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Intra-sex Variation in Human Mating Strategies: Different People, Different Tactics

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Abstract Several studies have demonstrated that men and women exhibit different romantic preferences, which align with the patterns predicted by sexual strategies theory. It is also assumed that the mate's value is a central factor in determining an individual's sexual strategy. Thus, the current study was developed to investigate whether intra-sex variation exists in the ideal romantic preferences of both genders and whether these preferences are associated with self-perception. To investigate these questions, cluster analyses were performed on the descriptions of ideal mates for short- and long-term relationships given by 366 Brazilian undergraduates (145 men and 221 women). Subsequently, comparisons were made between the lists of self-perceived attributes related to reproduction generated by the resulting groups. The results suggest that males and females use different mating tactics for short-term mating and that males use different tactics for long-term mating. Among men, the mating tactics observed seem to be related to male mate value and their tactics changed when they described ideal short- and long-term partners. Women's results showed different preference patterns in short-term assessments but minor differences were observed between them in terms of female mate value. For long-term relationships, female patterns were less distinct, indicating a single preference pattern. These findings indicate that a number of different tactics may be clustered together in investigations that address ideal preferences, and that studies of mate preferences must consider individual self-perceptions.

Keywords Evolutionary psychology · Human mate selection · Human sex differences · Self-perception · Sexual selection

Introduction

Mate selection has been thoroughly investigated, and several studies indicate that sex and involvement in the relationship are important factors in determining the preference patterns of men and women (Buss & Schmitt, 1993; Castro & Lopes, 2011; Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004; Kenrick, Sadalla, Groth, & Trost, 1990; Li & Kenrick, 2006; Stewart, Stinnett, & Rosenfeld, 2000). From an evolutionary perspective, these patterns evolved into strategies used by each sex to improve their own reproductive success, even if it meant to respond to the opposite sexes desires (Geary, Vigil, & Byrd-Craven, 2004). According to the parental investment theory (Trivers, 1972), these behaviors are the responses to the asymmetrical investment of energy the sexes direct towards reproduction, and they promote individual reproductive success. Particularly among mammals, males exhibit higher reproductive potential, which is limited by access to fertile females. In turn, females evolved to be selective because of the high costs associated with their parental investment (Clutton-Brock, 1989; Clutton-Brock & Vincent, 1991).

Expanding these findings to human behavior, Buss and Schmitt (1993) proposed the sexual strategies theory, which proposes that male and female mating strategies were selected to respond to different adaptive problems. In response to their main reproductive constrains, the predicted male strategy is to seek a greater

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number of partners who exhibit signs of high reproductive health, fertility, and fecundity, while the predicted female strategy is to search for committed partners who are willing to invest their time and resources in them and their children. Although both males and females are expected, at least in part, to devote more mating effort to meeting these goals, it has been reported that both sexes evolved specific mating strategies for short- and long-term romantic relationships (Buss & Schmitt, 1993). Study results have generally corroborated the sexual strategies theory. In short-term relationships, men usually place more emphasis on signs linked with female fertility whereas women are interested in both physical and personal traits. For long-term relationships, in addition to the importance of physical attributes, male interest in characteristics related to social companionship increases, whereas females prefer personal qualities and traits associated with resources and the willingness to acquire resources. For Gangestad and Simpson (2000), who proposed the strategic pluralism theory, mating strategies are actually conditional strategies guided by specific environmental inputs. They argue that intra-sex variation in mating tactics is a result of these conditional strategies and that the variations were positively selected in both sexes because they optimize mating and parental effort allocation.

In addition to the evidence that demonstrates the impact of gender and investment on romantic preferences, other studies have shown an association between self-perception and requirements for selecting mates (Kenrick, Groth, Trost, & Sadalla, 1993; Regan, 1998; Sprecher & Regan, 2002). In fact, Trivers (1972) theorized that sexual plasticity could be an adaptation that enables the expression of the best sexual strategy depending on the mate's value and the local environment; evidence supporting this hypothesis has become increasingly common in the literature (Gangestad & Simpson, 2000; Landolt, Lalumière, & Quinsey, 1995; Marlowe, 2004; Pillsworth, 2008).

In romantic partnerships, searching for partners who are equivalent in mating value may decrease the cost of the search, making it easier to win over the partner and consequently promoting a lasting relationship (Fletcher & Simpson, 2000; Kenrick et al., 1993; Noë & Hammerstein, 1995; Pawlowski, 2000). Buss and Schmitt (1993) suggested that individual mate value is a central factor in determining sexual strategy: the higher the mate value, the greater the possibility of expressing their preferred sex-typical strategy. In a study designed to investigate the effect of self-perceived mate value on mating strategy, Surbey and Brice (2007), found that men with high levels of self-perceived mate value endorsed casual sexual activity versus more committed sexual relationships; little evidence was found among women. Accordingly, intra-sex variation could reveal different patterns of ideal romantic preferences within groups of men and women with different self-perceptions. Therefore, the current study aimed to investigate the differences in the preference patterns for ideal short- and long-term partners among individuals of the same sex and to determine whether these groups evaluated themselves differently. The results are discussed in the context of the sexual strategies theory and the strategic pluralism theory.

Method

Participants

A total of 366 Brazilian undergraduate students between the ages of 18 and 29 took part in the study. The sample consisted of 145 men (M age = 21.44 years; SD = 2.42) and 221 women (M age = 21.56 years; SD = 2.27). The data were collected at the Federal University of Rio Grande do Norte, Natal, Brazil.

Measure and Procedure

Each participant responded to an anonymous questionnaire in which they were asked to provide four descriptions: two descriptions of an ideal short-term romantic partner and two descriptions of an ideal long-term romantic partner. Next, they were asked to evaluate their own characteristics—the self-perception protocol—and to answer sociodemographic questions. The participants described their ideal partners by distributing a predetermined number of points among the following nine characteristics: (1) attractive face, (2) attractive body, (3) good health (characteristics related to physical attractiveness); (4) sociability, (5) agreeableness, (6) sincerity (characteristics related to social skills); and (7) good financial status, (8) ambition/hard worker, and (9) intelligence (characteristics related to social status). These attributes were selected because they represent three sets of characteristics that are relevant in romantic relationships (Castro & Lopes, 2011; Fletcher, Simpson, & Boyes, 2006). The introductory texts for the questions related to ideal short- and long-term partners were based on the texts used by Castro and Lopes (2011).

In the first description of each ideal partner (the training description), the participants were asked to allocate 27 points among the presented traits and, in the second description (the test description), they were asked to allocate nine points. This procedure was applied to encourage the participants to prioritize the attributes of greatest interest within and between the corresponding descriptions and to assess each characteristic in relation to the other traits (i.e., the participants had to perform trade-offs to evaluate the traits). At the beginning of the task, the participants were informed that they could distribute a maximum of 5 points to each characteristic and that allocating more points to a certain trait indicated that the characteristic had greater importance. The self-perception protocol included the same nine characteristics used to describe the ideal partners, with a 6-point Likert response scale (0–5). However, to capture the intensity with which the participants perceived their attributes, no point restrictions were established.

Statistical Analyses

Cluster analyses were conducted separately for each gender and for the short- and long-term assessments to determine whether the male or female participants could be grouped according to their romantic preferences for ideal short- and long-term partners. The number of preference profiles was obtained by performing a hierarchical cluster analysis on the ideal assessments reported in the test descriptions. These descriptions were selected because they show a greater effect in segregating interests because it was constructed under higher point restriction. In this procedure, the number of clusters in the ideal short- and long-term assessments was determined by clustering the participants (cases) according to their evaluations, using the between-groups linkage method with the measure of squared Euclidean distance. The number of clusters was based on the greatest distance between the clustered coefficients in the agglomeration schedule. Once the number of clusters was identified, the participants were classified accordingly using a k-means cluster analysis.

After identifying the clusters, general linear model (GLM) tests were applied for each characteristic to contrast the ideal assessments and the self-perceptions between the clusters. To compare the ideal assessments, the score for each characteristic reported in the test description was used as the dependent variable, and the clusters were used as the independent variable. To assess the differences in the self-perceptions, the self-evaluation score for each characteristic was used as the dependent variable, and the clusters were used as the independent variable. Because of the number and the nature of the clusters obtained from the short- and long-term preferences, McNemar's test was also applied to check for tactic changes (more details in the results section). The significance level was established at 5 % for all of the analyses.

Results

The cluster analyses of the short-term assessments indicated that the female participants could be grouped in two clusters (Clusters 1 and 2) according to their ideal romantic preferences. The female participants in Cluster 1 ($N = 147$) described ideal partners that were more sociable, agreeable, sincere, ambitious/hard working, and intelligent than the female participants in Cluster 2, indicating a greater interest in the characteristics related to the investment in and commitment to the relationship. In contrast to Cluster 1, females in Cluster 2 ($N = 74$) described ideal short-term partners with more attractive faces and bodies and better health, characteristics related to physical attributes and good genes. The comparison of the self-perceptions indicated that the female participants in Cluster 1 described themselves as more sincere and those in Cluster 2 perceived themselves as having more attractive faces (Table 1). In the analyses performed on the assessments of the ideal long-term partners, two female clusters were also observed; however, there were fewer differences between the clusters. The female participants in Cluster 1 ($N = 151$) described more agreeable, sincere, and intelligent ideal long-term partners than the women in Cluster 2, whereas the females in Cluster 2 ($N = 70$) described ideal partners with better health and financial status. With regard to the self-perceptions of the females in the long-term clusters, the female participants in Cluster 1 described themselves as more agreeable, whereas those in Cluster 2 considered themselves healthier (Table 1). In summary, these results indicate there were two distinct preference patterns among the females with regard to ideal short-term partners: most women sought partners with better prospective social status and social skills, whereas a smaller group sought physical attractiveness. For long-term relationships, the patterns were less distinct, indicating that females' preferences for long-term partners seemed to converge in a single pattern.

Two clusters were observed in the short-term assessments of the male participants. The male participants in Cluster 1 ($N = 74$) described ideal short-term partners who were more sociable, agreeable, sincere, ambitious/hard working, intelligent, and more financially stable compared with the males in Cluster 2. In contrast to the male participants in Cluster 1, those from Cluster 2 ($N = 71$) described ideal short-term partners with more attractive faces and bodies and better health. The self-perception comparison indicated that the males in Cluster 2 described themselves as having more attractive faces and bodies and as more agreeable than those in Cluster 1 (Table 2). The male participants also formed two clusters in terms of their long-term preferences, and the differences between the clusters of preferences for long-term partners were similar to those found for short-term partners. The male participants in Cluster 1 ($N = 94$) described ideal long-term partners with greater sociability, agreeableness, sincerity, financial status, and intelligence than the males in Cluster 2. In contrast to the male participants in Cluster 1, those in Cluster 2 ($N = 51$) described long-term partners with more attractive faces and bodies and better health. The self-perception comparison indicated that the male participants in Cluster 2 described themselves as having more attractive faces and bodies and as more sociable and agreeable than those in Cluster 1 (Table 2). The results from the male participants revealed two distinct patterns in the preferences for short- and long-term partners: one group of men sought partners with better prospective social status and social skills, and another group sought physical attractiveness. The men in the group that prioritized physical attributes assessed themselves as more physically attractive and agreeable. With regard to long-term relationships, the group that showed a greater preference for partners with better social status and social skills was larger.

Because similar short- and long-term preferences were observed among the men, McNemar's test was applied to determine whether the male participants originally classified in clusters according to their short-term preferences were grouped in

Table 1 Contrasts between female participants' clusters for romantic partners and self-evaluation

	Ideal preferences			Self-evaluation		
	Cluster 1 *M* (SD)	Cluster 2 *M* (SD)	*F*(1, 219)	Cluster 1 *M* (SD)	Cluster 2 *M* (SD)	*F*(1, 219)
Short-term relationship						
Physical attractiveness						
Attractive face	0.75 (0.64)	**2.11 (1.07)**	139.56***	2.56 (1.15)	**2.93 (1.16)**	5.16*
Attractive body	0.59 (0.58)	**1.76 (0.89)**	136.54***	2.32 (1.20)	2.65 (1.30)	3.50
Good health	1.33 (1.07)	**2.16 (1.54)**	22.24***	3.69 (1.17)	3.91 (1.11)	1.66
Social skills						
Sociability	**0.77 (0.66)**	0.34 (0.48)	24.80***	3.20 (1.33)	3.11 (1.36)	<1
Agreeableness	**1.42 (0.95)**	0.92 (0.77)	15.54***	3.45 (1.25)	3.38 (1.20)	<1
Sincerity	**1.56 (1.06)**	0.32 (0.60)	87.12***	**4.19 (0.90)**	3.89 (1.11)	4.62*
Social status						
Good financial status	0.37 (0.56)	0.45 (0.89)	<1	1.88 (1.14)	2.08 (1.16)	1.55
Ambition/Hard worker	**0.52 (0.68)**	0.11 (0.35)	24.57***	3.18 (1.35)	3.03 (1.27)	<1
Intelligence	**1.69 (0.89)**	0.76 (0.66)	64.47***	3.48 (1.04)	3.55 (0.95)	<1
Long-term relationship						
Physical attractiveness						
Attractive face	0.65 (0.69)	0.81 (0.79)	2.49	2.63 (1.21)	2.80 (1.06)	1.02
Attractive body	0.50 (0.56)	0.53 (0.70)	<1	2.39 (1.29)	2.51 (1.13)	<1
Good health	0.86 (0.60)	**2.49 (1.06)**	210.17***	3.60 (1.18)	**4.13 (0.99)**	10.67**
Social skills						
Sociability	0.77 (0.66)	0.67 (0.79)	<1	3.22 (1.35)	3.06 (1.31)	<1
Agreeableness	**1.21 (0.74)**	0.80 (0.81)	13.84***	**3.56 (1.17)**	3.13 (1.32)	6.08*
Sincerity	**1.89 (1.14)**	1.03 (0.95)	30.06***	4.07 (0.91)	4.13 (1.13)	<1
Social status						
Good financial status	0.50 (0.64)	**0.77 (1.02)**	5.62*	1.94 (1.16)	1.96 (1.13)	<1
Ambition/Hard worker	0.91 (0.73)	0.74 (0.81)	2.45	3.13 (1.27)	3.13 (1.45)	<1
Intelligence	**1.71 (0.90)**	1.17 (0.82)	18.09***	3.48 (1.01)	3.54 (1.02)	<1

The highest mean values for statistically significant contrasts are displayed in bold

* $p < .05$; ** $p < .01$; *** $p < .001$

different clusters according to their long-term preferences. The test revealed significant changes in the classification of the male participants ($N = 145$, $\chi^2 = 7.84$, $p = .005$); 13 participants who were classified in Cluster 1 based on their short-term responses were grouped in Cluster 2 based on their long-term responses, whereas 33 participants who were assigned to Cluster 2 based on their short-term answers were grouped in Cluster 1 based on their long-term preferences (61 and 38 men remained categorized in Clusters 1 and 2, respectively). This result indicates that several men had very similar preference patterns for both short- and long-term partners, but another group of men who valued physical attributes in short-term relationships valued social skills and status in long-term relationships. McNemar's test was not performed for the female participants because their short- and long-term clusters did not reflect similar patterns.

Discussion

In general, there were intra-sex differences observed in the ideal short- and long-term partners of each gender. The analysis of intra-sex variation in females' ideal short-term preferences revealed two groups of women. One group preferred physically attractive and healthy partners. A preference for physical attributes was expected in the sexual strategies theory (SST), which assumes that females seek short-term relationships partially to gain access to partners with high-quality genes. The other group, to which most of the women belonged, described ideal short-term partners as having traits similar to those expected for long-term relationships—strong social skills and prospective social status. However, these preferences were not a priori the results predicted by SST, although these women may be using short-term mating

Table 2 Contrasts between male participants' clusters for romantic partners and self-evaluation

	Ideal preferences			Self-evaluation		
	Cluster 1 *M* (SD)	Cluster 2 *M* (SD)	*F*(1, 143)	Cluster 1 *M* (SD)	Cluster 2 *M* (SD)	*F*(1, 143)
Short-term relationship						
Physical attractiveness						
Attractive face	1.30 (0.82)	**2.44 (0.89)**	64.10***	2.72 (1.09)	**3.10 (1.00)**	4.81*
Attractive body	1.30 (0.79)	**2.94 (1.03)**	117.79***	2.39 (1.26)	**2.77 (1.03)**	3.99*
Good health	1.12 (0.94)	**2.07 (1.27)**	26.42***	3.81 (1.02)	4.10 (0.99)	2.98
Social skills						
Sociability	**0.76 (0.82)**	0.34 (0.56)	12.70***	3.34 (1.27)	3.58 (1.21)	1.34
Agreeableness	**1.14 (0.82)**	0.54 (0.81)	19.77***	3.58 (1.18)	**4.04 (0.98)**	6.52*
Sincerity	**1.20 (1.09)**	0.21 (0.53)	48.14***	3.76 (0.99)	3.93 (1.25)	<1
Social status						
Good financial status	**0.24 (0.52)**	0.06 (0.29)	7.13**	2.11 (1.19)	2.48 (1.09)	3.81
Ambition/Hard worker	**0.27 (0.48)**	0.04 (0.36)	10.58**	3.05 (1.48)	3.24 (1.41)	<1
Intelligence	**1.58 (0.89)**	0.38 (0.64)	86.13***	3.76 (1.03)	3.94 (0.98)	1.24
Long-term relationship						
Physical attractiveness						
Attractive face	1.09 (0.63)	**2.27 (0.87)**	88.62***	2.78 (1.07)	**3.14 (1.02)**	3.90*
Attractive body	0.98 (0.72)	**1.98 (0.93)**	52.16***	2.43 (1.11)	**2.86 (1.22)**	4.78*
Good health	0.99 (0.80)	**1.78 (1.10)**	24.98***	3.87 (1.01)	4.10 (1.01)	1.66
Social skills						
Sociability	**0.81 (0.72)**	0.35 (0.48)	16.30***	3.30 (1.31)	**3.75 (1.07)**	4.35*
Agreeableness	**1.01 (0.78)**	0.47 (0.64)	17.75***	3.64 (1.19)	**4.12 (0.86)**	6.42*
Sincerity	**1.63 (1.05)**	0.73 (0.72)	30.03***	3.94 (0.95)	3.67 (1.38)	1.91
Social status						
Good financial status	**0.40 (0.69)**	0.12 (0.33)	7.78**	2.17 (1.18)	2.51 (1.08)	2.90
Ambition/Hard worker	0.56 (0.63)	0.37 (0.66)	2.93	3.07 (1.45)	3.27 (1.43)	<1
Intelligence	**1.51 (0.89)**	0.88 (0.79)	17.81***	3.84 (0.94)	3.86 (1.13)	<1

The highest mean values for statistically significant contrasts are displayed in bold

* $p < .05$; ** $p < .01$; *** $p < .001$

to evaluate the long-term prospects of potential partners (Buss & Schmitt, 1993; Garcia & Reiber, 2008).

These findings can also be interpreted through the strategic pluralism theory (SPT) (Gangestad & Simpson, 2000). In alignment with this theory, these two groups of women expressed distinct preferences because they expect different investments (genetic or material benefits) from their partners. The first group might have adjusted their preferences to prioritize genetic investments (i.e., by assessing physical attractiveness and good health), whereas the other group might be looking for commitment and male parental investment. Although short-term relationships imply less investment and commitment, the preference for partners that signal an ability to provide parental care may result from the high cost that females face in short-term mating. Particularly for young Brazilian females beginning their college education, who generally live with their parents and are financially dependent on their families (current sample), financial constraints might be perceived as an environmental barrier to ideal reproductive conditions. At this moment in a woman's life, an unplanned pregnancy could compromise her professional future and, as a result, she might anticipate a dual parenting arrangement with her partner.

Studies conducted with American samples showed that, in contrast to men, some young women who have engaged in casual relationships have experienced negative emotional reactions to these events (Fielder & Carey, 2010; Townsend, 1995; Townsend & Wasserman, 2011). American students usually live on college campuses or with housemates in an environment free from adult supervision, and even in a more sexually liberal context, females are more likely to become involved with acquaintances and to expect these casual encounters to become committed partnerships (Garcia & Reiber, 2008; Owen & Fincham, 2011). In general, these studies suggest that emotional mechanisms may orient women towards relationships in which

they have more control over the male's investment, increasing the likelihood of ensuring his reproductive investment (Townsend, 1995; Townsend, Kline, & Wasserman, 1995).

Although different preference patterns were observed in the females' short-term assessments, minor differences were observed between the groups in terms of self-perception. This result most likely occurred because mate value is less variable among females (Surbey & Brice 2007), given that the physiological investment (pregnancy and lactation) and the economic investment (time and energy invested in parental care) required for reproduction are greater. Compared with mate value for males, mate value for females is assumed to be less sensitive to females' social and personal characteristics, especially in environments where males are readily available for casual sex and make a greater mating effort in short-term relationships (Buss & Schmitt, 1993; Gangestad & Simpson, 2000). The difference we observed revealed that the women who showed a greater preference for physically attractive partners described themselves as having more attractive faces and, in addition, the mean values suggest that they also tend to describe themselves as having more attractive bodies and better health. This result corroborates the finding by Perilloux, Cloud, and Buss (2013): women who perceived themselves as more physically attractive were more oriented toward short-term mating, reported more sexual experiences and had a less restricted sociosexual orientation. It also agrees with Buss and Shackelford (2008), which found that attractive women express higher standards for indicators of good investment abilities, parenting abilities, partner traits and good genes.

The intra-sex variation in the characteristics of an ideal long-term partner was not consistent for the female participants, most likely because of the large investment and social commitment required for this type of relationship. Usually, females tend to idealize long-term partners with strong social skills and good prospects for status (Buss & Schmitt, 1993; Geary et al., 2004). However, the costs associated with long-term relationships could affect females' choices by forcing them to adapt their preferences to ensure male investment (Castro, Hattori, & Lopes, 2012).

The males' assessments revealed two distinct preference patterns for ideal short- and long-term partners. Within each type of relationship, one group of men idealized physically attractive and healthy partners, whereas the second group preferred ideal companions with greater social skills and good prospects for status. The preference for female physical attractiveness confirmed the prediction of SST, and it is one of the most commonly described male preferences in the literature (Castro & Lopes, 2011; Li & Kenrick, 2006; Pawlowski & Koziel, 2002; Townsend & Wasserman, 1998). This characteristic is an important indicator of health (Nedelec & Beaver, 2014), which is positively correlated with the mate value of females (Buss & Schmitt, 1993; Geary et al., 2004; Pawlowski, 2000). According to the literature, in addition to the preference for female physical attractiveness, personal characteristics and social abilities become more important for long-term relationships (Castro & Lopes, 2011; Fletcher et al., 2004; Geary et al., 2004). Because long-term relationships require a larger commitment, SST predicts that men will be choosy in evaluating their partners, valuing signs associated with relationship quality, commitment, and good parenting skills. This pattern explains why most men valued female social skills and social status in their long-term assessments; however, it does not explain why some men valued these attributes in describing their short-term partners.

According to SPT, most men adjust their behavior in response to women's evaluations of them and the trade-offs men face in allocating more or less effort to mating or parenting, given the attributes they possess (Gangestad & Simpson, 2000). Thus, the men who preferred women who were willing to invest in the relationship might have expressed this tendency because they perceived that women valued male investment and/or because they face higher costs in competing for short-term partners because they do not possess the qualities appreciated in this type of relationship. There were differences in self-perception observed among the male participants. The individuals who prioritized physical characteristics in their ideal partners had higher self-perceived physical attractiveness and agreeableness. Because the participants in this study were undergraduates in their early 20 s who were totally or partially dependent on their parents for financial support, the characteristics that best predict their value as a mate might be related to their physical attractiveness and social skills. If so, the results suggest that the male participants with greater mate value (i.e., who are more physically and socially attractive for this age group) will express the preferred male strategy. This result aligns with SPT and also corroborates the prediction made by Buss and Schmitt (1993), who stated that individuals with high mate value are expected to express the preferred strategy for their sex. This result also aligns with the biological market theory, which predicts that those with greater partner value are able to pair with high-value mates (Noë & Hammerstein, 1995; Pawlowski, 2000).

We also observed the continuity and changes in tactics among the men's descriptions of their ideal companions. A portion of the males expressed the same preferences for both short- and long-term partners, but some of the men changed their preferences from mainly prioritizing physical attractiveness in the short term to placing greater importance on social skills and social status in the long term. Although this study was not developed to investigate the alterations in tactics between short- and long-term relationships, this result suggests that the continuity of tactics may be related to the mate value of individual males, as SPT predicts. Based on this theory, the men who are most fit are more likely to successfully carry out short-term tactics, regardless of certain environmental factors (Gangestad & Simpson, 2000). The general concept is that those who changed their tactics might be adjusting their preferences in response to personal or environmental characteristics.

These results corroborated the findings of Surbey and Brice (2007), who reported that a significant portion of the within-sex

variation in men's mating strategies was explained by male mate value, which appears to affect men's inclination to pursue short-term mating strategies. These results were also in agreement with the findings of Penke and Denissen (2008), who found that male self-esteem was affected by their perceived mate value. For Penke and Denissen, changes in self-esteem regulate optimal mating tactics, thus creating intra-sex variation in male reproductive behavior. The association between self-esteem and mate value seems to be a widespread phenomenon that appears in various cultural groups (Goodwin et al., 2012). Furthermore, the findings also aligned with the study of Zeigler-Hill, Campe, and Myers (2009) that showed that high self-esteem was associated with lower minimal standards for relationships among men and, with research by Landolt et al. (1995), in which male selection of reproductive tactics was affected by their perceived mating success.

There were several notable limitations to the current study. One limitation was that the participants were asked to describe their preferences using a list of traits rather than by evaluating photos or actual actors. This procedure most likely underestimated the sex differences because men and women evaluate their partners' characteristics differently (Dunn & Searle, 2010; Jankowiak, Hill, & Donovan, 1992; Todd, Penke, Fasolo, & Lenton, 2007; Townsend & Levy, 1990). In addition, although this study explored the relative differences between the characteristics, another limitation is that the value of an attribute is influenced by the other characteristics an individual possesses (Kniffin & Wilson, 2004). Methods that are specifically designed to address this effect and the partner acceptance threshold that men and women have for romantic relationships could reveal important details about the individual assessments. In addition, sociosexual orientation, personality, and self-esteem measurements could also help to explain some of the variability observed among the women. Finally, data from more diverse samples may enable greater generalization of the findings.

Despite these limitations, the current study found evidence that females exhibited different preference patterns for ideal short-term partners and men exhibited different preference patterns for short- and long-term partners, suggesting that men's preferences are associated with self-perceptions. In this sense, a mixture of different tactics can be found within each sex's mating strategies, and the mating tactics seem to be sensitive to mate value. The interpretation of the findings suggests that while the sexual strategies theory seems to explain intra-sex preference patterns, the strategic pluralism theory seems to be more appropriate for explaining intra-sex variation. In summary, in investigations of short- and long-term preferences, one should be aware that the sample may not be homogenous; instead, a number of different tactics that arise in response to specific pressures may be clustered together. Although preferences may or may not be expressed in partner choice and can also be affected by social norms, environmental conditions, and social conditions, preference investigations help to clarify how human behavior adapts to solve reproductive problems.

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