Female Mate Choice: A Comparison Between Accept-the-Best and Reject-the-Worst Strategies in Sequential Decision Making

Melanie Li-Wen Long[1] and Anne Campbell[1]

Abstract

Information about prospective mates is typically acquired in a sequential and cumulative fashion. The aim of this study was to examine whether a reject-the-worst strategy is more efficient than an accept-the-best strategy for women in response to serial information and to identify the point at which a woman will terminate her assessment of a prospective mate's attributes. A pilot survey was conducted to determine the chronological order in which attribute information typically becomes available during the early stages of a relationship. Using this order of presentation, attributes were presented to participants one at a time. After participants specified their minimum acceptable percentile level for each attribute, they were given numerical feedback about the extent to which the prospect exceeded or failed to meet their standard. Participants were randomly assigned to either the accept-the-best condition (accept a date or request more information) or the reject-the-worst condition (reject a date or request more information). Participants in the reject-the-worst condition requested more trait information before making a decision than those in the accept-the-best condition. This suggests that the costs of a false-negative error exceed those of a false-positive error and that in actively accepting a mate, women satisfice rather than optimize.

Introduction

The aim of this study was to investigate whether choosing a long-term mate is a sequential process of active selection or default elimination. The traditional paradigm in much mate choice research has been to ask individuals to rate or rank qualities they would seek in an ideal mate (e.g., Shackelford, Schmitt, & Buss, 2005). The external validity of this paradigm rests on the assumption that individuals have an a priori template of an ideal partner and that this is used as a search image for positive selection of a mate. However, beyond the laboratory, it is possible that people operate by sequentially excluding unacceptable candidates (reject-the-worst) instead of actively searching for an individual who matches a set of idealized trait values (accept-the-best). Due to an exhaustive search of all possible mates being unfeasible and because most people are not in a position to attract their ideal partner,

they may instead settle for someone who is "good enough" (Schwartz et al., 2002) by eliminating only the clearly unacceptable candidates.

A second concern with the traditional mate choice methodology is that participants are presented with a set of traits to be rated simultaneously. In the real world, a person's traits are revealed sequentially as the relationship develops, rather than being fully and immediately available. An individual's initial criteria for acceptance or rejection may be based on overt

[1] Department of Psychology, Durham University, Durham, UK

Corresponding Author:
Melanie Li-Wen Long, Department of Psychology, Durham University, Durham DH1 3LE, UK.
Email: mellong92@gmail.com

characteristics (e.g., face and physique). Only if the relationship progresses further, might an individual reach a decision on less obvious grounds (e.g., moral character). However, this process of discovery takes time and incurs costs. In reality, mate choice decisions entail the problems of relative strategic costs (false-positive costs of an accept-the-best strategy vs. false-negative costs of a reject-the-worst strategy) and time (more information and greater confidence come at the cost of lost time and opportunities).

The adaptive goal of mate choice is to maximize the reproductive and parenting quality of one's sexual partners (Miller & Todd, 1998). Accurate assessment of a man's quality can be problematic due to tactics used by some men to inflate their long-term mate value such as misrepresenting their sincerity, commitment, or resources (Tooke & Camire, 1991). However, in principle, wider sampling of the options would lead to a better informed and more confident decision and a longer observation period would decrease the risk of a poor choice (Luttbeg, 1996). Nevertheless, a woman will inevitably have to apply a stopping rule at some point and commit herself to a decision (Saad, Eba, & Sejean, 2009). The present study aims to assess the point at which a woman will terminate her assessment of a prospective long-term mate's attributes and whether this is influenced by the type of strategy used (accept-the-best or reject-the-worst). (We note that the focus of this study is *long-term* mate choice and this informs our consideration of the costs and benefits of different strategies. Selection or rejection of short-term partners would be expected to differ in time extension and informational depth as well as the nature of potential costs and benefits.)

Unpartnered women must make decisions as to whether they should select a currently available option or reject him and continue searching (Shu, 2008). If a woman's judgment is accurate, she will accept a suitor who is superior to alternative mates and/or reject a suitor who is inferior to alternative mates. However, the decision can be wrong in two ways: A woman can deem a prospective mate to be a suitable long-term partner when he is not (false positive) or reject him when he is actually suitable (false negative). Error management theory (Haselton & Buss, 2000) proposes that, under conditions of uncertainty where the costs of false-positive and false-negative errors are different, an effective decision-making strategy is biased toward making the least costly mistake (Ackerman, Griskevicius, & Li, 2011).

According to evolutionary theory, a false-positive error is the more costly of the two errors for women (Ackerman & Kenrick, 2009). Females assume the bulk of parental investment (Trivers, 1972). Although in our species this burden is increased by the protracted juvenile dependency period, male assistance with provisioning has shortened human inter-birth intervals (Winking, 2006). Choice of an unsuitable long-term mate (one who lacks resources, willingness to share them, or sexual fidelity) may result in reduced reproductive success. To the extent that men retain polygynous inclinations, false negatives are the more costly error for them, as they entail rejection of potential sexual partners (regardless of their quality) who could increase a man's reproductive success at virtually no cost to himself (Li, Sng, & Jonason, 2011). Men are willing to feign long-term interest in order to obtain short-term sexual access to a woman (Haselton, Buss, Oubaid, & Angleitner, 2005). Once in long-term relationships, men can abandon partners (often in favor of younger women) with fewer reproductive costs because they can rely on mothers' continued parental investment in their joint offspring.

Accept-the-best and reject-the-worst each have potential costs. An "accept-the-best" strategy forecloses the possibility of interacting with other potential partners (Mogilner, Shiv, & Iyengar, 2013; Simão & Todd, 2002). This is a significant opportunity cost arising from the exclusion of prospective mates who might have been of higher quality than the present candidate. The cost of an incorrect decision is a long-term relationship with a suboptimal partner and a decrement in offspring quantity and quality. Although a woman has the option of ending the relationship, mothers face substantial costs in terms of supporting her offspring unassisted, reduced likelihood of attracting a high-quality replacement partner (Anderson, 2000), and risks to her offspring associated with a coresident stepfather (Daly & Wilson, 1988). The costs of a reject-the-worst strategy are that once a woman has rejected a suitor, he may become immediately unavailable (Shu, 2008) and, if she is unable to find a new suitor better than or equal to the forgone prospect, she is likely to regret what "could have been" (Simonson, 1992) or she may even fail to secure a partner at all.

Given that both the accept-the-best and reject-the-worst strategies each bring their own sets of risks, the aim of the present study was to determine which strategy was most efficient. The greater the costs associated with a strategy, the more time and effort a woman should spend in acquiring evidence before committing to a final choice. We hypothesized that women in the accept-the-best condition would request more information before making a decision compared to participants in the reject-the-worst condition because a choice to accept the candidate would entail more commitment and higher potential costs than a choice to reject.

A pilot study was conducted to establish the sequence in which women typically acquire information on 25 traits relevant to mate choice, and the results were used to determine the order of trait presentation on the online questionnaire. In the main study, using a between-group design, participants were asked to either accept or reject a prospective long-term mate based on feedback as to whether he exceeded or failed to meet their desired thresholds for each sequentially presented attribute. Prior to this decision, participants were asked to specify acceptable percentile thresholds for each attribute (e.g., "He must be in the top 30% of the male population for this trait"). Individual differences in setting these thresholds provided a measure of "choosiness" which was examined in relation to the number of traits about which participants requested information before making their decision. We also computed the average "demand" thresholds for the various traits which served as an indirect measure of the importance assigned to different traits.

Table 1. Modal Category and Mean Score for Ratings of Estimated Latency to Detect the 25 Traits.

Modal Category	Trait	Mean Rating (SD)
1. Can tell without talking to them	Attractive face	1.00 (0.00)
	Attractive body	1.09 (0.43)
	Fashion sense	1.18 (0.59)
2. Would be obvious after a brief conversation	Friendly	1.91 (0.43)
	Self-confident	1.96 (0.65)
	Sense of humor	2.09 (0.29)
	Social skills	2.09 (0.43)
	Assertive	2.14 (0.64)
	Exciting personality	2.27 (0.55)
	Ambitious	2.32 (0.78)
3. Would know after a few meetings	Intelligent	2.59 (0.67)
	Kind	2.86 (0.71)
	Responsible	3.00 (0.76)
	Mature	3.00 (0.69)
	Generous	3.09 (0.61)
	Healthy	3.09 (1.02)
	Creative	3.22 (0.53)
	Shows affection	3.27 (0.63)
4. Would know only after becoming quite intimate	Moral character	3.32 (0.78)
	Romantic	3.41 (0.59)
	Income	3.41 (0.80)
	Seeks commitment	3.45 (0.60)
	Shows emotional support	3.55 (0.51)
	Sexual fidelity	3.77 (0.53)
	Sexual experience	3.95 (0.21)

Table 2. Effect of Condition (Accept and Reject), Choosiness, and Their Interaction on Number of Traits Requested About a Prospective Mate.

Step and Variable	b	SE b	95% CI	β
Step 1				
Condition	−3.08	0.68	[−4.43, −1.74]	−.35***
Choosiness	−0.77	0.68	[−2.12, 0.58]	−.09
Step 2				
Condition × Choosiness	0.63	0.69	[0.36, −0.73]	.07

Note. SE = standard error; CI = confidence interval.
***$p < .001$.

Pilot Study

Materials and Methods

Twenty-two undergraduate women aged between 19 and 21 years were recruited using convenience sampling. They were given a list of 25 traits relevant to mate selection (Li, Bailey, Kenrick, & Linsenmeier, 2002) and asked to select the point in a relationship when they believe information on each trait would become available using four categories: (1) can tell even without talking to them, (2) would be obvious after a few minutes conversation, (3) would know after a few meetings, and (4) would know only after becoming quite intimate.

Results

The data were coded 1–4 (as above) so that a lower score indicated that information about the trait became available earlier in the relationship. The mean scores ranked within modal category were used to determine the sequential order of presentation for main study (Table 1). The attributes of the potential long-term mate were presented in ascending order based on their mean score.

Main Study

Materials and Methods

Participants. The online study was completed by 145 female participants aged 18–23 years ($M = 19.35$, $SD = 1.15$). The participants were recruited through a British university participant pool and from other English-speaking universities using snowball sampling via social networking sites.

Design. A between-subject design was used. Participants were randomly assigned to one of the two experimental conditions (Accept or Reject condition). Seventy-five participants participated in the Reject condition and 70 participated in the Accept condition. The dependent variable was the number of pieces of trait information requested before reaching a decision.

Procedure. After giving informed consent, participants were asked to confirm that they were female and to provide their age and sexual orientation (all participants indicated that they were heterosexual). They were told to imagine that they were looking for a long-term relationship and that a man was interested in meeting them for a date. This man's characteristics would be presented to them one by one. On each trial, a trait descriptor (e.g., "attractive face") was presented and participants were asked to choose one of the five possible responses to indicate the minimum percentile they would accept in a partner (top 10%, 20%, 30%, 40%, or 50%). Immediately following this, the man was described as being ∼5% higher (accept-the-best condition) or ∼5% lower (reject-the-worst condition) than the value they had specified for that particular trait. This process was then repeated for subsequent traits if the participant requested for more information. The percentages varied from trait to trait but remained constant across conditions, averaging to a deviation of exactly ±5% over 25 traits. In this way, the prospective mate would always exceed participants' standards in the accept-the-best condition and would always fail to meet them in the reject-the-worst condition. This meant that the number of thresholds passed (accept-the-best condition) or failed (reject-the-worst condition) by the prospective partner reflected the amount of information requested before participants felt sufficiently confident to make a decision. After each trial, the participant chose whether they wanted to make a decision (to accept or reject the date) or to acquire more information about the man before deciding. The study terminated once participants had made their decision or if they reached the final (25th) trait.

Table 3. Mean Minimum Demand Thresholds for Each of the 25 Attributes.

Attribute	Mean Minimum Threshold (Top x%)
Sexual fidelity	22.77
Kind	23.60
Moral character	24.58
Sense of humor	24.65
Shows emotional support	24.79
Friendly	25.11
Intelligent	25.29
Healthy	25.47
Responsible	25.87
Seeks commitment	26.60
Ambitious	27.11
Mature	27.50
Social skills	27.80
Generous	28.84
Exciting personality	28.98
Shows affection	29.06
Romantic	30.72
Self-confident	31.39
Income	32.04
Attractive face	33.38
Attractive body	34.56
Assertiveness	35.39
Creative	35.47
Fashion sense	36.37
Sexual experience	40.00

Results

Multiple regression was used to examine the effects of condition (accept/reject), choosiness, and their interaction on the number of traits requested (Table 2). Effects coding was used for condition ($Accept = 1$, $Reject = -1$) and choosiness scores were standardized. Step 1 of the model was significant, $F(2, 142) = 11.07$, $p < .001$, $R^2 = .14$. Condition had a significant effect, with participants in the Reject condition ($M = 17.83$, $SD = 8.16$) requesting information on more traits than those in the Accept condition ($M = 11.61$, $SD = 8.23$). Individual differences in choosiness were not significant. The increase in R^2 associated with Step 2 was not significant, $\Delta F(3, 141) = 0.83$, $p = .36$, indicating that there was no significant interaction effect.

To determine the attributes for which women expressed the highest minimum acceptable standards, the average demand threshold for each trait was calculated (Table 3). The five traits for which participants had the highest standards were sexual fidelity (top 22.8%), kindness (23.6%), moral character (24.6%), sense of humor (24.7%), and emotional support (24.8%). Participants were the least demanding for sexual experience (40.0%), fashion sense (36.4%), creativity (35.5%), assertiveness (35.4%), and attractive body (34.6%). Participants in the Accept ($M = 30.48$, $SD = 9.28$) and Reject ($M = 29.99$, $SD = 7.89$) conditions did not differ in their minimum acceptable standards, $t(143) = 0.36$, $p = .72$.

Discussion

In the present study, participants in the Accept condition requested fewer pieces of information before reaching a decision than those in the Reject condition, regardless of whether they had high or low standards for a mate's traits.

Despite the risks associated with reaching a faster (and therefore less well informed) decision in the accept-the-best condition, there may be compensating advantages. The longer a woman takes before she accepts a suitor, the greater the likelihood of losing the present candidate to another woman (Mogilner et al., 2013) and consequently reducing the pool of acceptable prospects. Individuals who are less demanding about the qualities they seek in a partner are more likely to marry because of the wider range of prospective partners to which they have access (Raley & Bratter, 2004). Pursued over several years, a time-consuming strategy would incur further costs in terms of an age-related decline in attractiveness (Shoemake, 2007). While age makes a woman less competitive in the mating market, it can increase a man's resource holding and attractiveness to women. As men age, the preferred age gap between themselves and an ideal female partner increases reflecting their preference for younger women (Kenrick & Keefe, 1992). With age, women face a far more dramatic reduction in fecundity than men, with complete reproductive cessation by age 50. Hence, women have much to lose by delaying commitment to a long-term mate.

Our findings indicate that women's approach to mate selection is grounded in the tenets of bounded ecological rationality, which recognize that individuals often satisfice by seeking a speedier satisfactory option (Simon, 1955) rather than a more time-consuming optimal one (Todd & Miller, 1999). Although those who strive to make optimal decisions (maximizers) achieve better outcomes in terms of the quality of their final choice compared to their satisficing peers (Sparks, Ehrlinger, & Eibach, 2012), their exhaustive decision-making process increases their uncertainty about whether they have made the best choice and results in lower satisfaction than among satisficers (Iyengar, Wells, & Schwartz, 2006). The present results indicate that women generally satisfice rather than maximize when actively choosing a long-term mate.

We had anticipated that the greater cost associated with a false acceptance would result in more information being sought. Contrary to our hypothesis, our findings suggest that the costs of a false rejection may be greater than a false acceptance. This reluctance to commit to a definite rejection may be explained by "ambiguity avoidance" (e.g., Curley, Yates, & Abrams, 1986). Choosing to accept a prospective mate produces a definite outcome, whereas choosing to reject yields a variable outcome (one could end up with a better partner, a worse partner, or no partner at all; Joel, MacDonald, & Plaks, 2013). Decision making is also influenced by expectations of future regret (Epstude & Roese, 2008), and individuals are more prone to regret inaction than action. Regret about missed opportunities may be particularly memorable or salient, motivating caution about premature dismissal of potential mates. At

a cultural level, reluctance to reject a prospective mate may be enhanced by normative beliefs stigmatizing singlehood that result in individuals being unwilling to reject even unattractive mates (Spielmann et al., 2013). At an interpersonal level, concern with hurting a prospective mate's feelings may underlie a reluctance to refuse a date. Even when individuals were told that a prospective date possessed three traits previously identified by them as unacceptable, almost three quarters still agreed to provide contact information (Joel, Teper, & MacDonald, 2014). Finally, we note that in the present study, participants were asked only to accept or reject a date with a prospective long-term mate. Their decision did not commit them to actually forming and sustaining a long-term relationship. Women in the accept-the-best condition may have been willing to accept on the basis of relatively little information because the partner could be rejected after a single date if he failed to match their expectations.

The minimum demand thresholds set by women indicated that gender-neutral traits associated with long-term cooperation were the most critical. There were five traits for which women demanded that a partner be at least in the top 25% of the population: sexual fidelity, kindness, moral character, sense of humor, and emotional support. These traits are also important to men in choosing a long-term mate (Buss & Schmitt, 1993) because the interdependence of these relationships makes qualities such as loyalty and supportiveness particularly important. That sexual fidelity was the most highly ranked quality echoed Mogilski, Wade, and Welling (2014) who also found that for both sexes sexual fidelity was more important in a long-term partner than four other conjointly rated traits. In line with recent studies indicating that male resources play a smaller role in mate choice as women become more financially independent (Moore, Cassidy, Law Smith, & Perrett, 2006; Zentner & Mitura, 2012), a man's resources ranked relatively far down women's list of minimum demands (Ambitious 11th; Income 19th).

Future work could usefully examine the extent to which the hypothetical decisions found in this study are replicated when respondents believe their decisions have real consequences. For example, Joel, Teper, and MacDonald (2014) found that when participants were asked if they wanted to provide contact details to an unattractive prospective date, they were more likely to do so than when they believed the candidate was actually present in the room than when they were asked to simply imagine the situation and their response. Second, our study did not explicitly take into account differences in a woman's own mate value which are likely to affect decision making (Buss & Shackelford, 2008). However, it is reasonable to suppose that these differences would be reflected in the minimum acceptable thresholds set by the women (choosiness), and these did not differ across conditions and were not related to the number of traits requested. Third, the study was designed such that the prospective mate consistently exceeded participants' standards (Accept) or failed to meet them (Reject). Future studies could employ a sequence of attributes with the prospective mate surpassing the minimum threshold on some traits and falling below on others. Participants could

be provided with three response options (reject, accept, and seek more information). In this way, the number of units of information sought by spontaneous "acceptors" could be compared to "rejecters" while holding the information content constant.

In conclusion, although women are more selective than men when choosing a long-term mate, the present study demonstrates that regardless of individual differences in choosiness, women are quicker to accept than reject a prospective long-term mate, indicating that the costs of rejecting a satisfactory mate (false-negative error) may be greater than those of accepting a substandard mate (false-positive error).

References

Ackerman, J. M., Griskevicius, V., & Li, N. P. (2011). Let's get serious: Communicating commitment in romantic relationships. *Journal of Personality and Social Psychology*, *100*, 1079–1094.

Ackerman, J. M., & Kenrick, D. T. (2009). Cooperative courtship: Helping friends raise and raze relationship barriers. *Personality and Social Psychology Bulletin*, *35*, 1285–1300.

Anderson, K. G. (2000). The life histories of American stepfathers in evolutionary perspective. *Human Nature*, *11*, 307–333.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204–232.

Buss, D. M., & Shackelford, T. K. (2008). Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology*, *6*, 134–146.

Curley, S. P., Yates, J. F., & Abrams, R. A. (1986). Psychological sources of ambiguity avoidance. *Organizational Behavior and Human Decision Processes*, *38*, 230–256.

Daly, M., & Wilson, M. I. (1988). The Darwinian psychology of discriminative parental solicitude. *Nebraska Symposium on Motivation*, *35*, 91–144.

Epstude, K., & Roese, N. J. (2008). The functional theory of counterfactual thinking. *Personality and Social Psychology Review*, *12*, 168–192.

Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology*, *78*, 81–91.

Haselton, M. G., Buss, D. M., Oubaid, V., & Angleitner, A. (2005). Sex, lies and strategic interference: The psychology of deception between the sexes. *Personality and Social Psychology Bulletin*, *31*, 3–23.

Iyengar, S. S., Wells, R. E., & Schwartz, B. (2006). Doing better but feeling worse: Looking for the "best" job undermines satisfaction. *Psychological Science*, *17*, 143–150.

Joel, S., Macdonald, G., & Plaks, J. E. (2013). Romantic relationships conceptualized as a judgment and decision-making domain. *Current Directions in Psychological Science*, *22*, 461–465.

Joel, S., Teper, R., & MacDonald, G. (2014). People overestimate their willingness to reject potential romantic partners by overlooking their concern for other people. *Psychological Science*, *25*, 2233–2240.

Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in reproductive strategies. *Behavioral and Brain Sciences*, *15*, 75–91.

Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology*, *82*, 947–955.

Li, N. P., Sng, O., & Jonason, P. K. (2011). Sexual conflict in mating strategies. In A. T. Goetz & T. K. Shackelford (Eds.), *Oxford handbook of sexual conflict in humans* (pp. 49–71). New York, NY: Oxford University Press.

Luttbeg, B. (1996). A comparative Bayes tactic for mate assessment and choice. *Behavioral Ecology*, *7*, 451–460.

Miller, G. F., & Todd, P. M. (1998). Mate choice turns cognitive. *Trends in Cognitive Sciences*, *2*, 190–198.

Mogilner, C., Shiv, B., & Iyengar, S. S. (2013). Eternal quest for the best: Sequential (vs. simultaneous) option presentation undermines choice commitment. *Journal of Consumer Research*, *39*, 1300–1312.

Mogilski, J. K., Wade, T. J., & Welling, L. L. (2014). Prioritization of potential mates' history of sexual fidelity during a conjoint ranking task. *Personality and Social Psychology Bulletin*, *40*, 884–897.

Moore, F. R., Cassidy, C., Law Smith, M. J., & Perrett, D. I. (2006). The effects of female control of resources on sex differentiated mate preferences. *Evolution & Human Behavior*, *27*, 193–205.

Raley, R. K., & Bratter, J. (2004). Not even if you were the last man on earth: How marital constraints affect the likelihood of marriage. *Journal of Family Issues*, *25*, 167–181.

Saad, G., Eba, A., & Sejean, R. (2009). Sex differences when searching for a mate: A process-tracing approach. *Journal of Behavioral Decision Making*, *22*, 171–190.

Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology*, *83*, 1178–1197.

Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Universal dimensions of human mate preferences. *Personality and Individual Differences*, *39*, 447–458.

Shoemake, E. G. (2007). Human mate selection theory: An integrated evolutionary and social approach. *Journal of Scientific Psychology*, *11*, 35–41.

Shu, S. B. (2008). Future-biased search: The quest for the ideal. *Journal of Behavioral Decision Making*, *21*, 352–377.

Simão, J., & Todd, P. M. (2002). Modeling mate choice in monogamous mating systems with courtship. *Adaptive Behavior*, *10*, 113.

Simon, H. A. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, *69*, 99–118.

Simonson, I. (1992). The influence of anticipating regret and responsibility on purchasing decisions. *Journal of Consumer Research*, *19*, 105–118.

Sparks, E. A., Ehrlinger, J., & Eibach, R. P. (2012). Failing to commit: Maximizers avoid commitment in a way that contributes to reduced satisfaction. *Personality and Individual Differences*, *52*, 72–77.

Spielmann, S. S., MacDonald, G., Maxwell, J. A., Joel, S., Peragine, D., Muise, A., & Impett, E. A. (2013). Settling for less out of fear of being single. *Journal of Personality and Social Psychology*, *105*, 1049–1073.

Todd, P. M., & Miller, G. (1999). From pride and prejudice to persuasion: Realistic heuristics for mate search. In G. Gigerenzer, P. M. Todd, & ABC Research Group (Eds.), *Simple heuristics that make us smart* (pp. 287–308). New York, NY: Oxford University Press.

Tooke, W., & Camire, L. (1991). Patterns of deception in intersexual and intrasexual mating strategies. *Ethology and Sociobiology*, *12*, 345–364.

Trivers, R. (1972). Parental investment and sexual selection. In B. G. Campbell (Ed.), *Sexual selection and descent of man* (pp. 136–179). Chicago, IL: Aldine-Atherton.

Winking, J. (2006). Are men really that bad as fathers? The role of men's investments. *Biodemography and Social Biology*, *53*, 100–115.

Zentner, M., & Mitura, K. (2012). Stepping out of the caveman's shadow: Nations' gender gap predicts degree of differentiation in mate preferences. *Psychological Science*, *23*, 1176–1185.