



The Big Five personality dimensions and mate retention behaviors in Iran



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ABSTRACT

Personality dimensions are associated with various romantic relationship outcomes. The current study examined associations among the Big Five personality dimensions and mate retention domains in a community sample in Iran. Participants ($n = 308$) completed a survey that included measures of personality and mate retention behaviors. The results revealed that Conscientiousness and Openness to Experience were negatively associated with Cost-Inflicting mate retention behaviors (e.g., mate concealment, threatening infidelity), and that these associations remained significant when controlling for key demographic variables of sex, age, education, and relationship length. The results highlight the relationship between personality dimensions and mate retention in a non-Western culture. Limitations of the current study are noted and future directions are discussed.

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1. Introduction

A romantic partner's infidelity is a considerable threat to romantic relationships (Amato & Previti, 2003; Hall & Fincham, 2006), and is associated with family stress, violence, depression, and low self-esteem (Tsapelas, Fisher, & Aron, 2010). Maintaining a long-term romantic relationship and preventing a partner's infidelity have been adaptive problems for humans over deep evolutionary time (Buss, 1988; Starratt, Shackelford, Goetz, & McKibbin, 2007). A man whose partner commits infidelity is at risk for cuckoldry—investing resources into genetically unrelated offspring. A woman whose partner commits infidelity is at risk for losing partner-provisioned resources for her and her offspring.

Both men and women, therefore, deploy various mate retention behaviors to thwart partner infidelity or defection from a committed relationship (Barbaro, Pham, & Shackelford, 2015; Buss, 1988; Buss & Shackelford, 1997; Pham, Barbaro, & Shackelford, 2015a). Mate retention behaviors can range from socially acceptable or “positive” behaviors (e.g., bestowing gifts on a partner) to socially aversive or “negative” behaviors (e.g., violence toward rivals). Buss (1988) developed the Mate Retention Inventory (MRI) and documented 19 tactics of mate retention. Mate retention tactics are organized into five broader categories: (1) Direct Guarding, (2) Intersexual Negative Inducements, (3) Intrasexual Negative Inducements, (4) Positive Inducements, and (5) Public Signals of Possession. These mate retention categories have been organized into two higher-order domains of mate retention (Atari, Barbaro,

Shackelford, & Chegeni, 2016; Lopes, Shackelford, Santos, Farias, & Segundo, 2016; Miner, Starratt, & Shackelford, 2009): (1) Cost-Inflicting—behaviors that reduce the likelihood of partner infidelity by inflicting costs on a partner—and (2) Benefit-Provisioning—behaviors that reduce the likelihood of partner infidelity by increasing relationship satisfaction.

Mate retention behaviors are deployed in accordance with the degree to which an individual perceives a risk of partner infidelity (Buss & Shackelford, 1997). Individual differences in personality (and other individual difference traits) can influence how individuals perceive infidelity cues (e.g., Barbaro, Pham, Shackelford, & Zeigler-Hill, *in press*), and can influence the type of tactics one employs to thwart infidelity (e.g., Pham et al., 2015b). Evolutionary perspectives suggest that personality dimensions evolved in response to social adaptive problems recurrently faced by humans over evolutionary history (Michalski & Shackelford, 2010). In accordance with this perspective, research has examined how performance frequencies of mate retention behaviors are associated with personality dimensions.

The “Big Five” personality dimensions (McCrae & John, 1992) are comprised of Extraversion (characterized by high sociability; also referred to as “Surgency”), Agreeableness (characterized by cooperativeness), Conscientiousness (characterized by long-term goal pursuit), Neuroticism (characterized by high sensitivity to social threats; also referred to as “Emotional Stability”), and Openness to Experience (characterized by novelty-seeking) (McCrae & John, 1992). Several studies (de Miguel & Buss, 2011; Holden, Zeigler-Hill, Pham, & Shackelford, 2014; McKibbin, Miner, Shackelford, Ehrke, & Weekes-Shackelford, 2014; Pham et al., 2015b; Sela, Shackelford, Pham, & Zeigler-Hill, 2015) have investigated the associations between the Big Five personality

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dimensions (see Table 1 for summary of findings across studies). Conscientiousness and Openness to Experience, for example, show mixed associations (i.e., positive, negative, or null associations) with Benefit-Provisioning and Cost-Inflicting mate retention. Agreeableness, however, is consistently negatively associated with Cost-Inflicting mate retention. Extroversion and Neuroticism have been shown to be positively associated with Benefit-Provisioning and Cost-Inflicting mate retention (e.g., de Miguel & Buss, 2011), although some studies report null associations (e.g., Holden et al., 2014). Results across these studies, overall, are somewhat inconsistent.

One limitation of the previous research is that studies on mate retention are largely conducted in Western, Educated, Industrialized, Rich, and Democratic (WEIRD) samples (cf., Atari et al., 2016; Lopes et al., 2016). The associations between personality dimensions and mate retention behaviors, specifically, have been investigated in only one sample outside of the United States (Spain; de Miguel & Buss, 2011). Previous research has not investigated the associations between the Big Five personality dimensions and mate retention behaviors in non-WEIRD samples, however. Given the relative inconsistency of results in the extant literature, additional analyses of the association between personality dimensions and mate retention behavior in different cultures may elucidate important patterns.

The current study seeks to expand the literature regarding associations between personality dimensions and mate retention behaviors outside the US by securing data from individuals in Iran—an understudied, non-Western culture. Iran, in particular, has undergone considerable cultural changes in the preceding decades (e.g., socioeconomic status, educational attainment; marriage rules; Alnasrawi, 1986; Shams, 2016), affording a unique opportunity to examine various aspects of mating psychology (Atari & Jamali, 2016). Findings of the current study can add to our understanding of cross-cultural similarities and differences concerning associations between personality and romantic relationship behaviors. Because previous research examining the associations between personality dimensions and performance frequencies of mate retention domains shows mixed results (see Table 1), and research has not examined the associations between personality dimensions and mate retention in Iran, a priori hypotheses were not made. The current research is an exploratory investigation of the associations between personality dimensions and mate retention domains in Iran. Key demographic variables (i.e., age, sex, education, and relationship length) are also included as covariates in the current study.

Table 1
Comparison of bivariate correlations between mate retention domains and personality dimensions.

Study	MR Domain	Big Five personality dimensions				
		A	C	E	N	O
de Miguel and Buss (2011)	BP	–	+	+	+	ns
	CI	–	–	+	+	ns
Holden et al. (2014)	BP	ns	ns	ns	ns	–
	CI	–	–	ns	+	–
McKibbin et al. (2014)	BP	+	ns	ns	ns	+
	CI	–	ns	ns	+	ns
Pham et al. (2015b)	BP	+	ns	+	ns	+
	CI					
Sela et al. (2015)	BP	ns	+	ns	+	+
	CI	–	ns	ns	+	ns

Note. MR = Mate Retention; BP = Benefit-Provisioning; CI = Cost-Inflicting; A = Agreeableness; C = Conscientiousness; E = Extroversion; N = Neuroticism; O = Openness. “+” and “–” indicate direction of bivariate correlation reported at $p < 0.05$ ($p > 0.05$ indicated by “ns”). Cost-Inflicting mate retention was not examined in Pham et al. (2015b).

2. Methods

2.1. Participants and procedure

We recruited 308 heterosexual participants (53.6% female) from university settings and public places in Tehran, Iran. To be eligible, participants must have been (1) in a heterosexual, committed romantic relationship, and (2) at least 18 years of age. All participants were in a long-term romantic relationship; 73.4% of participants were married. The mean relationship length was 63.5 months ($SD = 73.8$). Participants ranged in age from 18 to 57 years ($M = 29.5$, $SD = 6.8$). Regarding educational qualification, five participants had some school education, 27 had a high school diploma, 22 had an associate's degree, 84 had a bachelor's degree, 123 had a master's degree, and 43 had a doctorate degree (four participants did not provide information regarding their education). Potential participants were approached and asked to participate in a study about romantic relationships. Participants completed paper-and-pencil measures of personality dimensions and mate retention behaviors along with other measures unrelated to the current study. Participation was voluntary and participants were not compensated.

2.2. Measures

2.2.1. Mate retention inventory-short form (MRI-SF)

The MRI-SF (Buss, Shackelford, & McKibbin, 2008) consists of 38 items measuring 19 mate retention tactics. Participants reported on a 4-point Likert-type scale ranging from 0 (*never*) to 3 (*often*) how often they performed each behavior within the past year. Atari et al. (2016) reported satisfactory psychometric properties of the Persian translation of the MRI-SF in Iran. The Persian translation of the MRI-SF demonstrates a two-component structure, consistent with Miner et al. (2009) and Lopes et al. (2016). Composite scores of Benefit-Provisioning ($\alpha = 0.84$) and Cost-Inflicting ($\alpha = 0.78$) components were calculated by averaging the appropriate items.

2.2.2. Ten-item personality inventory (TIPI)

The Persian Ten-Item Personality Inventory (TIPI) was used to assess the Big Five personality dimensions (Atari, 2015; see also Gosling, Rentfrow, & Swann, 2003). The Persian TIPI demonstrates adequate convergent validity and test-retest reliability (Atari, 2015). Participants responded to statements on a 7-point Likert scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Five items of the TIPI were reversed scored, and then composite scores for each personality feature was calculated by averaging participant responses to the appropriate items (Extraversion [$\alpha = 0.51$], Agreeableness [$\alpha = 0.19$], Conscientiousness [$\alpha = 0.30$], Emotional Stability [$\alpha = 0.34$], Openness to Experience [$\alpha = 0.13$]). Generally, estimates of the internal consistency of the TIPI are low (Gosling et al., 2003; Jonason, Teicher, & Schmitt, 2011).

2.2.3. Demographics

Participants reported on a number of demographic variables including age, sex, education, and relationship length. This information was collected, in particular, because each of these items has been shown to be associated with mate retention behaviors (see Buss, 1988; Buss & Shackelford, 1997; Pazhoohi, Jahromi, & Doyle, 2016).

2.3. Data analysis

Bivariate correlation analyses were conducted to investigate the associations between, demographic variables, personality dimensions, and mate retention domains. To investigate the unique predictive utility of personality dimensions, we conducted two independent hierarchical regression analyses. The variables sex, age, education, and relationship length were entered in the first step, with the five personality dimensions entered in the second step. Benefit-Provisioning and Cost-

Inflicting mate retention were entered separately as the dependent variables. All analyses were conducted using SPSS 22.0.

3. Results

3.1. Bivariate analyses

Bivariate correlations and descriptive statistics for study variables are presented in Table 2. Sex, age, education, and relationship length were correlated with Benefit-Provisioning and Cost-Inflicting domains of mate retention ($ps < 0.05$). Sex (coded as 0 = female, 1 = male) was positively associated with both mate retention domains. That is, men reported more frequent mate retention behaviors than women. Age, education, and relationship length, were each negatively associated with both mate retention domains.

Regarding personality dimensions, only Conscientiousness and Openness to Experience were correlated with Cost-Inflicting mate retention (see Table 2). Both Conscientiousness and Openness to Experience were negatively associated with Cost-Inflicting mate retention ($ps < 0.01$). Of note, no personality dimension was significantly correlated with Benefit-Provisioning mate retention.

3.2. Regression analyses

We conducted two hierarchical regression analyses to evaluate the influence of sex, age, education, relationship length, and the Big Five personality dimensions on Benefit-Provisioning and Cost-Inflicting mate retention. In the first step, we included sex, age, education, and relationship length. In the second step, we included the Big Five personality dimensions. Results of the two independent hierarchical regression analyses are displayed in Table 3. For Benefit-Provisioning mate retention, the model was significant ($p < 0.01$) and accounted for 14% of the dependent variable's variance. Specifically, there was a positive association for sex ($\beta = 0.24$, $t = 3.03$, $p < 0.01$) and a negative association for education ($\beta = -0.15$, $t = 2.23$, $p < 0.05$). That is, male (vs. female) participants, and less (vs. more) educated participants, provisioned their mates with benefits more frequently. However, none of the personality dimensions were significant predictors of Benefit-Provisioning mate retention after controlling for demographic variables.

For Cost-Inflicting mate retention, the model was significant ($p < 0.01$) and accounted for 20% of the dependent variable's variance. Specifically, there was a positive association for sex ($\beta = 0.25$, $t = 3.55$, $p < 0.01$), and negative associations for age ($\beta = -0.25$, $t = 2.55$, $p < 0.05$) and education ($\beta = -0.22$, $t = 3.41$, $p < 0.01$). That is, male (vs. female) participants, younger (vs. older) participants, and less (vs. more) educated participants, performed more frequent Cost-Inflicting mate retention behaviors. Conscientiousness ($\beta = -0.15$,

Table 3
Hierarchical regression analyses onto mate retention domains.

Variable	Benefit-provisioning		Cost-inflicting	
	β		β	
Model statistics	$R^2 = 0.12$ $F(4209) = 7.18^{**}$		$R^2 = 0.11$ $F(4211) = 6.65^{**}$	
Sex		0.23**		0.23**
Age		-0.14		-0.26*
Education		-0.16*		-0.19**
Relationship length		-0.13		0.06
Model statistics	$R^2 = 0.14$ $F(9204) = 3.78^{**}$		$R^2 = 0.20$ $F(9206) = 5.63^{**}$	
Sex		0.24**		0.25**
Age		-0.13		-0.25*
Education		-0.15*		-0.22**
Relationship length		-0.14		0.05
Extraversion		0.11		0.04
Emotional stability		0.03		-0.04
Agreeableness		0.01		-0.10
Conscientiousness		0.06		-0.15*
Openness to experience		0.05		-0.21**

** $p < 0.01$.

* $p < 0.05$.

$t = 2.23$, $p < 0.05$) and Openness to Experience ($\beta = -0.21$, $t = 3.28$, $p < 0.01$) remained significant predictors of Cost-Inflicting mate retention behaviors, such that individuals who scored higher (vs. lower) on Conscientiousness, and higher (vs. lower) on Openness to Experience, were performed less frequent Cost-Inflicting mate retention behaviors.

4. Discussion

The current study examined the associations between the Big Five personality dimensions and mate retention behaviors in an Iranian sample, while controlling for key demographic variables—sex, age, education, and relationship length. The results indicate that Conscientiousness and Openness to Experience are negatively associated with performance frequency of Cost-Inflicting mate retention. Conscientiousness and Openness to Experience were the only personality dimensions that remained associated with mate retention behaviors after controlling for demographic variables. Associations between Agreeableness, Emotional Stability, and Extroversion were not significant in the current study.

Findings of the current research demonstrate that Conscientiousness is negatively associated with performance frequency of Cost-Inflicting mate retention behaviors, consistent with previous research (de Miguel & Buss, 2011; Holden et al., 2014). Conscientiousness includes traits such as diligence, perfectionism, organization, responsibility, and prudence (Ashton & Lee, 2009; McCrae & John, 1992) and is associated

Table 2
Bivariate correlations and descriptive statistics for demographic details, personality traits, and mate retention domains.

	1	2	3	4	5	6	7	8	9	10	11
1. Sex	–										
2. Age	0.11	–									
3. Education	-0.02	-0.07	–								
4. Relationship length	-0.01	0.74**	-0.13*	–							
5. Extraversion	-0.22**	-0.10	-0.05	-0.05	–						
6. Emotional stability	0.23**	0.02	0.08	0.03	-0.11	–					
7. Agreeableness	-0.13*	0.02	-0.06	-0.13*	-0.15*	-0.01	–				
8. Conscientiousness	0.06	0.09	-0.05	0.07	0.01	0.19**	0.12*	–			
9. Openness to experience	0.02	-0.01	0.02	0.01	0.15**	0.07	0.00	0.10	–		
10. Benefit-provisioning MR	0.20**	-0.21**	-0.13*	-0.24**	0.07	0.01	0.05	0.11	0.10	–	
11. Cost-inflicting MR	0.16**	-0.20**	-0.20**	-0.13*	0.03	-0.09	-0.06	-0.15**	-0.17**	0.32**	–
Mean	0.46	29.5	4.39	63.50	4.67	4.08	4.71	5.59	5.21	1.72	0.59
Standard deviation	0.50	6.83	1.18	73.81	1.52	1.56	0.97	1.13	1.15	0.55	0.45

Note. MR = Mate Retention.

** $p < 0.01$.

* $p < 0.05$.

with life satisfaction, autonomy, personal growth, and positive relations with others (Aghababaei & Arji, 2014). Individuals that score high on these personality traits are more likely to provision their romantic partners with benefits (e.g., a pleasant birthday gift). Such traits (e.g., prudence) may also decrease the frequency of performing socially unacceptable behaviors (i.e., inflicting costs) when a person is investing efforts to retain a partner.

Openness to Experience also showed a negative association with performance frequency of Cost-Inflicting mate retention behaviors, paralleling reports from previous research (Holden et al., 2014). Openness to Experience includes traits such as unconventionality, aesthetic appreciation, creativity, originality, and inquisitiveness (Ashton & Lee, 2009; McCrae & John, 1992), and is also associated with an array of positive life outcomes and positive social interactions (e.g., Aghababaei & Arji, 2014). Individuals scoring high on these traits are more likely to provision their romantic partners with benefits (e.g., a surprise trip to an exotic place). Such traits (e.g., aesthetic appreciation) can also lead to less frequent use of Cost-Inflicting mate retention behaviors (e.g., inducing jealousy). Generally, the small-sized correlation coefficients between personality dimensions and mate retention domains are consistent with McKibbin et al. (2014).

Iranian men reported higher performance frequency of Benefit-Provisioning and Cost-Inflicting mate retention than Iranian women—a sex difference that has been previously documented (e.g., Holden et al., 2014). Men are more inclined than women to employ mate retention tactics when they perceive a high risk of sexual infidelity (Goetz et al., 2005; Starratt et al., 2007), and when their partner displays cues to fertility, such as physical attractiveness (Buss & Shackelford, 1997).

Age is uniquely and negatively associated with performance frequency of Benefit-Provisioning, and Cost-Inflicting, mate retention behaviors (after controlling statistically for sex, education and relationship length). For men, this negative association may be attributable to decline of testosterone with age (see Welling et al., 2008) and is consistent with previous research in Iran demonstrating a negative association between men's age and frequency of mate retention behaviors (Pazhoohi et al., 2016). The negative association between age and mate retention may be attributable to the fact that older men are more likely to be in a relationship a relatively older woman. Female reproductive capability declines with age, and men perform less frequent mate retention behaviors as the likelihood of cuckoldry decreases. For women, the negative association between age and frequency of mate retention behaviors may be attributable to men's decreased likelihood of committing sexual infidelity as they age (Puts, 2010). In Iran, newlyweds are strongly encouraged to bestow gifts to each other and to avoid conflicts in their new marriage. Benefit-Provisioning behaviors may decrease as individuals mature and the relationship becomes more established. These cultural differences between WEIRD and non-WEIRD samples may apply to the married individuals, specifically, in the present sample.

Education is negatively associated with performance frequency of Benefit-Provisioning and Cost-Inflicting mate retention behaviors. Individuals with greater educational attainment also report being in their current romantic relationship longer. The association between education and performance of mate retention, therefore, may be explained by the negative relationship between education and relationship length. Alternatively, education may contribute to one's mate value. Individuals with higher (vs. lower) mate value may perform less frequent mate retention because they may perceive a larger alternative mating market (e.g., they can easily replace their partner if an infidelity was to occur). Previous research has documented that men of higher (vs. lower) mate value perform more frequent Benefit-Provisioning, and less frequent Cost-Inflicting, mate retention behaviors, but these associations were only documented when analyzing reports from men's female partner, whereas men's self-reported mate value was not associated with their self-reported mate retention (Miner et al., 2009). In contemporary Iran, educational attainment is often associated with

higher social status. Individuals with higher educational attainment may perceive themselves as more desirable mates with greater access to alternative romantic partners.

4.1. Limitations and future directions

Although the results indicate correlations between the Big Five personality dimensions and mate retention domains, causality cannot be determined because we used cross-sectional data and a correlational research design. As proposed by Holden et al. (2014), it is possible that the direction of causality may be reversed (i.e., the long-term use of particular mate retention tactics may affect personality dimensions). Future research could employ longitudinal designs to examine how fluctuations in personality over time affect performance of mate retention behaviors. Romantic relationships are also dyadic in nature. Similarities and differences in personality dimensions within romantic couples, therefore, could affect the use of mate retention behaviors. A romantic partner's personality, for example, may influence an individual's use of mate retention (e.g., one's partner is highly extroverted, signaling more opportunities to commit infidelity).

The current study used a brief measure of the Big Five. Studies on the validity and reliability of the TIPI (Romero, Villar, Gómez-Fraguela, & López-Romero, 2012; Oshio, Abe, Cutrone, & Gosling, 2013; Muck, Hell, & Gosling, 2007) suggest that the TIPI may be used with adequate psychometric characteristics. A brief measure, however, is not without limitations. The null associations between personality dimensions and mate retention domains in the current research may be a consequence of measurement error inherent in using two-item sub-scales. Future research could also examine the associations between pathological or "dark" personality dimensions, such as the Dark Triad (i.e., Machiavellianism, narcissism, and psychopathy) and mate retention behaviors in non-WEIRD samples to afford comparisons with US samples (e.g., Jonason, Li, & Buss, 2010; Holden, Roof, McCabe, & Zeigler-Hill, 2015; Tragesser & Benfield, 2012).

It is important to note that Iran has various ethnicities, subcultures (see Elling & Saleh, 2015), and religious affiliations other than Islam (e.g., Zoroastrianism, Christianity, and Judaism). The current study, however, did not collect data on participants' ethnic and religious affiliations. The relationship between personality features and mate retention behaviors may be obscured given particular religious practices and norms that are enforced. Religious and cultural norms concerning the acceptability of certain behaviors may affect the performance of particular mate retention behaviors (e.g., flirting with another man to make your partner jealous) measured by the MRI-SF.

5. Conclusion

The current research examined the associations between personality dimensions, mate retention behaviors, and several demographic variables (sex, age, education, and relationship length) in an Iranian sample. The results indicate that sex, age, and education, are associated with Benefit-Provisioning and Cost-Inflicting mate retention behaviors in Iran. The results also indicate that Conscientiousness and Openness to Experience are associated with Cost-Inflicting mate retention, and these associations remain significant after controlling for demographic variables. The current research expands the evolutionary psychological literature in non-Western cultures, more generally, and adds the literature concerning the associations between normative personality dimensions and performance of mate retention behaviors, specifically.

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