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## Mate preferences in the US and Singapore: A cross-cultural test of the mate preference priority model

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### ABSTRACT

Sex differences have been found in mate preferences across several decades. Especially for long-term partners, men tend to value physical attractiveness and women tend to value social status. However, the sexes both value various other traits even more highly. Such findings thus diminish the importance of the sex differences and challenge the theoretical importance that evolutionary psychologists place on physical attractiveness and social status. Using a budget allocation methodology to examine mate preferences in both the US and Singapore, we found not only the usual sex differences, but also evidence that men prioritize physical attractiveness and women prioritize social status as necessities in their long-term mates. We also found that both sexes tend to value physical attractiveness as a necessity in short-term mates. Results replicate previous budget allocation findings and provide cross-cultural validation for a mate preference priorities model.

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### 1. Introduction

Do men and women meaningfully differ in their criteria for potential mates? To answer this question, it is important to consider at least two key factors that may underlie male and female reproductive value in both long-term and short-term mating contexts (Buss & Schmitt, 1993). First, individuals' fertility tends to decrease with age. In particular, whereas men's fertility decreases at a relatively slow rate over the entire lifespan, women's fertility tends to decline quickly after 30 and reaches zero at menopause. Thus, because female fertility is especially tied to age and only fertile individuals can produce offspring, men may have evolved to seek cues to youth (and sexual maturity) in both long- and short-term matings (Symons, 1979). Specifically, men may have evolved to find such cues, including soft skin and hair and a low waist-to-hip ratio (e.g., Singh, 1993), to be especially physically attractive in long- and short-term mates.

Second, both men and women tend to vary in their ability to provide resources that enhance the viability of offspring. However, whereas both sexes can contribute significant resources, the sexes differ sharply in their obligatory parental investment (Trivers, 1972). Specifically, women incur a relatively heavy investment of pregnancy and lactation, which far outweighs the (relatively small) sex cells that men are physiologically required to contribute. Thus, it would have been adaptive for women to ensure that their

offspring become viable, by preferring mates who are able and willing to invest resources beyond the obligatory minimum (Buss, 1989; Symons, 1979). For short-term matings, a man's resources may still be a consideration (Greiling & Buss, 2000); however, it may be beneficial for women to focus more on obtaining heritable benefits or "good genes", which may be outwardly indicated by a man's physical condition (Kenrick, Groth, Trost, & Sadalla, 1993). Specifically, women may have evolved to find cues such as symmetry and masculinity to be especially physically attractive and desirable in short-term mates (Gangestad & Simpson, 2000).

Given these important factors, when considering long-term mates, women, more so than men, have been hypothesized to place high importance on a mate's investment potential, which may be indicated by his social status (Symons, 1979). In contrast, men, more so than women, have been hypothesized to value physical attractiveness. For short-term mates, both sexes have been hypothesized to place high value on physical attractiveness (Buss & Schmitt, 1993), though for different reasons (Li & Kenrick, 2006). Indeed, researchers investigating long-term mate preferences have shown that women more highly value their partner's ability to acquire resources, whereas men place higher value on their partner's physical attractiveness (e.g., Buss, 1989; Buss, Shackelford, Kirkpatrick, & Larsen, 2001; Feingold, 1992; Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004; Hill, 1945; Shackelford, Schmitt, & Buss, 2005; Townsend & Wasserman, 1998). For short-term mates, both sexes tend to place higher value on physical attractiveness (e.g., Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004; Kenrick et al., 1993; Regan & Berscheid, 1997).

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### 1.1. The mate preference priority model

Traditional surveys, however, may be limited in their ability to paint a full picture of mate preferences. For instance, Buss and Barnes (1986) found that when considering potential marriage partners, men rank-ordered physical attractiveness higher than did women and women rank-ordered good earning capacity and good financial prospects higher than did men. Likewise, in a large-scale study of human mate preferences spanning 33 countries, 6 continents, and 5 islands, Buss (1989) found that cross-culturally, cues signaling resource acquisition were more important in a marriage partner for women than men, and cues signaling reproductive capacity were more important for males than females. However, such studies offer only limited support for evolutionary hypotheses of long-term mating because physical attractiveness was only moderately important to men and resource potential was near the bottom of the list for women. Indeed, both sexes most highly valued traits such as intelligence, kindness, and being lively.

Utilizing economic concepts, Li and colleagues suggested that the discrepancy between evolutionary theory and empirical results may be clarified by considering how individuals *prioritize* qualities they desire in mates (Li, Bailey, Kenrick, & Linsenmeier, 2002). That is, a *necessity* is something that is initially extremely desirable (e.g., water, food, and shelter), but as more of it is acquired, diminishes in value. A *luxury*, in contrast, is not important when necessities are lacking, but becomes more desirable once basic needs are met (e.g., vacations and fine dining). For reproductively successful long-term mateships, a woman's fertility and a man's ability to provide minimal resources should be critical. That is, in the ancestral past, mating with a woman who is beyond reproductive age would not have led to any offspring, and mating with a destitute man may have compromised offspring viability.

Consistent with this mate preference priority model, a budget allocation methodology revealed that while kindness was highly valued by both sexes, women prioritized resources and social status and men prioritized physical attractiveness in long-term relationship partners (Li, 2007; Li et al., 2002). However, after acquiring average amounts of these traits in potential mates, the sexes became more alike in their choices and favored other traits more heavily. When women engage in extrapair mating, there is evidence that they may be looking to upgrade their long-term mate or to obtain immediate resources (Greiling & Buss, 2000). In general, though, resources are less relevant and genetic quality may be more crucial in short-term, sexual versus long-term, committed partners. Consistent with this reasoning, both sexes prioritized a minimum level of physical attractiveness in their short-term sexual partners (Li & Kenrick, 2006).

### 1.2. Across cultures

From an evolutionary perspective, psychological mechanisms are thought to be cross-culturally universal because they evolved to solve adaptive problems recurrently encountered by ancestral humans. However, to the extent that the ancestral environment varied on dimensions relevant to the functioning of a mechanism, the mechanism should have evolved to be sensitive to variations on those dimensions (Buunk, Angleitner, Obaid, & Buss, 1996; Tooby & Cosmides, 1992). Between local ecologies or cultures, variation may exist on such dimensions and thus, in the ways that psychological mechanisms are expressed.

In this regard, the reproductive constraints outlined earlier are hypothesized to have been recurrently encountered in the ancestral past; thus, the prioritization of physical attractiveness and social status in specific mating contexts should occur across cultures. However, such mate preference mechanisms may be sensitive to differences in cross-cultural norms – and the factors underlying

such norms – regarding the importance of physical attractiveness and social status. For instance, in places where pathogens are more common, physical attractiveness tends to be more highly valued (Gangestad & Buss, 1993).

In the current study, we utilized the budget allocation methodology (Li & Kenrick, 2006; Li et al., 2002) to examine mate preference priorities in both American and Singaporean contexts. First, we aimed to see whether previous findings that women prioritize status when selecting for long-term relationships but prioritize physical attractiveness when selecting for short-term relationships, and that men prioritize physical attractiveness in both contexts, can be replicated in the US and extended to an East Asian context. If the same patterns of prioritization are present in both countries, an evolutionary explanation for mating-duration dependent, sex-differentiated mate preferences would be further bolstered (though sex-differentiated mate preferences are also generally compatible with social structural accounts; e.g., Harris, 2003; Wood & Eagly, 2002). At the same time, we sought to explore potential differences between the two contexts. Although Singapore is similar in economic development and gender-equality as the United States, East Asian cultures tend to especially value face and hierarchical position (Ting-Toomey, 1994). Thus, we expected social status to be more highly valued in Singapore.

## 2. Method

### 2.1. Participants

Participants ( $n = 407$ ) were 207 undergraduates taking introductory psychology at a large Midwestern American university and 200 undergraduates taking psychology courses at a major university in Singapore. In the US, there were 124 women (age  $M = 19.16$ ,  $SD = 2.04$ ) and 83 men ( $M = 19.72$ ,  $SD = 2.91$ ). Ethnically, 77.8% were Caucasian, 13.5% Black, 4.3% Hispanic, 2.4% Asian, and 2% other. In Singapore, there were 126 women ( $M = 20.90$ ,  $SD = 1.22$ ) and 74 men ( $M = 22.54$ ,  $SD = 1.87$ ), of which 83% were ethnically Chinese, 7.5% Indian, 2.5% Vietnamese, 1.5% Malay, and 5% other. The Singapore participants identified their nationality as Singaporean (75.0%), Indonesian (12.0%), Chinese (8.0%), and other (5.0%).

### 2.2. Design and procedure

We used the low-budget condition and the exact traits from the “mate dollars” allocation task introduced by Li et al. (2002, Study 2; also see Li & Kenrick, 2006, Study 1). For both their ideal long-term (marriage) partner and short-term (casual sexual) partner, participants allocated 100 mate dollars to acquire percentile points across five characteristics: physical attractiveness and social level (social status), and three other traits that had been rated highly in previous research – creativity, kindness, and liveliness (e.g., Buss & Barnes, 1986). Thus, the low budget allows participants to select a mate who is, on average, at the 20th percentile (compared to same-sex others) on each characteristic.

## 3. Results

We analyzed budget allocations via GLM in SPSS with country and participant sex as between-subject variables and duration and characteristic as within-subject variables. The overall GLM revealed three 3-way interactions: sex  $\times$  duration  $\times$  characteristic,  $F(4, 1604) = 9.201$ ,  $p < .001$ ,  $\eta^2 = .02$ , country  $\times$  sex  $\times$  characteristic,  $F(4, 1604) = 3.90$ ,  $p = .004$ ,  $\eta^2 = .01$ , and country  $\times$  duration  $\times$  characteristic,  $F(4, 1604) = 5.37$ ,  $p < .001$ ,  $\eta^2 = .01$ . Together, these

interactions indicate that preferences tended to differ in various contextual combinations.

More specifically, long-term mate preferences differed from short-term preferences for American men,  $F(4, 1604) = 72.53$ ,  $p < .001$ ,  $\eta^2 = .05$ ; Singaporean men,  $F(4, 1604) = 84.73$ ,  $p < .001$ ,  $\eta^2 = .06$ ; American women,  $F(4, 1604) = 59.52$ ,  $p < .001$ ,  $\eta^2 = .04$ ; and Singaporean women,  $F(4, 1604) = 102.27$ ,  $p < .001$ ,  $\eta^2 = .09$ . The mean valuations within each specific context, along with the results of statistical comparisons, are presented in Table 1. As indicated by the means and significance levels of the contrasts, American and Singaporean men did not significantly differ on any of their valuations for long-term mates,  $F(4, 1608) = 1.04$ ,  $p = .387$ , or short-term mates,  $F(4, 1608) = 0.65$ ,  $p = .627$ . For long-term mates, men from both countries most highly valued physical attractiveness (though, for Singaporean men, not significantly more than kindness), then kindness, liveliness, social level, and creativity. For short-term mates, men of both countries valued physical attractiveness the most, then liveliness, kindness, social level, and creativity.

Women's relative valuations indicated a different pattern. For long-term mates, American and Singaporean women significantly differed in their valuations,  $F(4, 1608) = 14.43$ ,  $p < .001$ ,  $\eta^2 = .02$ . As shown in Table 1, American women valued kindness the most, followed by physical attractiveness, social level, liveliness, and creativity. In contrast, Singaporean women's preference order was social level, kindness, liveliness, physical attractiveness, and creativity. For short-term mates, American and Singaporean women's short-term mate preferences were not significantly different,  $F(4, 1608) = 1.77$ ,  $p = .133$ . American women valued physical attractiveness the most, followed by liveliness, kindness, social level, and creativity. Singapore women's order was similar except that social level was valued more than kindness, though the two valuations were not statistically different.

#### 4. Discussion

Using a budget allocation methodology, we found that for long-term mates, both American and Singaporean men prioritized physical attractiveness and women of both countries prioritized social status. Additionally, both sexes prioritized kindness. For short-term mates, both sexes of both countries prioritized physical attractiveness significantly more than other traits. Thus, the current results confirm previous research regarding sex differences in preferences for long-term mates (e.g., Buss, 1989; Shackelford

et al., 2005) and the higher emphasis placed on physical attractiveness in a short-term mating context (e.g., Kenrick et al., 1993).

More specifically, the pattern of results lends cross-cultural support for a mate preference priority model. This model states that key traits hypothesized by evolutionary psychologists to be critical to the reproductive value of men and women in both long- and short-term mating contexts should be prioritized as necessities by their potential mates in those contexts (Li & Kenrick, 2006; Li et al., 2002). For instance, in past long-term mate preference research using traditional surveys, physical attractiveness and social status were valued below traits such as kindness, liveliness, and creativity. However, results here and elsewhere using a budget allocation methodology indicate that physical attractiveness and social status were initially valued at least as much as kindness and significantly more than liveliness and creativity.

Results also revealed cross-cultural differences: for long-term mates, American women placed more emphasis on physical attractiveness, whereas Singaporean women placed greater value on social status. These results are consistent with the high value of face and hierarchical position in East Asian cultures (Ting-Toomey, 1994) and the results of another study, in which Chinese women paid more attention to men's resources and willingness to commit to marriage than did American women (Yue, Chen, & Zhang, 2005). As mentioned earlier, a consideration of pathogen density has led to a greater understanding of cross-cultural differences in the valuation of physical attractiveness (Gangestad & Buss, 1993). Similarly, to better understand cross-cultural differences in the value of social status, future researchers should uncover the factors that underlie cultural differences in face and other variables related to social status.

A consideration of underlying priorities may provide insights into why sex-differentiated mate preferences seemingly fail to hold up in real life (e.g., Todd, Penke, Fasolo, & Lenton, 2007). Indeed, recent research using a speed-dating paradigm has suggested that the sexes do not differ in actual selection criteria. For example, Eastwick and Finkel (2008) found that in a pre-speed-date questionnaire men (more than women) reported that physical attractiveness would be important in selecting an ideal partner and a speed-date. Women (more than men) thought they would find earning potential to be important in both an ideal partner and a speed-date. However, post-speed-date questionnaires asking participants why they selected specific people showed no sex differences in selecting for these characteristics. A lack of sex differences has also been observed in other speed dating studies (Fisman, Iyengar, Kamenica, & Simonson, 2006; Kurzban & Wee-

**Table 1**  
Low-budget spending on mate characteristics.

	United States			Singapore			Difference (US – Singapore)	
	Men	Women	Diff.	Men	Women	Diff.	Men	Women
<i>Long-term mates</i>								
Physical attractiveness	33.53 <sub>a</sub>	23.06 <sub>b</sub>	10.47 <sup>***</sup>	31.28 <sub>a</sub>	15.08 <sub>b</sub>	16.20 <sup>***</sup>	2.25	7.98 <sup>***</sup>
Kindness	25.23 <sub>b</sub>	29.69 <sub>a</sub>	-4.45 <sup>*</sup>	27.39 <sub>a</sub>	28.04 <sub>a</sub>	-0.66	-2.15	1.64
Liveliness	16.04 <sub>c</sub>	16.44 <sub>c</sub>	-0.40	16.71 <sub>b</sub>	15.15 <sub>b</sub>	1.56	-0.67	1.29
Social level	15.18 <sub>cd</sub>	21.77 <sub>bc</sub>	-6.59 <sup>**</sup>	16.58 <sub>b</sub>	33.93 <sub>a</sub>	-17.35 <sup>***</sup>	-1.40	-12.16 <sup>***</sup>
Creativity	10.01 <sub>d</sub>	9.04 <sub>d</sub>	0.97	8.04 <sub>c</sub>	7.80 <sub>c</sub>	0.24	1.97	1.25
<i>Short-term mates</i>								
Physical attractiveness	65.54 <sub>a</sub>	45.58 <sub>a</sub>	19.96 <sup>***</sup>	66.86 <sub>a</sub>	42.78 <sub>a</sub>	24.07 <sup>***</sup>	-1.31	2.80
Kindness	10.97 <sub>b</sub>	16.27 <sub>b</sub>	-5.30 <sup>**</sup>	8.08 <sub>bc</sub>	12.85 <sub>c</sub>	-4.77 <sup>*</sup>	2.89	3.42 <sup>*</sup>
Liveliness	11.09 <sub>b</sub>	16.28 <sub>b</sub>	-5.19 <sup>**</sup>	13.34 <sub>b</sub>	17.45 <sub>bc</sub>	-4.11 <sup>*</sup>	-2.25	-1.17
Social level	9.63 <sub>b</sub>	14.81 <sub>b</sub>	-5.18 <sup>**</sup>	7.15 <sub>bc</sub>	18.24 <sub>b</sub>	-11.09 <sup>***</sup>	2.48	-3.43
Creativity	2.77 <sub>c</sub>	7.06 <sub>c</sub>	-4.28 <sup>**</sup>	4.57 <sub>c</sub>	8.67 <sub>d</sub>	-4.10 <sup>**</sup>	-1.80	-1.62

Notes: Subscripts denote significant Bonferroni-adjusted differences between traits.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

den, 2005). For such events, in which interaction time is limited to a few minutes, both sexes may be making decisions based on the most salient characteristics, such as physical attractiveness, rather than traits that are more difficult to assess, including socioeconomic status (Lenton & Francesconi, 2010).

From a mate preference priorities perspective, such results may also be due to the possibility that most speed-dating contestants exceed each others' minimum requirements on key variables such as social status and physical attractiveness. That is, in a dating pool, if few women are clearly physically unattractive and few men are clearly of low social status, then men and women, respectively, should have less need to discriminate on the basis of these traits. Instead, they may be focusing more on "luxury" traits. Future research may consider this possibility.

The current study has some limitations. For instance, Singapore is largely a metropolis, whereas our US sample, although obtained from a university within 65 miles of downtown Chicago, is not similarly urban. It is possible that in larger American cities such as New York, women's valuation of social status would be higher and preferences towards physical attractiveness lower, as in the Singaporean sample. In future research, a wider sample of East Asian countries and Western locations should be examined and compared. Also, although we have proposed a model that draws on evolutionary theory, sex-differentiated and context-dependent mate preferences tend to be compatible with a sociocultural perspective (e.g., Harris, 2003; Wood & Eagly, 2002). That is, women may place a higher emphasis on social status and resources in a long-term mate because women are or have been excluded from economic markets. However, this perspective does not specifically address why physical attractiveness should be prioritized as a necessity above other traits by women seeking short-term mates or by men seeking both types of mates (Li & Kenrick, 2006). Future studies may consider the distinction as well as the overlap between these two perspectives more carefully.

In conclusion, sex-differentiated long-term preferences for physical attractiveness and social status have been documented throughout the world (Buss, 1989; Buss et al., 1990). However, by themselves, sex differences do not preclude other traits from being valued much more highly. Indeed, findings that other traits are more highly valued have contradicted the evolutionary theory upon which the sex differences are thought to be based. In the current paper, we have continued a recent development of using an economic model to provide a closer examination of mate preferences – one that more clearly supports a sex-differentiated, contextually-dependent evolutionary perspective – and have taken an initial step in obtaining cross-cultural validation of this model.

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