Knowing Your Own Mate Value: Sex-Specific Personality Effects on the Accuracy of Expected Mate Choices

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Abstract

Knowing one's mate value (mate-value accuracy) is an important element in reproductive success. We investigated within- and between-sex differences in this ability in a real-life speed-dating event. A total of 190 men and 192 women filled out a personality questionnaire and participated in speed-dating sessions. Immediately after each date, participants recorded who they would choose as mates and who they expected would choose them. In line with evolutionarily informed hypotheses, results indicated that sociosexually unrestricted men and more agreeable women showed greater mate-value accuracy than sociosexually restricted men and less agreeable women, respectively. These results have important implications for understanding mating behavior and perhaps the origin of sex differences in personality.

Keywords

Knowing how much other people are interested in you as a mate (mate-value accuracy) has wide-ranging implications for social life. Self-perceived mate value specifically affects mating aspirations (Kavanagh, Robins, & Ellis, 2010), and people who are better than others in accurately estimating their own mate value minimize wasted time and optimize allocation of efforts and resources. They avoid investing time, money, and energy in potential mates who are below their standards (i.e., they do not "sell themselves under price" on the mating market) or "out of their league" (thus not provoking rejection or one-sided, exploitative relationships). In addition, such people are better able than others to estimate how much investment and commitment they can expect from a potential partner. As a consequence, they are more effective in their mating decisions, and this ultimately leads to greater chances for reproductive success in a competitive mating market (Penke, Todd, Lenton, & Fasolo, 2007; Todd & Miller, 1999). However, despite their importance, between- and within-sex differences in this ability have not yet been studied. In particular, it is still unclear what factors determine who knows and who does not know his or her mate value.

Following evolutionary models of human mating, we expected male- and female-specific personality factors to moderate the accuracy of knowing one's mate value. Humans exhibit mixed mating strategies; they can flexibly pursue either long-term mating tactics (committed relationships with extensive investment in offspring) or short-term mating tactics (high investment in finding and courting multiple potential mates; Buss & Schmitt, 1993; Gangestad & Simpson, 2000). Although both sets of tactics are available to both sexes, it has been found cross-culturally that men show a strong preference for short-term tactics, whereas women strongly prefer long-term tactics. These differences may have possibly evolved in response to sex differences in minimal parental investment (Schmitt et al., 2003).

Within-sex variability in mating tactics is closely related to personality traits of men and women. Short-term mating is facilitated by a tendency to desire uncommitted sexuality, as captured in the personality trait *sociosexuality* (Penke & Asendorpf, 2008), whereas long-term mating is facilitated by a

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tendency to behave in a warm, trustworthy, and cooperative manner, as captured in the personality trait *agreeableness* (Graziano & Tobin, 2009). Thus, men with an unrestricted sociosexuality have a personality more supportive of typical male mating tactics than do men with a restricted sociosexuality, and women with higher agreeableness have a personality more supportive of typical female mating tactics than do less agreeable women. Acting, deciding, and perceiving in a mating context should be easier the more an individual's personality characteristics support behavior typical of his or her sex. Men with an unrestricted sociosexuality and agreeable women should thus have an easier time acting and deciding in a mating context than their peers do, because in enacting the typical and widely expected sex-specific behavioral scripts, they can rely on their natural personality-based behavioral tendencies. This line of reasoning is further supported by recent research on self-control behavior (including sexual behavior), which shows that overcoming automatic behavioral tendencies absorbs people's cognitive capacities and self-control resources (Hofmann, Friese, & Strack, 2009).

Moreover, people showing more sex-typical mating behavior might thus be better able to evoke or extract informative affective responses from potential partners. That is, men with more unrestricted sociosexuality might have developed a better sense of their general effect on women because they more frequently flirt with women and provoke more affective signs via their more active or sex-typical verbal and nonverbal behavior. Similarly, agreeable women might appear more approachable (less intimidating) to men, so they might elicit more and easier-to-interpret signs of affection or rejection, the most fundamental feedback information for accurately assessing one's own mate value (Todd & Miller, 1999).

We tested the hypothesis that humans are better able to judge their own mate value when their personality characteristics are supportive of the mating tactics typical of their sex. That is, men should evaluate themselves more accurately when they have an unrestricted sociosexuality, and women should evaluate themselves more accurately when they are more agreeable. To test these hypotheses, we investigated mate choices in a real-life speed-dating context: the Berlin Speed Dating Study (Asendorpf, Penke, & Back, 2011).

Method
Participants

A total of 190 men and 192 women aged 18 to 54 years ($M = 32.8$ years, $SD = 7.4$ years) participated in 17 speed-dating sessions. Each session included a total of 17 to 27 men and women ($M = 22.7$, $SD = 2.4$) of about the same age (within-session age range = ± 4.8 years). All participants were singles from the general population whose motivation to participate was the chance to find a real-life romantic or sexual partner.

Speed-dating procedure

The speed-dating paradigm allows participants to meet many potential mates in a short time (Finkel & Eastwick, 2008). The actual "dates" took place in booths equipped with two opposing chairs; men and women were led to these booths independently to minimize prior contact. Women stayed in one booth, while men rotated until every woman had interacted with every man. Each interaction lasted 3 min. Pairs expressing mutual interest were given each other's contact information afterward so they could meet again.

Measures

Self-reported personality. Prior to the speed-dating sessions, all participants completed an online questionnaire that included assessments of age, sociosexuality (revised Sociosexual Orientation Inventory; Penke & Asendorpf, 2008), and agreeableness (NEO Five-Factor Inventory; Borkenau & Ostendorf, 1993).

Mate-value accuracy. Immediately after each speed-dating interaction, participants recorded on a scorecard whether they wanted to see the potential date again and whether they thought that person wanted to see them again. Actual mate value was calculated as the proportion of time each participant was chosen (the number of times each was actually chosen divided by the number of potential dates the person interacted with), and expected mate value was calculated as the proportion of time each participant expected to be chosen (the number of times each expected to be chosen divided by the number of potential dates the person interacted with). Mate-value accuracy was indexed as the strength of the relation between expected and actual mate value.

Results
Preliminary analyses

Descriptive statistics. Men were more sociosexually unrestricted and less agreeable than women (see Table 1). Men and women did not differ in how often they were chosen (actual mate value) or how frequently they expected to be chosen (expected mate value). Variance decomposition results of social-relations analyses (Kenny, 1994) indicated meaningful within-sex differences in actual mate value (relative amount of partner variance in actual choices—men: 16%, $p < .001$; women: 20%, $p < .001$) and expected mate value (relative amount of actor variance in expected choices—men: 18%, $p < .001$; women: 13%, $p < .001$).

Effects of personality on actual and expected mate value. Agreeableness correlated with expected mate value for men ($r = .31$, $p < .001$) but not for women ($r = -.06$, $p = .438$),

Table 1. Sex Differences in the Personality and Mate-Value Measures

	Men		Women		Sex difference	
Measure	M	SD	M	SD	d	p
Sociosexuality	3.17	0.82	2.76	0.79	0.52	< .001
Agreeableness	3.71	0.52	3.91	0.51	0.39	< .001
Actual mate value	.33	.25	.36	.24	0.12	.22
Estimated mate value	.37	.24	.40	.23	0.13	.20

Note: Sociosexuality and agreeableness were measured on scales from 1 to 5. Actual mate value was calculated as the mean proportion of times individuals were chosen as mates, and estimated mate value was calculated as the mean proportion of times individuals expected to be chosen as mates.

$z = 3.690$, $p < .001$; agreeableness was uncorrelated with actual mate value for both sexes (men: $r = .05$, $p = .524$; women: $r = .10$, $p = .488$). Sociosexuality correlated with expected mate value both for men ($r = .20$, $p = .009$) and for women ($r = .16$, $p = .034$), and with actual mate value for men ($r = .30$, $p < .001$) but not for women ($r = .08$, $p = .293$), $z = 2.224$, $p = .026$. All correlations were controlled for speed-dating session.

Overall mate-value accuracy. Overall, the correlation between expected and actual mate value, controlling for session, was significant but comparatively low, $r = .11$, $p = .044$. Women had a slightly higher mate-value accuracy ($r = .16$, $p = .031$) than did men ($r = .12$, $p = .115$), but this difference was not significant, $z = 0.396$, $p = .692$.

Main analyses

To test our hypotheses that personality has a sex-specific effect on mate-value accuracy, we regressed actual mate value on expected mate value, sex, personality, and all interactions between these predictors. Analyses were performed using multilevel modeling, with individuals (Level 1) nested in speed-dating sessions (Level 2). Continuous predictors were grand-mean-centered, and sex was coded as 0 = female, 1 = male.

In a first set of analyses, we predicted actual choices using expected choices, sex, and sociosexuality. As expected, the interaction between the three predictors was significant ($b = 0.43$, $p = .001$). To further investigate this three-way interaction, we performed separate multilevel analyses for men and for women. The effect of sociosexuality for men was significant, $b = 0.22$, $p = .016$. Simple-slopes analyses indicated that for men with unrestricted sociosexuality (1 SD above the mean), expected choices predicted actual choices ($b = 0.22$, $p = .030$): A 10% increase in expected choices was related to an increase of 2.2% in actual choices. In contrast, for men with low sociosexuality (1 SD below the mean), expected and actual choices were not significantly related ($b = -0.15$, $p = .174$; see Fig. 1a). The effect of sociosexuality for women was marginally significant, $b = -0.17$, $p = .054$. The interactive pattern was opposite to that observed for men: For women with restricted sociosexuality, expected choices predicted actual choices ($b = 0.31$, $p = .004$), whereas for women with unrestricted sociosexuality, expected and actual choices were not significantly related ($b = 0.04$, $p = .645$; see Fig. 1b).

Next, we tested the effect of agreeableness on the ability to judge one's mate value by performing another multilevel analysis with actual choices as the dependent variable and expected choices, sex, and agreeableness as predictors. Again, the expected three-way interaction was significant ($b = -0.62$, $p = .007$). Performing sex-specific multilevel analyses, we did not observe a significant interaction between expected choices and agreeableness for men ($b = -0.19$, $p = .288$; Fig. 1c). In contrast, for women, we observed a highly significant interaction between expected choices and agreeableness ($b = 0.46$, $p = .001$). For women with high agreeableness, expected choices were related to actual choices ($b = 0.40$, $p < .001$): A 10% increase in expected choices was related to an increase of 4% in actual choices. In contrast, for women low in agreeableness, expected and actual choices were not significantly related ($b = 0.06$, $p = .545$; Fig. 1d). In sum, sociosexually unrestricted men and more agreeable women showed greater mate-value accuracy than sociosexually restricted men and less agreeable women, and these results supported our hypotheses.

Discussion

The study reported here was the first to investigate between- and within-sex differences in the accuracy of mate-value self-assessments, an important psychological tool for guiding adaptive mating decisions (Penke, Todd, et al., 2007). To perform this investigation, we conducted a real-life speed-dating study using a community sample. Our results show that, on average, individuals seem to have difficulty judging their own mate value, at least when it comes to real-life mating decisions. There is, however, substantial variation among individuals in the accuracy of predicting their own mate value. It is important to note that, in line with our hypotheses, these differences in mate-value accuracy were meaningfully related to the men's and women's personalities. In a nutshell, men and women were better able to judge their own mate value (and thus in a better position to reach more optimal mating decisions) when their personalities fitted the typically preferred
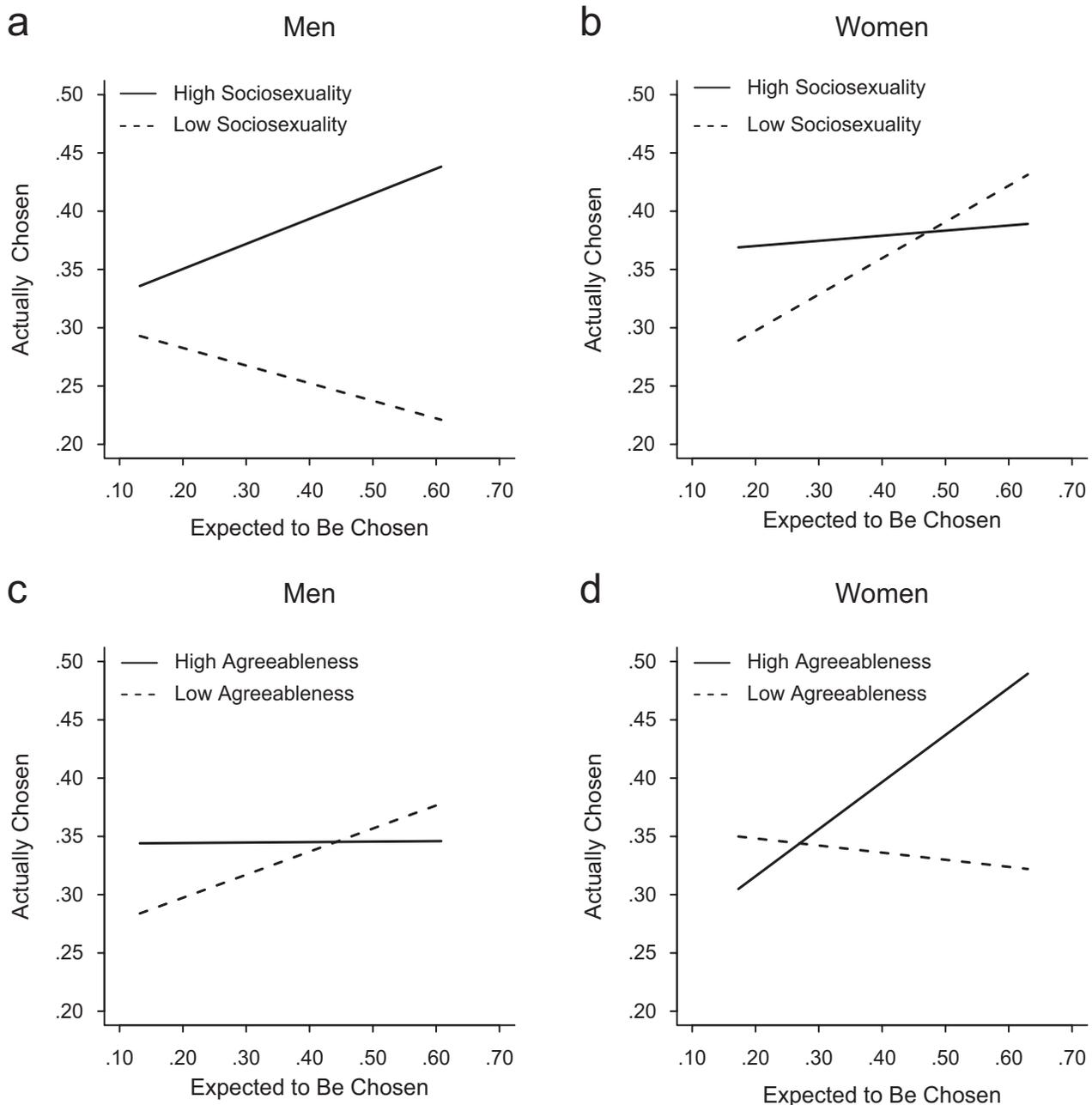
Fig. 1. Mean proportion of times subjects were actually chosen in a speed-dating event as a function of the mean proportion of times they expected to be chosen. Results are shown separately for (a) men and (b) women with high and low sociosexuality and (c) men and (d) women with high and low agreeableness.

mating tactics for their sex: Sociosexually unrestricted men were more accurate than sociosexually restricted men, and agreeable women were more accurate than disagreeable women.

Future research should focus on the mechanisms underlying the important effect of personality on mate-value accuracy. Why exactly are sociosexually unrestricted men and agreeable women better than their counterparts at evaluating their general effect on potential mating partners? Several processes, which are not necessarily mutually exclusive, might play a

role. For example, it might be less effortful to act in accordance with the preferred sex-specific mating tactics. In addition, personality might sex-specifically affect the extent to which individuals can evoke or extract informative responses from their interactions with the opposite sex. Sociosexual men might, for instance, behave more provocatively, and agreeable women might appear more approachable. Moreover, future research should examine other kinds of accuracies (cf. Cronbach, 1955; Kenny, 1994) in the mating context. In the study reported here, we investigated the most basic and

probably the most evolutionarily important accuracy aspect: people's knowledge of their own general mate value (mate-value accuracy). Future analyses might, for instance, additionally focus on people's ability to estimate how many other people each of their interaction partners will choose (i.e., to evaluate others' *choosiness*), as well as people's ability to know exactly who among the interaction partners will choose them.

Our findings are important for recent proposals of a psychological mechanism that monitors a person's social exclusion or inclusion in a mating context (Buss & Schmitt, 1993; Kirkpatrick, & Ellis, 2001; Penke & Denissen, 2008; Penke, Todd, et al., 2007). Our results show that the effectiveness (i.e., accuracy) of this *mate-value sociometer* (Kavanagh et al., 2010; Kirkpatrick, & Ellis, 2001) depends on personality characteristics of men and women. The personality-related efficiency of the mate-value sociometer might be of major importance for understanding personality-related differences in mating success. For example, it has been shown that unrestricted sociosexuality helps men pursue short-term mating tactics (Penke & Asendorpf, 2008). Our results suggest that this might be partly due to their increased ability to know how desirable they are as a mate: More accurate estimations of their mate value might lead sociosexually unrestricted men to be more efficient in successfully searching for short-term mating partners.

These findings not only shed more light on mating behavior and mating decisions, but they might also partly explain the origins of sex differences in personality, with men being more sociosexually unrestricted than women (Penke & Asendorpf, 2008) and women being more agreeable than men (Schmitt, Realo, Voracek, & Allik, 2008). These differences might in part have evolved because they foster mating success in a sex-specific manner via accurate assessments of one's mate value, though other factors certainly played a role as well. For example, the more egalitarian nature of cooperation among women (compared with men) and their greater involvement in child-rearing might have also played a role in the evolution of sex differences in agreeableness, and sex differences in minimal parental investment likely led to evolved sex differences for sociosexuality as well.

Finally, our results might inform theories on the maintenance of genetic variability in personality traits. Personality traits are heritable within both sexes (Bouchard & Loehlin, 2001). If traits such as sociosexuality and agreeableness have sex-specific benefits on the effectiveness of psychological mechanisms, such as the mate-value sociometer, and thus affect an important fitness component, such as mating success, differently in men than in women, then different and possibly competing evolutionary-selection pressures might act on genetic variants for these traits in both sexes. This implies that sexually antagonistic pleiotropy, a form of balancing selection, might be one selective mechanism that affects the maintenance of genetic variance in these personality traits over evolutionary time, though other mechanisms likely play a role as well (Penke, Denissen, & Miller, 2007).

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