Buss, 2016), we further hypothesized the following:

Hypothesis 1: Men would score higher than women on the attractiveness/sexuality factor.

Hypothesis 2: Women would score higher than men on the status/resources factor.

Hypothesis 3: Women would score higher than men on the kindness/dependability factor.

Hypothesis 4: Women would score higher than men on the education/intelligence factor.

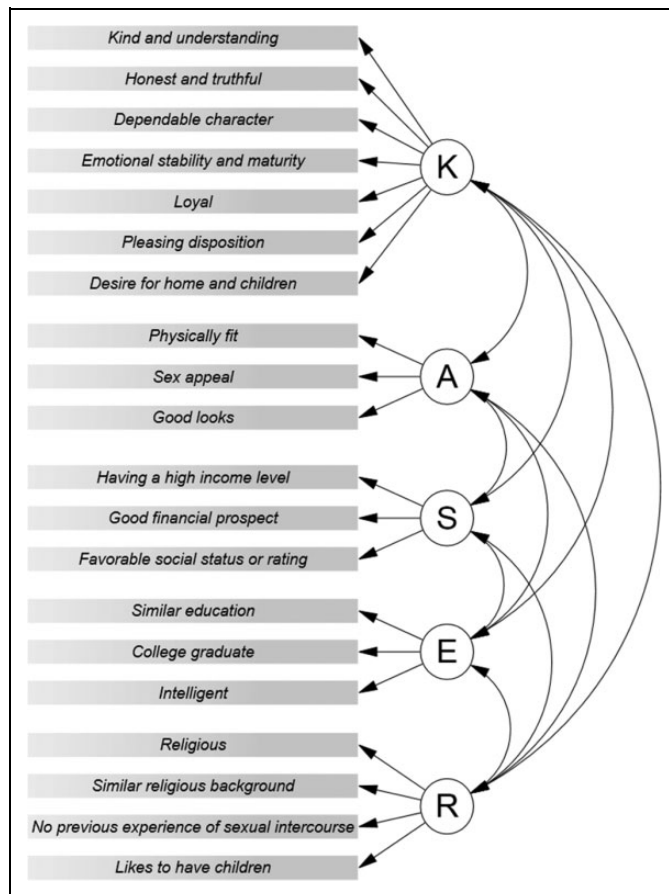


Figure 1. The KASER model of mate preferences.

Material and Method

Participants

We recruited 325 participants (64.9% women) from five universities (i.e., University of Tehran, Sharif University of Technology, Iran University of Medical Sciences, Islamic Azad University, and Alzahra University) in Tehran, Iran. Age of participants ranged between 18 and 35 with the mean of 23.7 ($SD = 3.8$). In terms of educational qualification, 150 participants were bachelor's students, 144 participants were master's students, and 29 participants were doctorate students. Of note, two participants chose not to disclose their educational qualification.

Iranian Mate Preferences Scale-20 (IMPS-20)

As mentioned, the 20-item scale of mate preferences (see Appendix C) was used in this study. All items' wordings could be used for men and women. Items were rated along a Likert-type scale ranging from 1 (*unimportant*) to 4 (*very important*). This 20-item scale has five subscales: Kindness/Dependability (7 items, $\alpha = .83$), Attractiveness/Sexuality (3 items, $\alpha = .81$), Status/Resources (3 items, $\alpha = .72$), Education/Intelligence (3 items, $\alpha = .75$), and Religiosity/Chastity (4 items, $\alpha = .67$).

Procedure

All participants were administered the surveys in public places of the mentioned universities in Tehran after being informed of the voluntary nature of participation. Participants were not compensated.

Statistical Analysis

We used CFA to examine the factor structure of the IMPS-20. As fit indices for the CFA, χ^2/df , RMSEA, GFI, and CFI were analyzed (Hu & Bentler, 1999). Similar to Study 3, maximum likelihood was used as the estimation method. We calculated χ^2 , CFI, RMSEA, and standardized root mean square residual (SRMR) to test for configural and factor loading invariance across sexes. In order to examine the sex differences, we conducted five Bonferroni-corrected t tests using composite scores of the five factors of the KASER model. We also incorporated Cohen's d as a measure of effect size. The statistical analyses were carried out using SPSS v22.0 and AMOS v19.0.

Results and Discussion

The hypothesized KASER model of mate preferences (see Figure 1) fits the data ($n = 325$) marginally well ($\chi^2/df = 3.19$, RMSEA = 0.082; GFI = 0.88; CFI = 0.87). Of note, no modification was applied to the error terms of the hypothesized model. All standardized path coefficients are shown in Figure 2. As can be seen, the factors are moderately correlated.

The configural invariance model (i.e., the baseline model) provided an acceptable fit to the data (see Table 6), suggesting that the KASER model of mate preferences as measured by the IMPS-20 has five dimensions for men and women. This model provides a comparison to determine factor loading invariance. To determine factor loading invariance, chi-square difference tests ($\Delta\chi^2$) are usually used for statistical comparisons between nested models. Yet, these statistical tests are almost always significant with large samples. As a result, these tests are considered unrealistic criteria to determine multigroup invariance (Byrne & Stewart, 2006; Chen, Sousa, & West, 2005). Following recommendations of Chen (2007) for model fit changes, if $\Delta CFI \leq .010$, $\Delta RMSEA \leq .015$, and $\Delta SRMR \leq .030$ for tests of factor loading invariance, then measurement invariance (MI) is evidenced.

The factor loading invariance model, which fully constrained all factor loadings to be equal between men and women, provided moderate fit with acceptable RMSEA, SRMR, and χ^2/df ; however, CFI was not acceptable (see Table 6). The factor loading invariance model differed from the configural model significantly, $\Delta\chi^2(20) = 137.6$, $p < .01$. However, the fit indices differences were almost within recommendations of Chen (2007): $\Delta CFI = 0.049$, $\Delta RMSEA = 0.007$, $\Delta SRMR = 0.013$. Therefore, factor loadings are invariant between women and men. It can be concluded that the model is acceptably equivalent across sexes and composite scores of the subscales may truly represent invariant dimensions of cross-sex mate preferences.

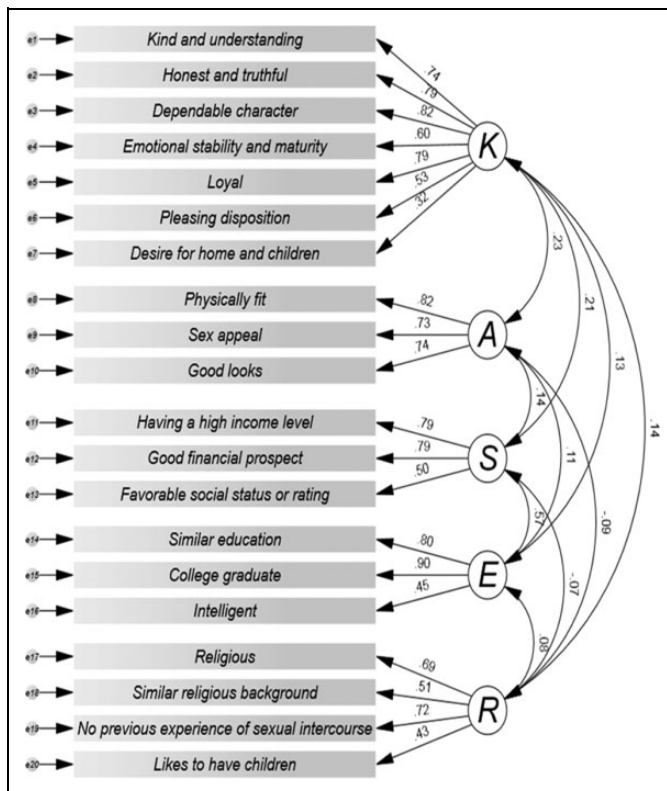


Figure 2. The confirmatory factor analysis on the hypothesized model (Study 4).

Table 6. Fit Indices for the Tests of Measurement Invariance (Study 4).

Models	χ^2	df	χ^2/df	CFI	RMSEA [90% CI]	SRMR
Configural invariant model	660.5	290	2.28	.847	.063 [.057, .069]	.065
Factor loading invariant model	798.1	310	2.58	.798	.070 [.064, .076]	.078

Note. df = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual.

We compared men and women on the dimensions of the IMPS-20. As presented in Table 7, women scored significantly higher on the preference for Status/Resources ($p < .01$, $d = 1.30$), Kindness/Dependability ($p < .01$, $d = 0.48$), and Education/Intelligence ($p < .01$, $d = 0.66$). Men, on the other hand, scored significantly higher on the preference for attractiveness/sexuality factor ($p < .01$, $d = 0.47$). Therefore, Hypotheses 1–4 are fully supported. The fact that the newly developed scale of mate preferences successfully replicates theoretically robust sex differences further evidences the validity of this scale.

The findings of this study supplied important information. First, the KASER model fits the data well. Second, MI is evidenced across sexes. Therefore, analysis of the sex

Table 7. Sex Differences in the KASER Model of Mate Preferences (Study 4).

Dimension	Men		Women		t-Test Statistic	Cohen's d
	M	SD	M	SD		
K	3.64	0.45	3.81	0.28	4.24**	0.48
A	3.08	0.64	2.76	0.69	4.06**	0.47
S	2.09	0.65	3.06	0.55	14.09**	1.30
E	2.78	0.74	3.24	0.61	5.96**	0.66
R	2.89	0.76	2.80	0.70	1.01	0.13

Note. M = mean; SD = standard deviation; K = kindness/dependability; A = attractiveness/sexuality; S = status/resources; E = education/intelligence; R = religiosity/chastity.

** $p < .01$ (Bonferroni corrected at $.05/5 = .01$).

differences is methodologically valid and meaningful. Third, this measure replicated previously mentioned sex differences. Specifically, women put a great importance on status/resources, kindness/dependability, and education/intelligence. Men, however, place a greater importance on attractiveness/sexuality. These findings may beneficially inform future intrasexual mating research. For example, intrasexual competition relies on sex differences in mate selection preferences. The traits providing the highest probability of competitive success are the most preferred by the opposite sex, so intrasexual competition may be more important in status/resources, kindness/dependability, education/intelligence, and attractiveness/sexuality rather than religiosity/chastity. This is evident in the literature. For example, women seek to improve their attractiveness as an intrasexual competition strategy (Arnocky & Piché, 2014), while men try to improve their socioeconomic rating (see Hennighausen, Hudders, Lange, & Fink, 2016). Yet, there is no evidence to show that individuals try to get more religious as an intrasexual competition strategy.

General Discussion

Summary of Findings

The primary aim of the present research was to investigate the dimensions of long-term mate preferences in Iranian men. Following a qualitative study and a comprehensive literature review (Study 1), an item pool of 41 items was prepared and quantitatively tested (Study 2). A final 35-item scale had the most interpretable factor structure. Finally, a CFA on a different sample of participants provided robust fit indices for the scale (Study 3). Developing such male-specific lists of characteristics can help intrasexual research on mate preferences (e.g., Atari, Chegeni, & Fathi, 2017). Since sex differences play a significant role in mate preferences (Buss, 1989; also see Eagly & Wood, 1999), we designed Study 4 to (1) develop a short sex-neutral scale for assessment of mate preferences in Iran, (2) establish cross-sex MI for the newly developed 20-item scale, and (3) examine sex differences

on the dimensions of long-term mate preferences as measured by the newly developed 20-item scale (see Appendix C).

Interpretation of Findings

Six dimensions of long-term mate preferences emerged in Study 2 for men. The first factor, kindness/dependability, is conceptually similar to the dimensions of kindness, warmth, and sociability as previously identified in the literature (Buss & Barnes, 1986; Fletcher et al., 1999; Regan, Levin, Sprecher, Christopher, & Cate, 2000; Shackelford et al., 2005). The second factor, status/resources, is conceptually similar to the dimensions of status/resources, social status, and financial resources (Buss & Barnes, 1986; Kenrick, Sadalla, Groth, & Trost, 1990; Parmer, 1998; Regan et al., 2000; Shackelford et al., 2005). The third factor, attractiveness/sexuality, conceptually resembles the dimensions of good looks and attractiveness identified in previous work (Fletcher et al., 1999; Shackelford et al., 2005; Simpson & Gangestad, 1992). The fourth factor, religiosity/chastity, is very similar to religious component of mate preferences in Buss and Barnes (1986). The fifth factor, education/intelligence, is very similar to education/intelligence pole in Shackelford and colleagues (2005). The sixth factor, family/domesticity, conceptually taps characteristics such as traditional conceptions of “good parent” and “good wife.” Although the correlation coefficients between these factors were moderate in Study 2, intercorrelations in Study 3 suggested that these six factors are relatively independent. Therefore, it may be concluded that these six factors are tapping relatively independent dimensions of men’s mate preference.

Study 1 revealed a number of culture-related characteristics which were previously underrecognized (e.g., “content and resilient”). These two adjectives (i.e., content and resilient) are colloquially used in Persian and indicate a partner who stays with one through health and sickness and no matter how difficult economic situations might get. This is also the case for the characteristic “patient” that emerged in our qualitative analyses. Such characteristics may particularly be important for men in economically unstable societies because men could easily lose their social status and resources in such environments. Another interesting characteristic was *wearing Hijab*. Generally, wearing minimum Hijab in public places of Iran became mandatory after the Islamic revolution in 1979; however, different levels of Hijab are currently practiced in contemporary Iran (see Pazhoohi & Burriss, 2016). Some women do not approve Islamic Hijab or do not believe in it, so they wear the minimum Hijab (a scarf partly covering the hair and a Manto, i.e., a piece of clothing similar to a coat, a dress or a blouse that partly covers the body). On the other hand, some religious women wear Chador and this signals high religiosity in social settings. Of note, Burqa is not normally practiced among Iranian women, even conservative religious ones. Wanting women to cover their hair and body may be considered a mate retention strategy in religious environments (see Pazhoohi, Lang, Xygalatas, & Grammer, 2017). Other characteristics that emerged in

the qualitative phase of the research (e.g., “reasonable” or “beautiful”) were conceptually present in the literature.

The relationship between six factors of men’s mate preferences and demographic details revealed that age was unrelated to factors of mate preferences, meaning that men’s mate preferences is not closely associated with their age. This is particularly interesting because women’s mate preferences are strongly associated with their age (Atari & Jamali, 2016a). This finding could be explained considering that the supply of desirable male mates decreases with women’s age (Oppenheimer, 1988) and therefore they relax their preferences in a potential long-term mate (South, 1991). Also, it may be explained by the fact that older women may have a weaker bargaining hand in the mating market (see Fales et al. 2016). However, men’s age does not strongly influence their ability to attract potential mates. Moreover, higher levels of education were associated with higher expectancy in the education/intelligence factor. Ideal age for marriage was inversely correlated with religiosity/chastity (i.e., men who want to get married older are less inclined to marry a religious women) and family/domesticity (i.e., men who want to get married older are less inclined to marry a domestic woman). Ideal age for marriage was positively correlated with education/intelligence factor (i.e., men who want to get married older tend to prefer more educated/intelligent women) and status/resources factor (i.e., men who want to get married older tend to prefer women with more economic resources). Ideal age difference was significantly correlated with family/domesticity and religiosity/chastity factors. Descriptive findings regarding age differences are in line with previous work in Iran (Samani & Ryan, 2008). Findings also revealed that those with inclination toward more religious partners desire a higher number of children which is consistent with previous work (Atari, in press; Atari & Jamali, 2016b; Fieder & Huber, 2016).

Of note, BMI was not associated with men’s mate preferences. Research suggests that the associations between BMI and body image, self-esteem, and life satisfaction may be different for Iranian women compared with Iranian men (Atari, 2016). Women’s BMI is negatively associated with their body appreciation while men’s BMI has been shown to be *positively* associated with body appreciation and self-esteem in Iranian men. This shows that BMI (as a physical index) may differently influence psychological variables in men and women. Higher BMI among women can indicate less attractive women in modern urban societies (Swami & Tovée, 2007) and attractiveness is a crucial factor for women’s mate value (Fisher, Cox, Bennett, & Gavric, 2008). However, men’s BMI does not necessarily decrease their mate value because socioeconomic factors play a more important role in men’s mate value than physical attractiveness in mating context (Fales et al., 2016).

Concurrent validity of the 35-item male-specific scale was evaluated using correlations with related measures. Self-perceived attractiveness was significantly associated with all factors of mate preferences except religiosity/chastity. This finding is consistent with Atari and Jamali (2016b) and indicates that those men who consider themselves attractive set

higher standards in mate selection. Interestingly, men's estimate of their intelligence was positively associated with the preference for attractiveness/sexuality in potential mates. There may be a trade-off between men's intelligence and women's attractiveness. Men's intelligence may account for future resource acquisition success (Strenze, 2007) and women's attractiveness may predict their fecundity (see Swami, in press). The association between men's self-rated intelligence and the preference for education/intelligence was nonsignificant. That is, men who consider themselves intelligent do not necessarily prefer educated/intelligent women as long-term mates. Men's religiosity was positively correlated with their preference for family/domesticity and religiosity/chastity in choosing a long-term romantic partner. This provides support for assortative mating (i.e., those with similar characteristics are more likely to end up together as marriage partners) in religiosity (McClendon, 2016). In other words, religious Iranian men prefer women who are fond of children, are good cooks, wear Hijab, and do not have previous experience of sexual intercourse (see Atari, in press). Finally, men with higher SES desire women who are more educated and intelligent.

The correlation coefficients between the six factors of men's mate preferences and the 13 ranking characteristics may be considered as indicators of convergent validity for the dimensions of the scale. Each factor is significantly correlated with the corresponding characteristics in the 13-item ranking instrument (see Table 5). The ranks of these 13 characteristics are also consistent with previous work (Buss & Barnes, 1986). *Kind and understanding*, *physical health*, and *good heredity* were ranked as the most important priorities of Iranian men in choosing a long-term partner. The order of the priorities is consistent with male samples from India (Kamble et al., 2014) and Brazil (Souza et al., 2016).

Study 3 provided fit indices for the factor structure of the male-specific 35-item scale which was derived from the preceding two studies. Fit indices fell within acceptable range. Moreover, all six factors of long-term mate preferences were internally consistent. Factors were also less strongly intercorrelated, indicating relatively independent dimensions of mate preferences. The strongest intercorrelation was observed between religiosity/chastity and family/domesticity. The items of these factors are similar in content and both factors are indicative of traditional and religious values in mate selection. One can argue that the dimension of family/domesticity is a part of broader preference for religious, traditional, domestic women. The relative independence of the dimensions of mate preferences in the current study is consistent with previously reported universal dimensions of mate preferences (Shackelford et al., 2005).

In Study 4, we developed a short sex-neutral scale with adequate psychometric properties. Following the selection of identical items in the women's form (see Atari & Jamali, 2016a) and men's form (see Studies 2 and 3), we developed a 20-item scale (see Appendix C). This 20-item scale had a five-factor structure consistent with the five-factor model of

mate preferences (i.e., KASER). The KASER model of mate preferences (Figure 1) conceptually encompasses previously identified characteristics in choosing a mate (e.g., Atari & Jamali, 2016a; Buss & Barnes, 1986; Fletcher et al., 1999; Regan et al., 2000; Shackelford et al., 2005). The 20-item scale is a short list of important characteristics in choosing a long-term partner for a committed romantic relationship. Importantly, this 20-item scale does not have any culture-specific items and has satisfactory psychometric properties. Additionally, it contains morphological (e.g., "physically fit"), behavioral (e.g., "honest and truthful"), and social (e.g., "favorable social status or rating") attributes which is consistent with the conceptual definition of human mate preferences proposed by Conroy-Beam and Buss (in press). Therefore, it may be further used and validated in other cultures.

Prior to examining sex differences on the dimensions of the KASER model of mate preferences in Study 4, we ran an MI test to evaluate the configural and item loading equivalence across sexes. Results of the MI tests suggest that the five-factor structure of the 20-item scale is acceptably equivalent between men and women. Although some fit indices (e.g., ΔCFI) were not favorable, we retained all items and did not remove any more items. In addition, other indices suggested acceptable invariance across sexes. Since the structure of the scale was invariant in men and women, dimensions' composite scores could be meaningfully compared using independent groups' inferential statistics.

The sex differences resulted from the final scale (see Table 7) are generally in line with previous research. Iranian men and women differed in their preferences for choosing a long-term mate, in that men were more interested than women in the attributes of good looks, whereas women were more interested than men in attributes associated with economic stability and commitment. Moreover, women showed more interest than men in attributes associated with education and intelligence. These sex differences are consistent with those reported by Khallad (2005) in a sample of Jordanian men and women. Contrary to some accounts (see Eagly & Wood, 1999), participants' preferences for cues to economic resources and financial prospect in terms of magnitude were influenced more by participants' sex rather than their SES. The sex differences were large in magnitude and accorded with the literature. These sex differences reflect evolved adaptations to sex-differentiated problems faced by men and women in their evolutionary past. Specifically, men tend to place importance on reproductive capacity and fecundity which are present in beautiful and young women. Women, on the other hand, place importance on earning capacity, dependable character, commitment, and intelligence. Notably, no significant sex difference emerged in the preference for religiosity/chastity, though men scored slightly higher on this dimension. This small-sized sex difference may be attributable to chastity rather than religiosity. Chaste women are considered desirable mates for monogamous, exclusive relationships particularly by religious men. In choosing marriage partners, particular emphasis is put on female virginity and chastity. Such characteristics may be of

evolutionary significance to issues of sexual infidelity, sexual jealousy, and paternity certainty (Daly, Wilson, & Weghorst, 1982). Indeed, proximate cultural influences are also important in the extent to which such attributes are valued (Buss, 1989).

Limitations and Future Directions

Some limitations of this study are worth noting. First, this study was conducted to investigate the dimensions of Iranian mate preferences. The 35-item list of characteristics (see Appendix B) may be used among Iranian men; however, for cross-cultural comparisons, it is strongly recommended to use the 20-item list of characteristics (see Appendix C) as well as the 13-item ranking instrument developed by Buss (1989). Second, while there is evidence for temporal stability of mate preferences, the current study did not assess test–retest reliability of the 35-item or the 20-item scales. Third, the present samples were drawn from Tehran, Iran. Due to the presence of different ethnicities in Iran, it is recommended to investigate the dimensions of mate preferences in other major cities (e.g., Shiraz, Rasht, and Ahvaz), rural areas, and subcultures (e.g., Guilaki, Lor, and Kurd) in Iran. In addition, future research could beneficially examine mate preferences in religious minorities in Iran (e.g., Judaism, Zoroastrianism, and Christianity). Fourth, we used a large number of single-item measures in Study 2 to evaluate participants' subjective self-reports on attractiveness, intelligence, religiosity, and SES. Although single items are limiting, they have been extensively used in individual differences research. It is recommended for future research to use psychometrically robust measures to examine the associations between these individual differences and mate preferences. For example, instead of a single-item measure of religiosity, future research can use dimensional measures of religiosity to investigate how different dimensions of religiosity affect long-term mate preferences. Fifth, although the sample size in Study 3 is sufficient, it is relatively small for a CFA. It is obviously beneficial to replicate these findings in nationally representative samples. Sixth, no concurrent measures were used in Study 4. Therefore, it might be of incremental value to the literature if the 20-item measure of mate preferences was examined against standardized measures. Seventh, a large number of the participants completed self-report measures in public places. Therefore, social desirability bias may affect the responses. For example, participants may have overreported their interest in a kind partner because this preference is viewed favorably by others.

This research may also inform future studies in Western societies. Most importantly, it is recommended to translate and validate the 20-item measure of long-term mate preferences (IMPS-20) in Western cultures. This can aid future research by replacing item-level analyses of features in potential mates with dimension-level analyses. Since the KASER model of long-term mate preferences proved promising in the current research, future studies can examine personality and individual difference correlates of the KASER dimensions. Additionally, scholars can conduct cross-cultural studies using the KASER

model of mate preferences. Since the international study of Buss (1989), no comprehensive research has examined long-term mate preferences across a large number of cultures. It is strongly recommended for future research to examine factor equivalence of the KASER model across cultures and compare scores on different dimensions, subsequently. Finally, we showed that there are significant sex differences in only four dimensions of long-term mate preferences (i.e., kindness/dependability, attractiveness/sexuality, status/resources, and education/intelligence). Thus, future research on intrasexual competition can investigate how these sex differences can shape different competitive strategies in men and women. This framework can also prove useful in developing theory-based, empirically supported, dimensional measures for measurement of intrasexual competition.

Conclusions

In sum, the present study investigated a list of mate preferences in Iranian men as an understudied population in evolutionary psychological literature. A male-specific mate preference scale was developed and validated in three consecutive studies. The six-factor structure of the newly developed 35-item scale included kindness/dependability, status/resources, attractiveness/sexuality, religiosity/chastity, education/intelligence, and family/domesticity. Therefore, this scale may be used as a valid and reliable measure of men's mate preferences. We also designed Study 4 to develop a short scale to be used for men and women. Study 4 demonstrated that a 20-item scale may best capture the five factors of the KASER model of mate preferences (i.e., kindness/dependability, attractiveness/sexuality, status/resources, and education/intelligence, religiosity/chastity) with satisfactory psychometric properties.

Appendix A

Iranian Mate Preferences Scale—Women's Form

The following are a set of characteristics that might be present in a potential romantic partner or spouse. Please rate *how important* each characteristic is to you in choosing a romantic partner or spouse. For each item, the following response scale should be used: *unimportant* (scored as 1), *somewhat important* (2), *important* (3), and *very important* (4).

1. Loyal
2. Honest and truthful
3. Kind and understanding
4. Dependable character
5. Supportive
6. Desire for home and children
7. Emotional stability and maturity
8. Pleasing disposition
9. Having a good financial status
10. Having a high-income level
11. Having housing
12. Favorable social status or rating

13. Good financial prospect
14. Physically attractive
15. Physically fit
16. Good looks
17. Tall
18. Sex appeal
19. Religious
20. No previous experience of sexual intercourse
21. Similar religious background
22. Qeirati
23. Likes to have children
24. Similar education
25. College graduate
26. Intelligent

Scoring procedure. K: Items 1–8; S: Items 9–13; A: Items 14–18; R: Items 19–23; E: Items 24–26. No reverse scoring is required.

Appendix B

Iranian Mate Preferences Scale—Men's Form

The following are a set of characteristics that might be present in a potential romantic partner or spouse. Please rate *how important* each characteristic is to you in choosing a romantic partner or spouse. For each item, the following response scale should be used: *unimportant* (scored as 1), *somewhat important* (2), *important* (3), and *very important* (4).

1. Attractive face
2. Beautiful
3. Physically fit
4. Sex appeal
5. Good looks
6. Physically healthy
7. Feminine
8. Patient
9. Kind and understanding
10. Honest and truthful
11. Dependable character
12. Reasonable
13. Emotional stability and maturity
14. Loyal
15. Content and resilient
16. Pleasing disposition
17. Religious
18. Wears Hijab
19. Similar religious background
20. No previous experience of sexual intercourse
21. Likes to have children
22. Having a high-income level
23. Employed
24. Good financial prospect
25. Has a rich father
26. Similar education
27. College graduate

28. Sociability
29. Intelligent
30. Favorable social status or rating
31. Desire for home and children
32. Good heredity
33. Modest and virtuous
34. Good cook and housekeeper
35. Refinement and neatness

Scoring procedure. A: Items 1–7; K: Items 8–16; R: Items 17–21; S: Items 22–25; E: Items 26–30; F: Items 31–35. No reverse scoring is required.

Appendix C

Iranian Mate Preferences Scale-20

The following are a set of characteristics that might be present in a potential romantic partner or spouse. Please rate *how important* each characteristic is to you in choosing a romantic partner or spouse. For each item, the following response scale should be used: *unimportant* (scored as 1), *somewhat important* (2), *important* (3), and *very important* (4).

1. Kind and understanding
2. Honest and truthful
3. Dependable character
4. Emotional stability and maturity
5. Loyal
6. Pleasing disposition
7. Desire for home and children
8. Physically fit
9. Sex appeal
10. Good looks
11. Having a high-income level
12. Good financial prospect
13. Favorable social status or rating
14. Similar education
15. College graduate
16. Intelligent
17. Religious
18. Similar religious background
19. No previous experience of sexual intercourse
20. Likes to have children

Scoring procedure. K: Items 1–7; A: Items 8–10; S: Items 11–13; E: Items 14–16; R: Items 17–20. No reverse scoring is required.

Acknowledgments

I would like to thank Ramin Jamali for his assistance with data collection in the first three studies.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Abdel-Khalek, A. M. (2007). Assessment of intrinsic religiosity with a single-item measure in a sample of Arab Muslims. *Journal of Muslim Mental Health*, 2, 211–215. doi:10.1080/15564900701614874
- Abdel-Khalek, A. M., & Lester, D. (2010). Constructions of religiosity, subjective well-being, anxiety, and depression in two cultures: Kuwait and USA. *International Journal of Social Psychiatry*, 58, 138–145. doi:10.1177/0020764010387545
- Arnocky, S., & Piché, T. (2014). Cosmetic surgery as intrasexual competition: The mediating role of social comparison. *Psychology*, 5, 1197–1205. doi:10.4236/psych.2014.510132
- Atari, M. (2016). Factor structure and psychometric properties of the body appreciation scale-2 in Iran. *Body Image*, 18, 1–4. doi:10.1016/j.bodyim.2016.04.006
- Atari, M. (in press). Religious teachings. In T. K. Shackelford & V. Weekes-Shackelford (Eds.). *Encyclopedia of evolutionary psychological science*. Switzerland: Springer. doi:10.1007/978-3-319-16999-6_470-1
- Atari, M., Barbaro, N., Shackelford, T. K., & Chegeni, R. (2017). Psychometric evaluation and cultural correlates of the Mate Retention Inventory-Short Form (MRI-SF) in Iran. *Evolutionary Psychology*, 15, 1–11. doi:10.1177/1474704917695267
- Atari, M., & Chegeni, R. (2017). The Dark Triad and long-term mate preferences in Iranian women. *Personality and Individual Differences*, 104, 333–335. doi:10.1016/j.paid.2016.08.031
- Atari, M., Chegeni, R., & Fathi, L. (2017). Women who are interested in cosmetic surgery want it all: The association between considering cosmetic surgery and women's mate preferences. *Adaptive Human Behavior and Physiology*, 3, 61–70. doi:10.1007/s40750-016-0053-9
- Atari, M., & Jamali, R. (2016a). Dimensions of women's mate preferences: Validation of a mate preference scale in Iran. *Evolutionary Psychology*, 14, 1–10. doi:10.1177/1474704916651443
- Atari, M., & Jamali, R. (2016b). Mate preferences in young Iranian women: Cultural and individual difference correlates. *Evolutionary Psychological Science*, 2, 247–253. doi:10.1007/s40806-016-0060-x
- Bech-Sørensen, J., & Pollet, T. V. (2016). Sex differences in mate preferences: A replication study, 20 years later. *Evolutionary Psychological Science*, 2, 171–176. doi:10.1007/s40806-016-0048-6
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6, 97–113. doi:10.1177/1468794106058877
- Burnard, P. (1991). A method of analysing interview transcripts in qualitative research. *Nurse Education Today*, 11, 461–466. doi:10.1016/0260-6917(91)90009-y
- Buss, D. M. (1988). From vigilance to violence: Tactics of mate retention in American undergraduates. *Ethology and Sociobiology*, 9, 291–317. doi:10.1016/0162-3095(88)90010-6
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1–14. doi:10.1017/s0140525x00023992
- Buss, D. M. (2000). The dangerous passion: Why jealousy is as necessary as love and sex. New York, NY: Simon & Schuster.
- Buss, D. M., & Angleitner, A. (1989). Mate selection preferences in Germany and the United States. *Personality and Individual Differences*, 10, 1269–1280. doi:10.1016/0191-8869(89)90239-0
- Buss, D. M., & Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, 50, 559–570. doi:10.1037//0022-3514.50.3.559
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204–232. doi:10.1037//0033-295x.100.2.204
- Buss, D. M., & Shackelford, T. K. (2008). Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology*, 6, 147470490800600116. doi:10.1177/147470490800600116
- Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., & Larsen, R. J. (2001). A half century of mate preferences: The cultural evolution of values. *Journal of Marriage and Family*, 63, 491–503. doi:10.1111/j.1741-3737.2001.00491.x
- Byrne, B. M., & Stewart, S. M. (2006). The MACS approach to testing for multigroup invariance of a second-order factor structure: A walk through the process. *Structural Equation Modeling*, 13, 287–321. doi:10.1207/s15328007sem1302_7
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245–276. doi:10.1207/s15327906mbr0102_10
- Chen, F. F. (2007). Sensitivity of goodness of fit indices to lack of measurement invariance. *Structural Equation Modeling*, 14, 464–504. doi:10.1080/10705510701301834
- Chen, F. F., Sousa, K. H., & West, S. G. (2005). Testing measurement invariance of second-order factor models. *Structural Equation Modeling*, 12, 471–492. doi:10.1207/s15328007sem1203_7
- Conroy-Beam, D., & Buss, D. (in press). Mate preferences. In T. K. Shackelford & V. Weekes-Shackelford (Eds.). *Encyclopedia of evolutionary psychological science*. Switzerland: Springer. doi:10.1007/978-3-319-16999-6_1-1
- Conroy-Beam, D., Goetz, C. D., & Buss, D. M. (2015). Why do humans form long-term mateships? An evolutionary game-theoretic model. *Advances in Experimental Social Psychology*, 51, 1–39. doi:10.1016/bs.aesp.2014.11.001
- Daly, M., Wilson, M., & Weghorst, S. J. (1982). Male sexual jealousy. *Ethology and Sociobiology*, 3, 11–27. doi:10.1016/0162-3095(82)90027-9
- Eagly, A. H., & Wood, W. (1999). The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, 54, 408–423. doi:10.1037/0003-066x.54.6.408
- Eastwick, P. W., & Finkel, E. J. (2008). Sex differences in mate preferences revisited: Do people know what they initially desire in a romantic partner? *Journal of Personality and Social Psychology*, 94, 245–264. doi:10.1037/e633982013-149
- Fales, M. R., Frederick, D. A., Garcia, J. R., Gildersleeve, K. A., Haselton, M. G., & Fisher, H. E. (2016). Mating markets and bargaining hands: Mate preferences for attractiveness and resources in two national US studies. *Personality and Individual Differences*, 88, 78–87. doi:10.1016/j.paid.2015.08.041

- Fieder, M., & Huber, S. (2016). The association between religious homogamy and reproduction. *Proceedings of the Royal Society B*, 283, 1834. doi:10.1098/rspb.2016.0294
- Fisher, M., Cox, A., Bennett, S., & Gavric, D. (2008). Components of self-perceived mate value. *Journal of Social, Evolutionary, and Cultural Psychology*, 2, 156–168. doi:10.1037/h0099347
- Fletcher, G. J. O., Simpson, J. A., Thomas, G., & Giles, L. (1999). Ideals in romantic relationships. *Journal of Personality and Social Psychology*, 76, 72–89. doi:10.1037//0022-3514.76.1.72
- Frederick, D. A., & Jenkins, B. N. (2015). Height and body mass on the mating market associations with number of sex partners and extra-pair sex among heterosexual men and women aged. *Evolutionary Psychology*, 13, 18–65. doi:10.1177/1474704915604563
- Frederick, D. A., Reynolds, T. A., & Fisher, M. L. (2013). The importance of female choice: Evolutionary perspectives on constraints, expressions, and variations in female mating strategies. In R. Chang, M. Fisher, & J. Garcia (Eds.), *Evolution's empress: Darwinian perspectives on the nature of women* (pp. 304–329). Oxford, UK: Oxford Press.
- Furnham, A. (2001). Self-estimates of intelligence: Culture and gender difference in self and other estimates of both general (g) and multiple intelligences. *Personality and Individual Differences*, 31, 1381–1405. doi:10.1016/s0191-8869(00)00232-4
- Furnham, A. (2009). Sex differences in mate selection preferences. *Personality and Individual Differences*, 47, 262–267. doi:10.1016/j.paid.2009.03.013
- Furnham, A., & McClelland, A. (2015). What men want in a woman: Personality is more important than academic record or athleticism. *Psychology*, 6, 942–947. doi:10.4236/psych.2015.68092
- Furnham, A., & Tsoi, T. (2012). Personality, gender, and background predictors of partner preferences. *North American Journal of Psychology*, 14, 435–454.
- Gangestad, S. W., Garver-Apgar, C. E., & Simpson, J. A. (2007). Changes in women's mate preferences across the ovulatory cycle. *Journal of Personality and Social Psychology*, 92, 151–163. doi:10.1037/0022-3514.92.1.151
- Gangestad, S. W., & Simpson, J. A. (2000). The evolution of mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, 23, 675–687. doi:10.1017/s0140525x0000337x
- Goodwin, R., & Tang, D. (1991). Preferences for friends and close relationship partners: A cross-cultural comparison. *Journal of Social Psychology*, 131, 579–581. doi:10.1080/00224545.1991.9713889
- Guttman, L. (1954). Some necessary and sufficient conditions for common factor analysis. *Psychometrika*, 19, 149–161. doi:10.1007/bf02289162
- Hennighausen, C., Hudders, L., Lange, B. P., & Fink, H. (2016). What if the rival drives a Porsche? Luxury car spending as a costly signal in male intrasexual competition. *Evolutionary Psychology*, 14, 1–13. doi:10.1177/1474704916678217
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66, 393–416. doi:10.1177/0013164405282485
- Hill, R. (1945). Campus values in mate selection. *Journal of Home Economics*, 37, 554–558.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1–55. doi:10.1080/10705519909540118
- Hurtado, A. M., & Hill, K. R. (1992). Paternal effect on offspring survivorship among Ache and Hiwi hunter-gatherers: Implications for modeling pair-bond stability. In B. S. Hewlett (Ed.), *Father-child relations: Cultural and biosocial contexts* (pp. 31–55). New York, NY: Aldine de Gruyter.
- Kalantar-Hormozi, A., Jamali, R., & Atari, M. (2016). Interest in cosmetic surgery among Iranian women: The role of self-esteem, narcissism, and self-perceived attractiveness. *European Journal of Plastic Surgery*, 39, 359–364. doi:10.1007/s00238-016-1185-7
- Kamble, S., Shackelford, T. K., Pham, M., & Buss, D. M. (2014). Indian mate preferences: Continuity, sex differences, and cultural change across a quarter of a century. *Personality and Individual Differences*, 70, 150–155. doi:10.1016/j.paid.2014.06.024
- Kenrick, D. T., Groth, G. E., Trost, M. R., & Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology*, 64, 951–969. doi:10.1037//0022-3514.64.6.951
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality*, 58, 97–116. doi:10.1111/j.1467-6494.1990.tb00909.x
- Khallad, Y. (2005). Mate selection in Jordan: Effects of sex, socio-economic status, and culture. *Journal of Social and Personal Relationships*, 22, 155–168. doi:10.1177/0265407505050940
- Khoei, E. M., Ziaei, T., Salehi, M., & Farajzadegan, Z. (2013). Comprehensive view of the human mating process among young couples in Isfahan-Iran: An explanatory mixed-method study. *Iranian Red Crescent Medical Journal*, 15, e10445. doi:10.5812/ircmj.10445
- Leung, S. O., & Xu, M. L. (2013). Single-item measures for subjective academic performance, self-esteem, and socioeconomic status. *Journal of Social Service Research*, 39, 511–520. doi:10.1080/01488376.2013.794757
- Li, N. P., Valentine, K. A., & Patel, L. (2011). Mate preferences in the US and Singapore: A cross-cultural test of the mate preference priority model. *Personality and Individual Differences*, 50, 291–294. doi:10.1016/j.paid.2010.10.005
- Long, M. L. W., & Campbell, A. (2015). Female mate choice: A comparison between accept-the-best and reject-the-worst strategies in sequential decision making. *Evolutionary Psychology*, 13, 1–6. doi:10.1177/1474704915594553
- McClendon, D. (2016). Religion, marriage markets, and assortative mating in the United States. *Journal of Marriage and Family*, 78, 1399–1421. doi:10.1111/jomf.12353
- Mvududu, N. H., & Sink, C. A. (2013). Factor analysis in counseling research and practice. *Counseling Outcome Research and Evaluation*, 4, 75–98. doi:10.1177/2150137813494766
- Oppenheimer, V. K. (1988). A theory of marriage timing. *American Journal of Sociology*, 94, 563–591. doi:10.1086/229030
- Parmer, T. (1998). Characteristics of preferred partners: Variations between African American men and women. *Journal of College Student Development*, 39, 461–471.

- Patil, V. H., McPherson, M. Q., & Friesner, D. (2010). The use of exploratory factor analysis in public health: A note on parallel analysis as a factor retention criterion. *American Journal of Health Promotion, 24*, 178–181. doi:10.4278/ajhp.08033131
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36*, 556–563. doi:10.1016/s0092-6566(02)00505-6
- Pazhoohi, F., & Burriss, R. P. (2016). Hijab and “hitchhiking”: A field study. *Evolutionary Psychological Science, 2*, 32–37. doi:10.1007/s40806-015-0033-5
- Pazhoohi, F., Lang, M., Xygalatas, D., & Grammer, K. (2017). Religious veiling as a mate-guarding strategy: Effects of environmental pressures on cultural practices. *Evolutionary Psychological Science, 1*–7. doi:10.1007/s40806-016-0079-z
- Regan, P. C., Levin, L., Sprecher, S., Christopher, F. S., & Cate, R. (2000). Partner preferences: What characteristics do men and women desire in their short-term sexual and long-term romantic partners? *Journal of Psychology and Human Sexuality, 12*, 1–20. doi:10.1300/j056v12n03_01
- Samani, S., & Ryan, B. A. (2008). Spouse selection: Important criteria and age preferences of an Iranian sample. *Psychological Reports, 103*, 535–544. doi:10.2466/pr0.103.2.535-544
- Schwarz, S., & Hassebrauck, M. (2012). Sex and age differences in mate-selection preferences. *Human Nature, 23*, 447–466. doi:10.1007/s12110-012-9152-x
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Universal dimensions of human mate preferences. *Personality and Individual Differences, 39*, 447–458. doi:10.1016/j.paid.2005.01.023
- Simpson, J. A., & Gangestad, S. W. (1992). Sociosexuality and romantic partner choice. *Journal of Personality, 60*, 31–51. doi:10.1111/j.1467-6494.1992.tb00264.x
- South, S. J. (1991). Sociodemographic differentials in mate selection preferences. *Journal of Marriage and the Family, 53*, 928–940. doi:10.2307/352998
- Souza, A. L., Conroy-Beam, D., & Buss, D. M. (2016). Mate preferences in Brazil: Evolved desires and cultural evolution over three decades. *Personality and Individual Differences, 95*, 45–49. doi:10.1016/j.paid.2016.01.053
- Strenze, T. (2007). Intelligence and socioeconomic success: A meta-analytic review of longitudinal research. *Intelligence, 35*, 401–426. doi:10.1016/j.intell.2006.09.004
- Swami, V. (in press). Body attractiveness. In T. K. Shackelford & V. Weekes-Shackelford (Eds.). *Encyclopedia of evolutionary psychological science*. Switzerland: Springer. doi:10.1007/978-3-319-16999-6_1882-1
- Swami, V., & Furnham, A. (2008). *The psychology of physical attractiveness*. Hove, UK: Psychology Press.
- Swami, V., Malpass, F., Havard, D., Benford, K., Costescu, A., Sofitiki, A., & Taylor, D. (2013). Metalheads: the influence of personality and individual differences on preference for heavy metal. *Psychology of Aesthetics, Creativity, and the Arts, 7*, 377–383. doi:10.1037/a0034493
- Swami, V., & Tovée, M. J. (2007). The relative contribution of profile body shape and weight to judgements of women’s physical attractiveness in Britain and Malaysia. *Body Image, 4*, 391–396. doi:10.1016/j.bodyim.2007.07.002
- Szymanowicz, A., & Furnham, A. (2011). Do intelligent woman stay single? Cultural stereotypes concerning the intellectual abilities of men and women. *Journal of Gender Studies, 20*, 43–54. doi:10.1080/09589236.2011.542019
- Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioral research* (2nd ed.). Thousand Oaks, CA: Sage.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist, 34*, 806–838. doi:10.1177/0011000006288127